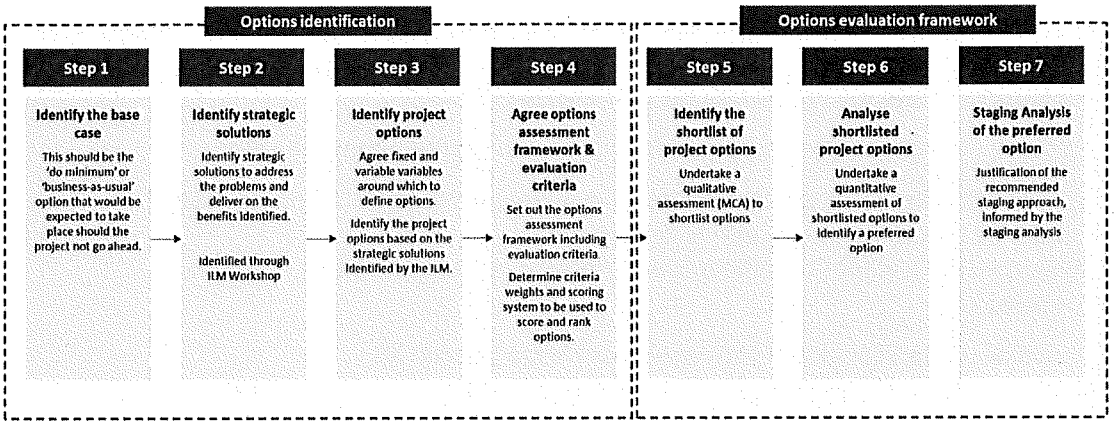
The following appendices provide a detailed breakdown of POC and GBA of the three identified options:

- Appendix F - New PCS Building – Schedule of Accommodation.
- Appendix G -New Inpatient and Outpatient Services Building – Schedule of Accommodation.

5.1 Options Assessment Approach

The preferred solution identified for the CHMPP2 Project was the result of a comprehensive option identification and evaluation process underpinned by the ILM Figure 13 summarises the seven steps followed to identify and assess project options.

Figure 13: Approach to identifying and evaluating project options

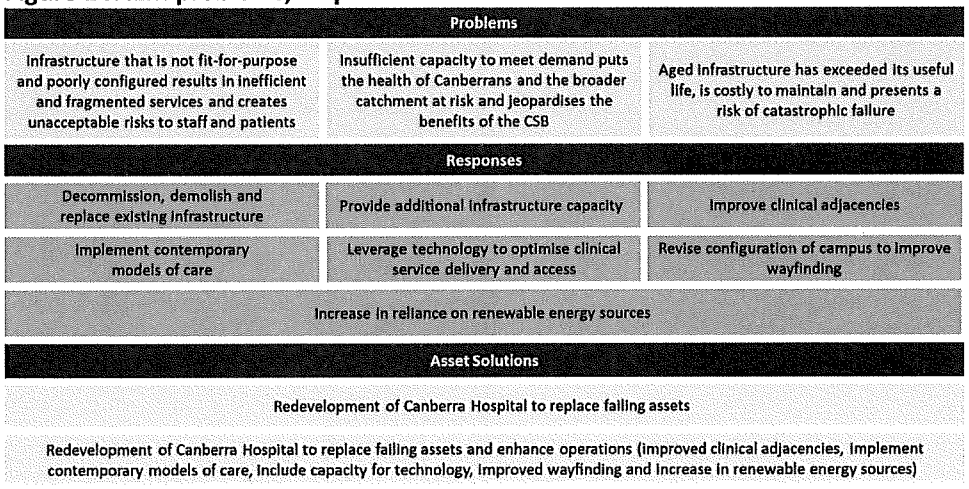


During this process, a series of optioneering workshops were facilitated involving the Projects' key stakeholders and specialist technical experts and representatives, as listed in Appendix A - ILM Supporting Documentation for attendees. The purpose of these workshops was to gather the diverse views of stakeholders in line with the strategic objectives of the Project. Participants included representatives from ACT Treasury, ACT Health, CHS, and iCBR.

5.2 Strategic solutions

As shown in Figure 14, ILM participants identified a number of responses to address the problems identified in Chapter 0 and two Strategic Solutions to enable these responses through the CHMPP2 Project:

Figure 14: ILM problems, responses and asset solutions



The first Strategic Solution explored by this Business Case is the redevelopment of CH to replace failing assets. CHMPP2 will strategically decommission, demolish and replace ageing facilities before they reach end of life. With each year, the risk of failures and costs to maintain these assets grows, presenting an unacceptable risk to staff, patients, visitors and the continuity of service operations.

Built for the design standards of their day, ageing facilities are increasingly not-fit-for purpose. The second Strategic Solution of focus for this Business Case is the redevelopment of the CH Campus to enhance operations. Purpose-built facilities will be developed under CHMPP2 to:

- Enable the critical path of redevelopments that need to occur to fully implement the CHMP;
- Support integration with the B5 and support CHS to meet growing acute service demand;
- Enable contemporary models of person-centred care;
- Improve adjacencies between key clinical and non-clinical support services;
- Deliver modern Information and Communication Technology (ICT) and improve capacity for the latest in health technologies;
- Improve the patients' experience through improved campus configuration and wayfinding;
- Increase support transitions to renewable energy sources; and
- Support reduced Average Length of Stay (ALOS).

Under this strategic solution, CHMPP2 will also establish and implement strategies to manage growth in demand including:

- Providing additional infrastructure capacity to meet short to medium demand and future proofing CH assets to support longer-term growth.
- Building in flexibility to enable different service planning scenarios. For example, the findings of this Business Case will need to be revisited to consider outcomes of NH Service Planning, currently occurring in parallel to this Business Case; and
- Supporting access to alternative service delivery models of care including virtual care and HITH enabled through the scale-up of a virtual command centre and the rollout of data to enhance HITH performance.

5.3 Project options

Table 9: CHMPP2 project options

Scope Items[1]	Scope Sub-Items	Option Parameters		OPTION 1 (Base Case/Do Minimum) – Staged Build each PCS stage independently	OPTION 2 Full Shell + Staged Fit-Out Build the entire PCS building as cold shell and fit-out Stage 1 only and defer Stage 2 fit-out to a later stage	OPTION 3 Single Stage Build the entire PCS building in a single stage
N/A	N/A	Capacity	End State POC (Points of Care)		714 POC^	
			End State GBA (Gross Building Area m²) – exc. carpark		82,358m²*	
0.0	0.1	Planning and development funding – to progress CHMPP2 from GA Plan to PSP 50%[2]		√	√	√
	0.2	Planning and development funding – to undertake a Territory-wide Mental Health expansion and demolition of CH Childcare Centre feasibility study and business case		√	√	√
	0.3	CHS Wayfinding		√	√	√
1.0	1.1	Decant, decommission and demolish B7 (including relocation of AOD[3])		√	√	√
	1.2	PCS Stage 1 – construct a new 8-level building on the B6/23/7 site	PCS Stage 1 GBA (Gross Building Area m²) – Shell and Fit-Out	18,966m²*	18,966m²*	33,336m²*
			PCS Stage 1 GBA (Gross Building Area m²) – Cold Shell		14,370m²*	
	1.3	Decant pathology and other clinical services from existing B10 into the PCS Stage 1 Building		√	√	√
	1.4	Decommission and demolish B10		√	√	√
2.0	2.1	Decommission and demolish B10		√	√	√
	2.2	New Inpatient and Outpatient Services Building – construct a new 17-level building on the B10 site, inclusive of a plant level and 3 levels of basement carparking		49,022m²*	49,022m²*	49,022m²*
	2.3	Decant B1 and B12 to the newly completed B10 (inpatients / outpatients)		√	√	√
3.0	3.1	PCS Stage 2 – expansion of the PCS Stage 1 Building	PCS Stage 2 GBA (Gross Building Area m²) – Shell and Fit-Out	14,370m²*		
			PCS Stage 2 GBA (Gross Building Area m²) – Fit-Out		13,820m²*	
	3.2	Decant remaining functions into the new PCS Stage 2 Building		√	√	
	3.3	Decant, decommission and demolish B4 and redevelop into new open space / relocate ANU Medical School into the new PCS		√	√	√

**Indicative estimates based on available information only.*

^Project estimates subject to change – subject to further assessment and confirmation in Part B.

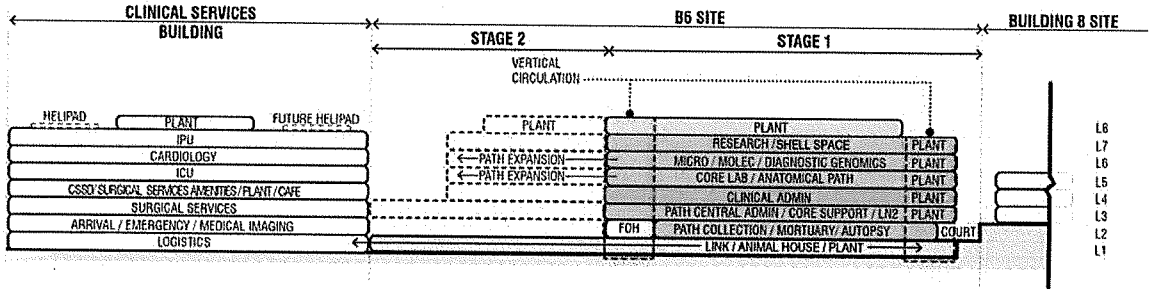
1. Scope items include all dependent sub-scope items. Therefore, each scope item can be delivered independently from other scope items.

2. The 'Part B' works as part of the current CHMPP2.2 contract will progress the concept design to a GA Planning level.

3. The relocation of AOD is subject to further work to identify a suitable alternate location.

Option 1 (Base Case/Do Minimum) – Staged

Figure 15: Staged delivery of the PCS Building



Option 1 considers a capital investment for the replacement of pathology and clinical services, and inpatient and outpatient functional capacity, in line with AusHFG requirements. It allows for the redevelopment of the campus to begin, in line with the CHMP.

Notably, Option 1 accounts for a replacement and upgrade of services rather than a direct replication of existing areas. Given the emergence of new standards, guidelines, and contemporary practices, larger, modern spatial requirements are needed to deliver existing services compared to the 1970's, when work on the construction of the campus commenced.

The option features a staged approach which would see (1) the redevelopment of Building 6, 7 and 23 into a new PCS Building delivered over two stages, and (2) the redevelopment of Building 10 into a new Inpatient and Outpatient Building – including three levels of basement carparking – delivered in a single stage. The proposed program sequence is as follows:

- Phase 0: Planning and development works.
- Phase 1: PCS Stage 1 – delivering 18,966m^2 GBA on the southern end of the site.
- Phase 2: New Inpatient and Outpatient Services Building – delivering 60,122m^2 GBA.
- Phase 3: PCS Stage 2 – expanding the Stage 1 PCS Building by adding a further 14,370m^2 GBA to the northern end of the site – adjacent to the new Clinical Services Building (B5).

Phase 0: Planning and development works

Phase 0 involves the following activities:

- Further CHMPP2 feasibility to progress the preferred project option to a 50% Preliminary Sketch Plan (PSP) level, including a further refinement of the project scope, program and cost. This may include exploration of other alternate options in the event that government requires further investigation of scope, staging, deliverability, affordability, or other critical factors.
- Preparation of a further CHMPP2 Business Case which will request funding to progress the 50% PSP to delivery by iCBR.
- A Territory-wide feasibility study into the expansion of Adult Mental Health and other mental health services, including AOD, sufficient in line with projected demand. This would also involve (1) the demolition of the Canberra Hospital Woden Valley Early Childhood Centre (an ageing asset) in alignment with the CHMP's vision for a Mental Health Precinct on the existing site, and (2) a feasibility study to identify options to redevelop the Canberra Hospital Woden Valley Early Childhood Centre on an alternate site to be determined
- Develop an internal wayfinding signage design for the Canberra Hospital campus and deliver rectification works led by Canberra Health Services (CHS).

Phase 1: PCS Stage 1

The first stage of the PCS Building will be built over eight (8) levels (including plant level) accommodating a modernised pathology unit and other clinical support services such as mortuary, research and administrative areas. The pathology unit will be akin to a 'like-for-like replacement' of the current pathology unit in the existing B10 with the necessary upgrades needed to meet current capacity needs and to comply with current standards (i.e., AS/NZS 2982-2010 and AS/NZS 2243.3-2022 and associated series) and AusHFG guidelines. It will allow PCS to operate more efficiently in a modern leading facility.

The key scope components include:

- Enabling and early works on the Building 6/23 site.
    - *Note these works were completed in 2024 as part of a separate contract.*
- Building 7 decant and the relocation of Alcohol and Other Drug
    - Whilst not originally identified by the CHMP for this phase, the inclusion of Building 7 is necessary to deliver a larger floorplate for the new PCS Building, supporting greater co-location of pathology and clinical services. Given Building 7 is also at the end of its useful life and not well configured for its current use it is recommended for inclusion. Further justification can be found in Chapter 6 – Project Scope.
- Enabling and early works on the Building 7 site including the decommissioning and demolition of the existing building.
- Construction of a new 8-level building on the South-Eastern flank of the Building 6/7/23 site to accommodate a modernised pathology, mortuary, research, and various administrative areas.
- Decanting of Building 10 and the relocation of Pathology and other clinical support services to the new PCS Stage 1 building.

The PCS Stage 1 Building will yield a total of 18,966m^2 GBA and accommodate the following departments:

- Pathology
- Mortuary
- Research
- Animal House
- ED Admin
- Infection Control Admin
- ICU Admin
- B6 Admin (Div of Surg)
- Entry/Reception/Waiting

Phase 2: New Inpatient and Outpatient Services Building

The Inpatient and Outpatient Building will be built over 17 levels to accommodate inpatient and outpatient services, including a medical imaging unit, sleep laboratory and dialysis. Option 1 yields 10 fully fitted Inpatient Units (IPU's), across 5 floors. This includes the one expansion IPU– proposed in the previous CHMPP2 Business Case – which will enable Canberra Hospital to meet projected demand for acute care services to 2041.

The key scope components include:

- Enabling and early works on the Building 10 site including the decommissioning and demolition of Building 10 and required site preparation works.
- Construction of a new Inpatient and Outpatient Services Building including 11 levels for clinical and clinical support services, 1 level for plant infrastructure and 3 levels of basement carparking.
- Decanting works to relocate services from the existing Buildings 1, 2, 3 and 12 to the newly completed Inpatient and Outpatient Services Building.

The new Inpatient and Outpatient Services Building will yield a total of 47,592m^2 GBA (excluding carparking and additional refurbished areas) and accommodate the following departments:

- Entry/Reception/Waiting/Commercial/Multifaith
- Inpatients (including Palliative Care and additional IPU's to meet projected demand for acute care services to 2041)
- Outpatients
- Sleep Lab
- Discharge/Transit Lounge
- Clinical Handover
- Day Med Services (HITH)
- Dialysis
- Perioperative Services (WYC Obstetric Theatres)
- CSSD
- Medical Imaging
- JMO Lounge
- B1 Admin
- B6 Admin (non-Div Surg)
- MOSCETU
- Physician Training Office
- Central Equipment Store
- Transport Pool
- Voluntary Assisted Dying (VAD)

The building will also deliver three levels of basement carparking. Hospital carparking is a regular point of feedback from the community. For example, 23% of feedback from a 2022 'YourSay' Survey for ACT Public Health Services related to amenities and access – including parking, transport and wayfinding. Feedback from the survey showed that the most important factors for carpark design and delivery are ease of navigation, accessibility and the request for free parking.

In line with community feedback, Option 1 would provide 107 on-site carparks under the new Inpatient and Outpatient Services Building, in close proximity to the hospital main entrance and clinical services. Compared to a surface carpark, options for which are being assessed through other investments, the basement carparking represents a direct, safer and more accessible option for patients, staff and visitors to the precinct. The addition of basement carparking in the new Inpatient and Outpatient Services Building, would enable a broader basement solution to be considered in the

CHMP and would reduce the total number of spots needed to be delivered as part of the State's other carpark development project. The delivery of basement carparks in the new Inpatient and Outpatient Services Building would reduce the investment needed to deliver on the States other carpark development project [redacted]

Phase 3: PCS Stage 2

The second stage of the PCS Building will be an expansion of the existing PCS Stage 1 Building. Stage 2 will be built over the same eight (8) levels (including plant level) as PCS Stage 1 and will be located on the northern end of the site. The two buildings will be connected by developing the Stage 2 building against the northern face of the existing Stage 1 Building.

The key scope components include:

- Enabling and early works on the northern end of the Building 6/7/23 site.
- Construction of a new 8-level expansion building on the North-Eastern flank of the Building 6/7/23 site to accommodate a range of clinical and non-clinical functions. This would include a linkage strategy to connect the two stages of the building – *subject to further feasibility and testing.*

The PCS Stage 2 expansion will yield a total of 14,370m^2 GBA and accommodate the following departments:

- Endoscopy
- GEHU Outpatient
- Pharmacy
- MHSSU
- Surgical Bookings / Preadmission
- Clinical Trials
- Learning and Teaching
- Command/Control Centre
- ANU Medical School
- Multifaith
- Bone Lab

This means that the combined total of PCS Stage 1 and 2 will yield 33,336m^2 (inclusive of 32,316m^2 of new areas and 1,020m^2 of refurbished areas.

Option 1 also includes the demolition of Building 4 and replacement of the site into open space in the short term, until such time as there is a preferred development need as determined by CHS and the Territory. For example, in the longer term, open space could also be used as the site of further redevelopment as envisaged in the CHMP, accommodating future growth in demand for acute services in closer proximity to Building 5 than Building 10 and/or expansion of clinical services to complement the B5.

Noting that the demolition of Building 4 is not CHMP dependent, its redevelopment into open space in the short term aligns with the vision of the CHMP for a greener campus, as well as the

community's interest to have greater access to areas for respite and recuperation.[47] It is expected that additional green open space will improve the amenity of the CH campus for patients, staff and other visitors.

In the short term, the open space may facilitate site establishment works for neighbouring redevelopments, such as Building 10. It may also serve as churn space during the decanting of services during implementation or overflow of services, if required. In the longer-term, the inclusion of such space will provide opportunities for expansion and offer flexibility for NH planning, futureproofing for various scenarios yet to be approved by ACT Government.

Other scope components included in Option 1 include:

- An **enabling works package**, including the decanting, decommissioning and demolition of Building 7 and 10. B7 works will commence ahead of the beginning of PCS Stage 1, and B10 works will commence at the end of PCS Stage 1.
- **Environmentally Sustainable Development (ESD):** An allowance [redacted] is also included in Option 1 for the implementation of ESD initiatives, including provisions for solar infrastructure to support the electrification of the campus.
- **Arts and Cultural Strategy Allowance:** In accordance with CHS' Arts in Health Program,[48] Option 1 includes the development of an arts and cultural strategy which informs the high-level integration of culturally considered and deliberate art and design principles into future CH infrastructure projects.
- **Feasibility study into mental health expansion:** Option 1 includes funding for the development of a feasibility study relating to the expansion of the Adult Mental Health Unit, AOD and other Mental Health services incorporating the demolition of the Canberra Hospital Woden Valley Early Childhood Centre (an ageing asset) in alignment with the CHMP's vision for a Mental Health Precinct. This feasibility follows significant work that has been undertaken on the distribution of mental health beds across the Territory.
- **Planning and development funding** for the continued development and delivery of the CHMP2 Masterplan.

A detailed decanting strategy for Option 1 can be found in Chapter 6 – Project Scope.

Option 2: Full Shell + Staged Fit-Out

Option 2 delivers the same scope as Option 1 via an alternate staging strategy. PCS Stage 1 would deliver the full 33,336m^2 of cold shell space and include fit-out of the same 18,966m^2 of area as scoped in Option 1. This would enable a simpler and more efficient expansion in PCS Stage 2 comprising a fit-out only of 13,820m^2 of cold shell space.

While this would increase the Territory's initial investment, it would reduce some of the risks associated with constructing a new building adjacent to an operational facility and reduce the overall investment due to a shorter and more efficient program.

47 ACT Government (2021). Canberra Hospital Master Plan 2021-2041. Retrieved on 1 October 2023 from https://health.act.gov.au/sites/default/files/2021-12/Canberra%20Hospital%20Master%20Plan.pdf.

48 Canberra Health Services. (2021). Arts in Health Program Policy. https://www.bing.com/ck/a?!&&p=cf8bb4567d7b4e82JmltdHM9MTcwNTUzNjAwMCZpZ3VpZD0wZGViMTYxMy0zOTE2LTZlMzMtMDQzNi0wNTdlMzg4NjZhMzImaW5zaWQ9NTE5OQ&ptn=3&ver=2&hsh=3&fclid=0deb1613-3916-6b33-0436-057b38866a32&psq=Arts+in+Health+Program+Policy&u=a1aHR0cHM6Ly93d3cuY2FuYmVycmFoZWFsdGhzZXJ2aWNlcy5hY3QuZ292LmF1L19fZGF0YS9hc3NldHMvd29yZF9kb2MvMDAwNS8xOTgxMTM5L0FydHMtaW4tSGVhbHRoLVByb2dyYW0tUG9saWN5LmRvY3g&ntb=1. Retrieved on 10 January 2024.

Option 3: Single Stage

Option 3 delivers the same scope as Option 1 via an alternate staging strategy. PCS Stage 1 would deliver the full PCS Building (including 33,336m^2 of shell and fit-out) in a single stage. This would remove the need for a further expansion in the future, providing a futureproof facility in the immediate term.

Initially, Option 3 presents the most capital-intensive option, however, it would remove all of the risks associated with a staged delivery model as identified for Option 1 and 2. Overall, Option 3 provides the fastest and most efficient delivery program ensuring a lower total estimated investment.

5.4 Multicriteria analysis

The Multicriteria Analysis (MCA) approach has been used to assess the alignment of options against a holistic range of criteria, providing a clear a structure to support decision making.

Evaluation criteria

Options were assessed by the MCA against three impact categories – implementation, financial and social/economic – and seven corresponding evaluation criteria, as summarised by Table 10.

Table 10: Multicriteria assessment

Category/Criteria	Description	Weight
Economic and Social Wellbeing		
ILM Benefit 1	Extent to which the option can improve asset operational efficiency and sustainability.	5%
ILM Benefit 2	Extent to which the option can improve safety and amenity of the campus.	5%
ILM Benefit 3	Extent to which the option can improve workforce conditions and efficiency in the delivery of care including the ability of the project option to support critical clinical adjacencies.	10%
ILM Benefit 4	Extent to which the option can improve patient access, health outcomes and satisfaction. This includes the ability of the option meet current and future demand where, and when it is needed.	10%
Financial		
Affordability	Extent to which the option minimises Treasury's initial capital investment and optimises the spread of project costs over the delivery phase of the project.	35%
Value for money (VfM)	Based on asset changes, extent the option is likely to optimise whole of life benefits relative to estimated project costs.	10%
Implementation		
Stakeholder acceptance	Extent to which stakeholders have shown/are likely to show acceptance of the project option.	10%
Operational risks	Extent to which the option minimises current and future impacts on business continuity and operations during construction. This includes avoiding the need to decant facilities more than once as well as the need to unwind and/or redo capital works undertaken by the project at a future date.	15%

Weights applied in the MCA reflect the relative importance of each criterion, as discussed at the ILM (in relation to benefits) and subsequent workshop attended by ACT Health, CHS and ACT Treasury. Economic and social wellbeing and implementation criteria are assigned a total of 30% each. This reflects the key drivers for the redevelopment of ageing assets and the CHMPP2 Project as identified in the CHMP. It also reflects the economic and social outcomes from a combination of health, social and wellbeing impacts likely to be generated as a result of the proposed investment. The financial criteria have been weighted the highest with a total of 40% which reflects Treasury's current capital constraints and the need to manage affordability in the immediate term.

Scoring

The MCA utilised a four-point scale ranging from zero to three, with a score of three signifying that the option aligns best with the criteria, while a rank of zero indicates a lack of support for the criteria. The scale is summarised in Table 1111.

The MCA allows for the assessment of each project option against each evaluation criterion through a weighted scoring system.

Table 11: Descriptions of MCA scores

Score	Description
0	Does not contribute to the criterion
1	Low contribution to the criterion
2	Somewhat contributes to the criterion
3	Strong contribution to the criterion expected

Overview of MCA results

The final results of the MCA are summarised in Table 12. The score for Option 1 was the highest at 2.30, while scores for Options 2 and 3 were comparable, at 1.95 each. According to this analysis, Option 1 merit consideration by ACT Government.

Table 12: Assessment of project options

Criteria		Weight	Option 1	Option 2	Option 3	Description
Economic and Social Wellbeing						
ILM Benefit 1	Extent to which the option can improve asset operational efficiency and sustainability.	5%	3	3	3	• **Options 1, 2, and 3** deliver the same end state scope, including the identified benefits.
ILM Benefit 2	Extent to which the option can improve safety and amenity of the campus.	5%	3	3	3	• **Options 1, 2, and 3** deliver the same end state scope, including the identified benefits.
ILM Benefit 3	Extent to which the option can improve workforce conditions and efficiency in the delivery of care	10%	3	3	3	• **Options 1, 2, and 3** deliver the same end state scope, including the identified benefits.

Criteria		Weight	Option 1	Option 2	Option 3	Description
Economic and Social Wellbeing						
ILM Benefit 4	Extent to which the option can improve patient access, health outcomes and satisfaction. This includes the ability of the project option meet current and future demand where, and when it is needed.	10%	3	3	3	• **Options 1, 2, and 3** deliver the same end state scope, including the identified benefits.
Financial						
Affordability	Extent to which the option minimises Treasury's initial capital investment and optimises the spread of project costs over the delivery phase of the project.	35%	3	1	0	• **Option 1** presents the lowest initial capital investment compared to the other asset-based Options (2 and 3). This is based on the staging strategy which would deliver the PCS Building over two separate stages. This means that the government is able to commence delivery of the project earlier and spread of costs over an extended program of work and budget periods. • **Option 2** presents a higher initial capital investment compared to Option 1 as it delivers additional cold shell space during PCS Stage 1. Delivery of the additional cold shell space now would reduce the complexity and cost to deliver PCS Stage 2 in the future. However, deferral of the fit-out of the cold shell space to PCS Stage 2 means that Option 2 has a lower total outturn cost than Option 3. • **Option 3** presents the highest initial capital investment compared to the other asset-based Option (1 and 2). This is due to the delivery of the PCS in a single stage.
Value for money	Based on asset changes, extent to which the option is likely to optimise whole-of-life benefits relative to estimated project costs.	10%	1	2	3	• While **Option 1** presents the lowest initial capital cost, it has the highest total end cost due to an extended program and associated escalation costs and remobilisation costs. • The total end cost for **Option 2** is lower compared to Option 1 but is higher compared to Option 3. • The total end cost for **Option 3** is the lowest of all the asset-based Options (including 1 and 2) due to an efficient single stage program and comparably lower escalation costs.
Implementation						
Stakeholder acceptance	Extent to which stakeholders have shown/are likely to show acceptance of the project option.	10%	1	2	3	• Given alignment with the CHMP, which has been broadly accepted by government and community stakeholders alike, it is expected that **Option 1** would face little opposition. However, the staging strategy for the delivery of the PCS carries some additional deliverability and operational risks – including constructability and disruption to business continuity – which may raise concerns from CHS stakeholders. • **Option 2** carries the same operational risk as Option 1 (i.e., disruption to business continuity) and is less likely to face the same level of opposition. • **Option 3** does not to carry the deliverability and operational risks as Option 1 and therefore is unlikely to face opposition.
Operational risks	Extent to which the option	15%	1	2	3	• For **Option 1, 2, and 3** – refer above to identified deliverability and operational risks.

Criteria		Weight	Option 1	Option 2	Option 3	Description
Economic and Social Wellbeing						
	minimises current and future impacts on business continuity and operations during construction					
Total		100%	2.30	1.95	1.95	
Ranking			1	2	3	

Recommended project option

Based on the results of the MCA, Option 1 is deemed the preferred option. It provides the Territory with an affordable initial investment and a delivery pathway that brings online additional capacity in line with projected demand to 2030 and beyond.

6. Project Scope

The scope of the Preferred Option (1) comprises:

- The staged delivery of two purpose-built facilities on the CH site:
  - Phase 0: Planning and Development of the preferred Option 1 to deliver the CHMPP2.
  - Phase 1: PCS Stage 1 – delivering 18,966m^2 GBA. This will involve the development of a new building on the southern end of the site to accommodate a modern Pathology Unit (akin to a 'like-for-like replacement' of the current Pathology Unit in the existing B10), Mortuary (as scoped in CHMPP), Research (as scoped in CHMPP) and administrative areas, adjusted to comply with current standards (i.e., AS/NZS 2982-2010 and AS/NZS 2243.3-2022 and associated series) and AusHFG guidelines.
  - Phase 2: New Inpatient and Outpatient Building – delivering 60,122m^2 GBA. This will involve the development of a new building on the existing B10 site to accommodate a range of inpatient, outpatient and diagnostic services as well as some administrative functions. This includes an additional two floors of inpatient wards (enabling an additional four 28-bed wards) over and above the like-for-like replacement of existing capacity. This will ensure that the building is equipped to meet projected demand for acute care services to 2041 levels. The proposed building includes a further 11,100m^2 across three levels of basement carparking.
  - Phase 3: PCS Stage 2 – delivering 14,370m^2 GBA. This will involve the horizontal expansion of the PCS Stage 1 building (towards the north) to accommodate the remainder of functions identified in the Schedule of Accommodation (SOA). This includes the expansion of Pathology Laboratory areas to meet 2041 capacity requirements.
- A range of sustainability and urban design features, including:
  - The utilisation of low water use equipment, fixtures and fittings in line with the compliance requirements of the National Construction Code 2022.
  - A building and landscape design approach which seeks to deliver an environment based on wellness and healing as integral to patient care.
- An allowance of 2.5% for the implementation of ESD initiatives, including provisions for solar infrastructure to support the electrification of the campus.
- The delivery of the Preferred Option (1) will involve a staged approach comprising four (4) sequential stages. This accounts for key interdependencies including (but not limited to):
  - The decanting, decommissioning and demolition of Building 7 to enable the optimal design and development of the PCS. The AOD service accommodated in the existing B7 building would be decanted and relocated to a new facility (*to be identified following further work by ACTHD*).
  - The immediate delivery of the PCS to enable the decanting of Pathology and clinical support services from Building 10 allowing the timely commencement of the Inpatient and Outpatient Services Building.

The preferred option has been developed in line with the core principles of the ACT Health Services Plan 2022-2030, which includes the key elements of the Canberra Health Services Vision comprising a series of overarching system-wide drivers for change and service innovation.

6.1 Overview

Following the 2021 development of the Canberra Hospital Master Plan, the Territory is undertaking Phase 2 which focuses on the redevelopment of buildings to accommodate a new PCS Building, as well as a new Inpatient and Outpatient Building.

The outcome of the process to develop and assess the project options, described in Chapter 5 – Options Analysis, was the identification of the Preferred Option 1 (Staged) which has informed the development of the project scope. This solution will deliver two new buildings to replace outdated infrastructure and are designed to sustain the current provision of health services in the immediate term to long-term. This will ensure that these services are delivered in world-class facilities, providing staff and patients with an advanced and fit-for-purpose environment to deliver and receive the latest treatments to the highest quality and standards.

Preferred Option 1 – Staged

The new PCS Building and Inpatient and Outpatient Services Building will total 82,358m^2 (GBA[49] – excluding carparking)) accommodating 714 POC. The project will be delivered across four (4) sequential stages, including:

- Phase 0 (FY26-27)
  - Planning and development works to progress the preferred option to a 50% PSP level sufficient to enable government [redacted]
- Phase 1 (FY28-31)
  - Enabling and early works for the new PCS Stage 1 Building, including:
    1. Decanting of the Alcohol and Other Drug Unit (AOD) from the existing Building 7;
    2. Relocation of AOD to a new facility (*to be identified following further work by ACTHD*);
    3. The decommissioning and demolition of the existing Building 7; and
    4. Preparation of the site including the provision of temporary linkways, hoardings, set-down areas and traffic arrangements.
  - The development of a new 8-level building on the southern end of the consolidated Building 6, 23 and 7 footprint.
- Phase 2 (FY29-36)
  - Enabling and early works for the new Inpatient and Outpatient Services Building, including:
    1. Decanting of services from the existing Building 10 to the newly completed PCS Stage 1 Building;
    2. Decommissioning and demolition of the existing Building 10; and
    3. Preparation of the site including the provision of temporary linkways, hoardings, set-down areas and traffic arrangements).
  - Development of a new 15-level Inpatient and Outpatient Services Building, inclusive of 11 levels for clinical and clinical support services, a 3-level basement carpark and 1 level of plant infrastructure.

49 GBA = Gross Building Area (GBA) = Gross Departmental Area (GDA) + 40% for travel, plant and central energy plant (CEP)

- Decanting of services from the existing Building 1, 2, 3 and Building 12 to the newly completed Inpatient and Outpatient Services Building.

- Phase 3 (FY34-39)
  - Remobilisation of the PCS Building site including the provision of temporary linkways, hoardings, set-down areas and traffic arrangements).
  - Delivery of an expansion of the existing PCS Stage 1 Building. Stage 2 will be built over the same eight (8) levels (including plant level) as PCS Stage 1 and will be located on the northern end of the site. The two buildings will be connected by developing the Stage 2 building against the northern face of the existing Stage 1 Building. *Note: The final linkage strategy would be subject to further feasibility and testing.*

This chapter describes the scope and sequence of deliverables required to deliver the preferred solution at the Canberra Hospital. The proposed solution is governed by a set of Functional Design Briefs (FDB's) – which inform the physical requirements needed to deliver hospital services and functions in line with regulatory and compliance guidelines – and a Schedule of Accommodation (SOA) which defines the number of services required (points of care) and the associated areas (m^2) needed to accommodate those services in a given building. These documents reflect ACT Health and Canberra Health Services' current understood service requirements for the Canberra Hospital, however they are subject to further refinement and changes following submission of this document.

The delivery of Phase 2 would be undertaken across four (4) sequential phases (as outlined in Figure 17), including:

Figure 16: CHMPP2 Development of the new PCS (highlighted yellow) and new Inpatient and Outpatient Services Building (highlighted blue)

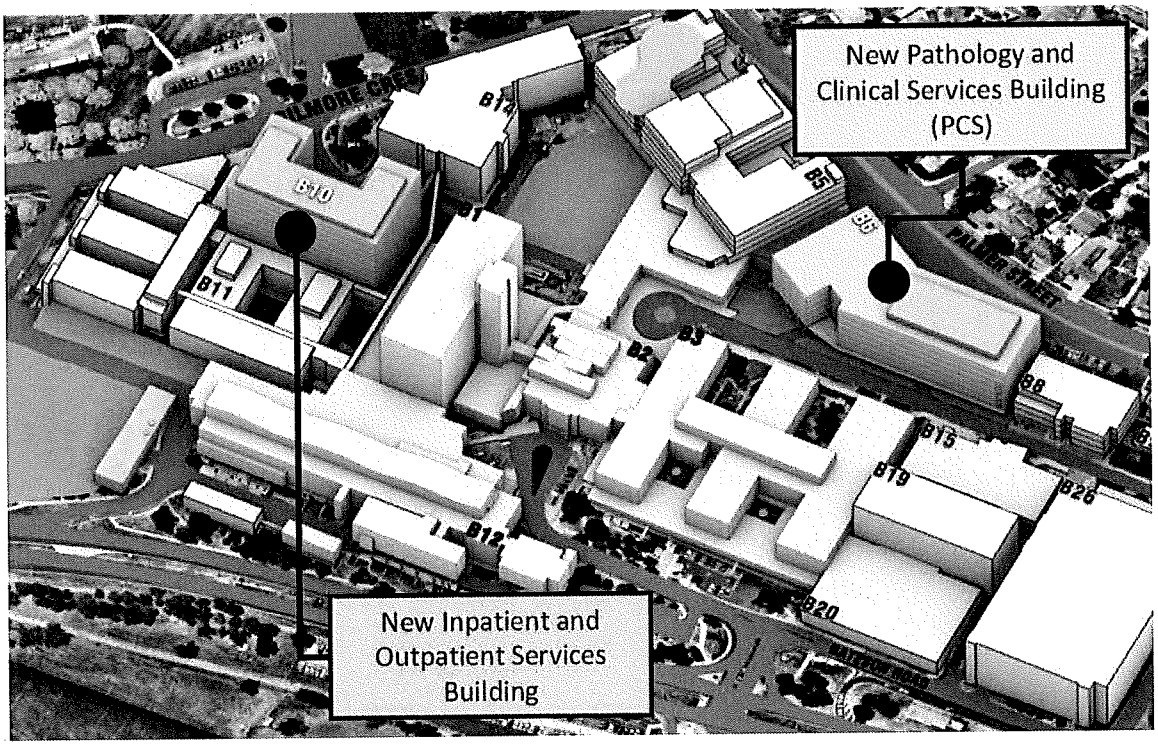
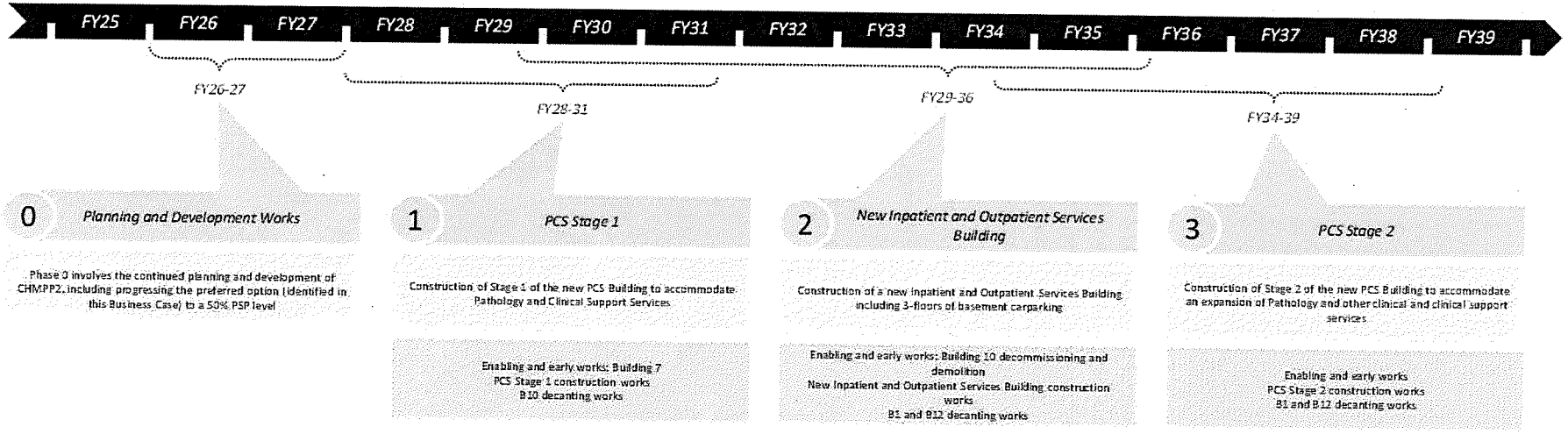


Figure 17: Overview of the Stages of the CHMPP2

PROGRAM STAGING FOR CHMPP2 **PREFERRED OPTION 1 (BASE CASE/DO MINIMUM): STAGED**



6.2 Phase 0

Phase 0 involves:

- The continued planning and development of CHMPP2, including progressing the preferred option (identified in this Business Case) to a 50% PSP level. This should provide government with a sufficiently detailed scope, program and cost to formalise an investment decision and progress the project to Phase 1 of delivery.
- Undertaking a Territory-wide feasibility study for the expansion of Adult Mental Health and other mental health services, including AOD, in line with projected demand.
- The demolition of the Canberra Hospital Childcare Centre (an ageing asset) in alignment with the CHMP's vision for a Mental Health Precinct on the existing site.
- A feasibility study to identify options to redevelop the childcare centre on an alternate site to be determined.
- Develop internal wayfinding signage design and deliver rectification works.

6.3 Phase 1

1.1 Enabling and Early Works

Building 6 and 23 Works (out-of-scope for this business case)

The decanting, decommissioning and demolition of Buildings 6 and 23 have been completed in 2024 as part of a separate project.

Building 7 Works

The proposed PCS development includes the additional footprint of the existing Building 7 site which is located adjacent to the old Building 23 site. The inclusion of Building 7 in the new PCS development would require the decanting, decommissioning and demolition of the existing Building 7. As Building 7 is approaching the end of its useful life, the removal of the building would deliver the following benefits:

- **PCS design and functionality:** increasing the available footprint for the new PCS development would enable the co-location of all pathology laboratory services in the PCS Stage 1 building and avoid the need for a future double decant or significant reconfiguration;
- **Optimal vehicle access:** the existing Building 7 leaves insufficient clearance between the building and the Palmer Street retaining walls. The removal of B7 and an optimised design of The PCS would enable vehicle access to the new PCS from Palmer Street; and
- **Reduced recurrent costs:** Building 7 is at the end of its useful life and its replacement would avoid the increasing cost and frequency of maintenance to extend the life of the asset. *However, the identification of a suitable new location for AOD is subject to further work by ACTHD.*

The proposed scope of works to clear the Building 7 site comprises:

- The decanting and relocation of the Alcohol and Other Drug Unit (AOD) from Building 7 (totalling 1,288m^2 GFA) to a new site (*to be identified following further work by ACTHD*).
- The decommissioning of Building 7 including the disconnection of existing plant and service connections (e.g., power, water and gas utilities).
- The final assessment and removal of any existing hazardous material (e.g., asbestos) from B7 – the assessment would comprise a Division 6 Building Audit or similar.

- The demolition and site clearing of the B7 site to enable the commencement of the Phase 1 PCS Building works.

1.2 Construction Works

Phase 1 will deliver a new 8-level building on the southern end of the consolidated Building 6, 23 and 7 footprint. This will accommodate the first stage of the new purpose-built PCS Building comprising 8-levels for a modern Pathology Unit (akin to a 'like-for-like replacement and upgrade' of the current Pathology Unit in the existing B10), Mortuary (as scoped in CHMPP2), Research (as scoped in CHMPP2) and administrative areas. The new facility will be compliant with current standards (i.e., AS/NZS 2982-2010 and AS/NZS 2243.3-2022 and associated series) and AusHFG guidelines. The new building would be located on a consolidated footprint following the decanting, decommissioning and demolition of Buildings 6, 23 and 7, as outlined above.

Clinical scope

A rapid clinical planning activity undertaken in late 2024 analysed the clinical and functional requirements for the PCS Stage 1 development. Table outlines the output Schedule of Accommodation (SOA) from this work which defines the proposed scope for the new PCS Stage 1 development.

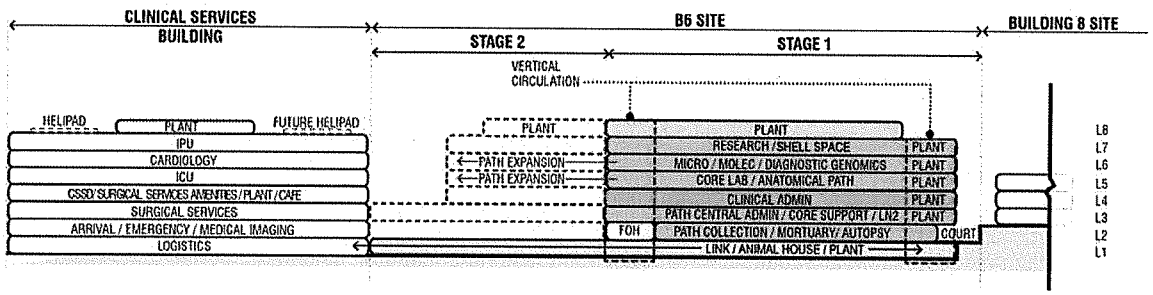
Table 13: PCS Stage 1 SOA

Department	Existing	PCS Stage 1	
	Area m² (GDA)	Area m² (GDA)	Variance m² (GDA)
Pathology	5,272	6,924	+1,652
Mortuary	353	753	+401
Research	2,170	2,170	+0
Animal House	184	184	+0
ED Admin	391	526	+135
Infection Control Admin	122	212	+90
ICU Admin	891	1,047	+156
B6 Admin (Div of Surg)	1,466	1,612	+146
Entry/Reception/Waiting	0	118	+118
Sub-Total Stage 1 GDA	10,849	13,547	+2,697
Travel and Plant 40%	4,340	5,419	+1,079
Sub-Total Stage 1 GBA	**15,189**	**18,965**	**+3,776**

Notes:

- *The SOA above is indicative and subject to change following more detailed feasibility works.*
- *Points of Care (POC) have not been re-evaluated as part of the Option 1 to-date and therefore have been removed pending further feasibility works.*
- *All Option 1 areas (m²) have been benchmarked against AHFG.*
- *Variance = the change (increase or decrease) in area relative to the current state.*
- *GDA = Gross Departmental Area.*
- *GBA = Gross Building Area (GBA) = GDA + 40% for travel, plant and central energy plant (CEP).*

Figure 18: proposed PCS Stage 1 Building stacking diagram



Note:

- *The FATO (final approach and take off) area – which enables emergency helicopters to safely approach and depart from the B5 helipad – is in close proximity to the proposed PCS Building. This will require further review in the next stage of planning and development to validate buildability.*

Pathology Unit

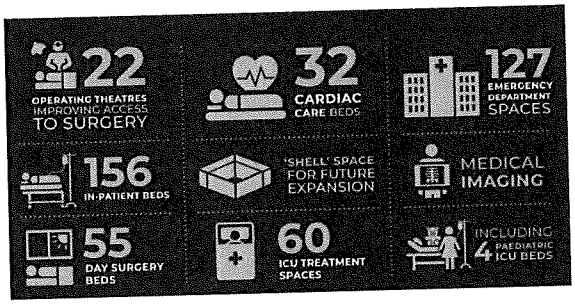
- Figure . As a result, pathology services will have increased demand for anatomical pathology, routine tests and other diagnostic pathology services.

- **Growing demand for healthcare across the Territory:** The demand for healthcare services, including pathology services has increased across the territory as a result of population growth, ageing and increasing incidence of chronic conditions as well as elective and emergency surgeries following the COVID-19 pandemic.

- **Need for modernisation and operational efficiency:** As identified in the Needs Analysis in Chapter 0, the current floor plate of Building 10 is inadequate for the integration of new technologies due to limited space and infrastructure available to accommodate them. The integration of advanced machinery represents a significant improvement in capability while incurring a substantial increase in the physical space required. The expansion will enhance operational efficiencies by integrating robotics and automation into pathology processes, aiming to streamline operations and improve service delivery. However, it's important to recognise that these machines do not replace the need for skilled human labour in laboratories but creates efficency and enables international colaboration. This dynamic interplay between automated processes and human expertise is not just a matter of current logistics, but also a driving

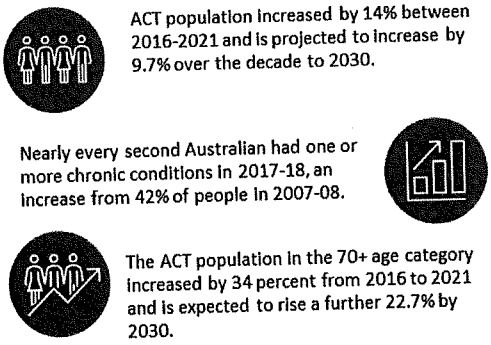
CH is the primary pathology provider for the Territory (Level 6), supporting other major health facilities such as the NH, and UCH. This development will centralise and enhance pathology services.

Figure 19: Services at the Critical Services Building[50]



Increased demand within the Canberra Hospital: Following the delivery of **B5**, Canberra Hospital has increased its capacity across adult intensive care, paediatric intensive care, surgical, coronary care and emergency services as depicted in

Figure 20: Growing health care demand[51]



50 ACT Government (Aug 2020). Canberra Hospital Expansion Project Update.

51 The infographic is supported by the ACT Health Services Plan 2022-2030 and data released by Australian Institute of Health and Welfare 2021. Chronic condition multimorbidity. https://www.aihw.gov.au/reports/chronic-disease/chronic-condition-multimorbidity/contents/chronic-conditions-and-multimorbidity

factor for the expansion of pathology services, ensuring increased efficiencies and accuracy enabled by the co-location of services.

The PCS Stage 1 Building will accommodate 91% of the total pathology unit with the remainder to be delivered in PCS Stage 2 (Phase 3) to meet projected demand for pathology services to 2040-41. The new Pathology Unit will accommodate laboratory areas over 3 levels, area allowances for robotic automation and other equipment and dedicated space for clinical support offices.

1.3 Decanting Works – B10

Services currently housed in Building 10 will be decanted and relocated to the new PCS Stage 1 Building including Pathology, Mortuary, Research and other administrative functions.

Program

Phase 1 will be delivered over an almost 5-year program of of work spanning FY28-31. Table outlines the key program milestones for design, procurement, construction and commissioning activities.

Table 14: Phase 1 program

Milestones	Est. Start	Est. End
Pathology and Clinical Support Services Building (Stage 1)		
Phase 1: Enabling and Early Works		
Building 7 Enabling Works and decanting	Nov-27	Jan-28
Building 7 Decanting	Jan-28	Feb-28
Building 7 Demolition	Feb-28	Sept-28
Phase 1: Main Works		
Procure PCS Building [redacted] Contractor	Jul-27	Dec-27
PCS Design Finalisation & Planning Approval	Dec-27	Sept-28
PCS Stage 1 Construction Commencement	Sept-28	Sept-28
PCS Stage 1 Practical Completion	Nov-30	Nov-30
PCS Stage 1 Operational Commencement	Feb-31	Feb-31

6.4 Phase 2

Phase 2 will be undertaken between FY29-36 and includes a series of initial enabling and early work activities to prepare the existing B10 site for the development of the new Inpatient and Outpatient Services Building in Stage 4. During this stage all necessary enabling and early works, including decommissioning and demolition activities, will be performed on the B10 site.

2.1 Enabling and Early Works

The proposed scope of works to clear the Building 10 site comprises:

- **Decommissioning works:** including the disconnection and diversion of services (utilities such as power, water and gas) from the building. This will require further detailed consideration by an expert demolition contractor in order to develop and confirm:
    - A protection strategy for adjoining assets which ensures that services being disconnected are done so in isolation from other assets.

  - Demolition methodology with respect to the proximity of adjoining live operational services.

- **Demolition works:** including the removal and site clearing of the existing Building 10 structure.

These works are further detailed in the following sections.

Decommissioning works

Building 10 utilises HV electrical systems that serve the Canberra Hospital campus. Further work has been undertaken to confirm the requirement to decommission the existing utility services, including the development of interim services solutions for power, water and gas to ensure the continuity of critical site services for the campus. It is critical that a protection strategy for adjoining assets is developed during the design and procurement phase to ensure that services being disconnected are done so in isolation from other assets.

Isolation of service infrastructure: all the existing Building 10 site services infrastructure will require safe isolation and termination outside the Building 10 site to enable their removal and for demolition and bulk earthworks to proceed. The following additional enabling works will be required:

- Power: the existing Building 10 Main Switchboard is located in Building 11, outside the site, and has a large, dedicated supply. It can likely be reused to provide temporary power to the site for these works and to complete the construction works in Phase 2.

Investigation of hazardous materials: due to the age of the existing Building 10 (built in 1984), it is possible that it may contain hazardous materials and be located on contaminated ground soil. Further analysis would need to be undertaken to determine the extent (including the types and volumes) of any present hazardous materials or ground contamination. This would include consideration to undertake a Division 6 Building Audit or similar (to identify all hazardous materials) and/or a Preliminary Site Investigation (PSI) or similar to provide an indication of the potential for ground contamination at the site as a result of current and historical activities onsite and adjcent sites, and the likely impacts on cost and program for their removal.

Demolition works

Due to its proximity to adjoining assets, the demolition of Building 10 will require the preparation of a detailed program of works:

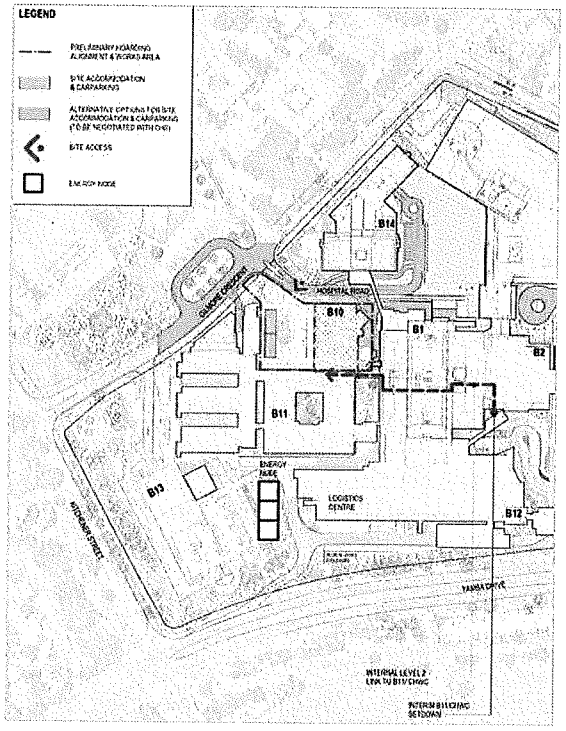
- The existing 8-level – including basement – Building 10 structure is a substantial asset and will require careful consideration to demolish and remove from site. Similarly, the interface with Building 11/Centenary Hospital for Women and Children (CHWC) and the proximity to the current CHWC vehicular set-down to the immediate North of the current Building 10 asset will require careful consideration. Given that the demolition works are an immediate precursor to the construction of the new Building 10 asset which will occupy the combined site of the current Building 10 and the CHWC setdown, it is the project view that the entire works site should be secured.

- **Demolition and existing asset protection strategy for adjoining assets:** Noting the proximity of adjoining live operational services, it is recommended that a demolition and existing asset protection methodology is developed and adopted as part of a construction management plan prior to the commencement of any demolition works. This is required to avoid any impact on operational services in Buildings 1, 11 and 12 and may include but not limited to the planning of staging areas, contractor parking provision and the installation of necessary safety hoardings;

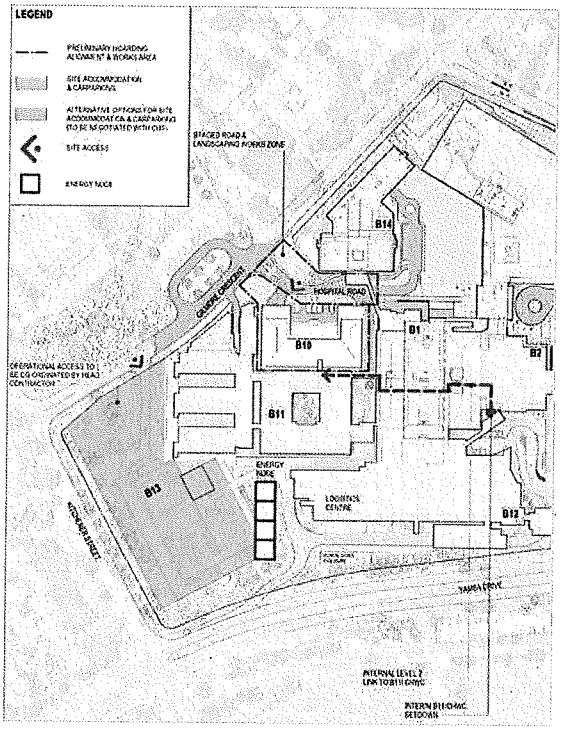
- **Alternate vehicular set-down and access pathway:** This strategy will require an alternate vehicular set-down and access pathway for occupants wishing to access Building 11 / CHWC, noting that the new Western Entry is for bus and emergency vehicle access only. The decommissioning of substantial Building 12 services in mid-2024, in particular the Emergency Department will add additional set-down capacity to the western Building 2 entry at Level 2. From this point a relatively direct existing north-south pathway through Building 1 can be utilised to access Building 11 / CHWC. This pathway connects directly with the eastern circulation spine of Building 11 / CHWC, which in turn connects to the existing vertical transport core.
- **Hoardings and other site protection considerations:** The Building 10 site can be secured through the installation of hoardings along the western edge of Hospital Road and North of Building 1. Buidling 11/CHWC provides a natural hoarding. Vehicular access will need to occur off Hospital Road and onto Gilmore Cresent. During the demolition phase of the works and indeed the subsequent Building 10 installation phase, operational vehicular access will be limited to National Capital Private Hosital (NCPH) access, Building 1 Food services and emergency fire appliance access to the Building 1 fire booster pumps. With the decommissioning of the majority of the Building 12 clinical services post commissioning of the CSB, CHS may wish to consider a western access for food services via the current Loading Dock as an interim measure to further reduce operational vehicular access along Hospital Road North.

Figure 21: Enabling works and site preparation arrangements

Site preparation arrangements: site services infrastructure



Site preparation arrangements: construction



2.2 Construction Works

The new Inpatient and Outpatient Building – illustrated in Figure 22– comprises 14-floors including 11 levels of clinical area, 1 level for plant infrastructure and 3 levels of basement carparking to accommodate staff, patients and visitors.

Figure 22: New Inpatient and Outpatient Building

The additional 3-floors of basement carparking will provide direct and discreet access to clinical services in the Inpatient and Outpatient Services Building as well as broader access to occupants in surrounding buildings. This has been a consistent point of feedback from key stakeholders consulted through the development of the new building and the broader Canberra Hospital Master Plan.

Clinical scope

The scope of services to be accommodated in the new Inpatient and Outpatient Building has been informed via a service planning activity undertaken in 2023. The activity identified the clinical and functional requirements for the proposed facility to meet the parameters of the Preferred Option 1 – including a replacement and upgrade of existing services in line with current clinical and regulatory guidelines.

Table 15: New Inpatient and Outpatient Building SOA

Department	Existing	New Inpatient and Outpatient Services Building	
	Area m² (GDA)	Area m² (GDA)	Variance m² (GDA)
Entry/Reception/Waiting/Commercial/Multifaith	0	473	+473
Inpatients (including Palliative Care and additional two floors to meet projected demand for acute care services to 2041)	8,232	20,572	+12,340
Outpatients	4,104	4,513	+409
Sleep Lab	85	384	+299
Discharge/Transit Lounge	112	394	+282
Clinical Handover	0	75	+75
Day Med Services (HITH)	387	814	+427
Dialysis	391	508	+117
Perioperative Services (WYC Obstetric Theatres)	0	1,129	+1,129
CSSD	0	250	+250
Medical Imaging	2,776	2,164	-612
JMO Lounge	161	147	-14
B1 Admin	974	1,083	+109
B6 Admin (non-Div Surg)	640	956	+316
MOSCETU	186	193	+7
PTO	34	34	+0
Central Equipment Store	228	228	+0
Transport Pool	20	20	+0
VAD	0	57	+57
Sub-Total Stage 2 GDA	18,330	33,994	+15,664
Travel and Plant 40%	7,332	13,598	+6,266
Sub-Total Stage 2 GBA	**25,662**	**47,592**	**+21,930**
Basement Carpark (3 Levels)	0	11,100	+11,100
Refurbished Areas	0	1,430	+1,430
Total GBA	**25,662**	**60,122**	**+34,460**

Notes:

- *The SOA above is indicative and subject to change following more detailed feasibility works.*
- *Points of Care (POC) have not been re-evaluated as part of the Option 1 to-date and therefore have been removed pending further feasibility works.*
- *All Option 1 areas (m²) have been benchmarked against AHFG.*
- *Variance = the change (increase or decrease) in area relative to the current state.*
- *GDA = Gross Departmental Area.*
- *GBA = Gross Building Area (GBA) = GDA + 40% for travel, plant and central energy plant (CEP).*

Inpatient services

The new Inpatient and Outpatient Building will include a total of 20,572m² (GDA) for inpatient services distributed across seven (7) dedicated floors spanning levels 7-13. This would include 14 fully fitted IPU's. Each floor comprises a dual IPU layout accommodating a total of 392 beds (*subject to further feasibility works*). The 28-bed IPU configuration is the maximum bed-yield that can be accommodated within the available building footprint. Additional rationale and justification for a 28-bed IPU is provided further below. This allows for the decommissioning of Building 1.

Overarching inpatient design:

- Allowance for clear wayfinding for patients and carers/visitors from entry to exit, including clearly signed directions.

- Support to maximise clinical and workforce productivity and efficiency through design that supports workflows with short travel distances (horizontal and vertical), clear patient flows, separation of clean and dirty material workflows to and from the unit/s.
- Safety in design measures to prevent occupational violence, including access control for staff only areas as part of preventing unauthorised access.
- Maximising comfort for inpatient, visitors, and staff through visual observation, acoustic, climate control, natural light, and Artwork elements.
- Adequate infection control measures, facility maintenance and environmental sustainability in finishes and surfaces, air handling systems, water management and environmental sustainability.
- Provision of appropriate digital infrastructure that accommodates existing and future systems which promote flexible telehealth, POC mobile device utilisation, unit specific communications and advances in technology.

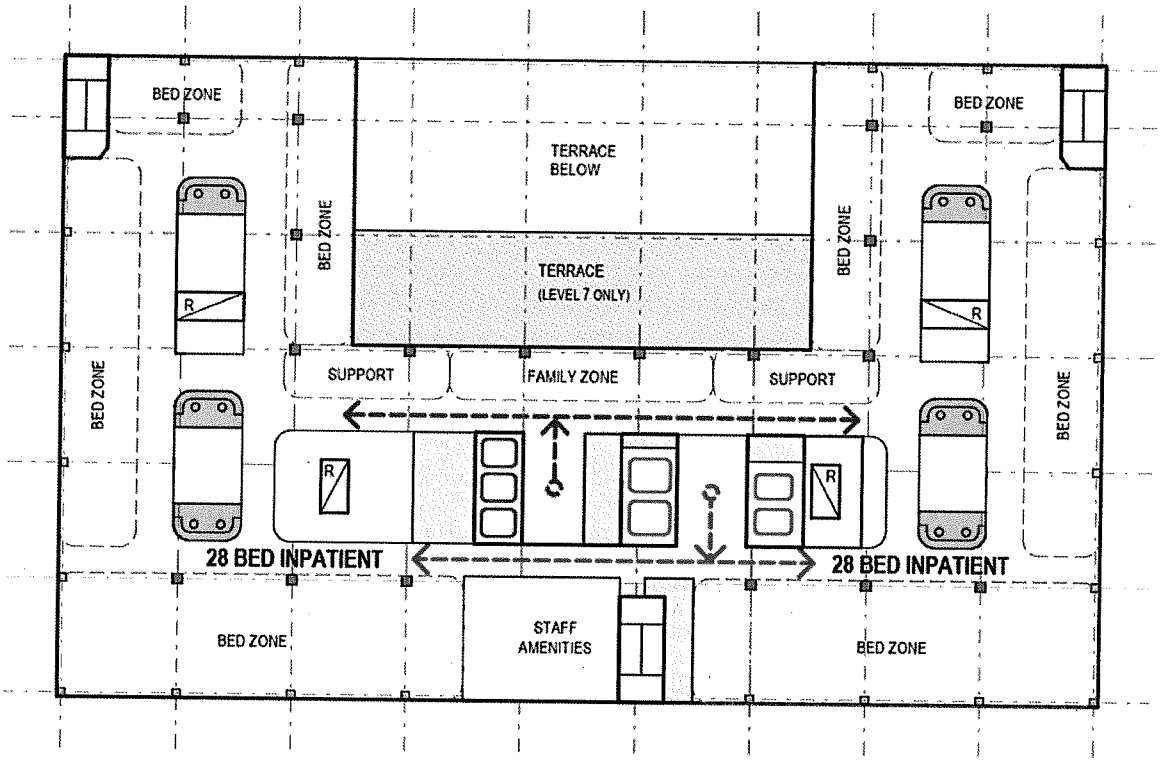
The areas considered in each IPU include (*note: while the long-term vision of the CHMP is to develop a standardised IPU for seemless and consistent provision of inpatient services across the Territory's hospital network, there will be some unavoidable variance across the IPU's where bespoke design elements have been included or excluded according to the varying clinical specialties across the inpatient service*):

- Rehabilitation and allied health therapy spaces;
- Treatment rooms (one per floor, to be shared between two adjacent units);
- Interview rooms;
- Learning, research, and education spaces;
- High and close observation units should support high levels of monitoring;
- Each inpatient unit will have a minimum of one of the 28 beds as a negatively pressured bedroom with ensuite for isolation. Negative pressured isolation rooms provide respiratory isolation and prevent the transmission of infection. The anteroom provides an area for staff to don and doff personal protective equipment. Respiratory and Infectious Diseases inpatient units will have higher ratios of negatively pressured bedrooms with ensuites;
- Each inpatient unit will also include one bariatric bedroom and one super bariatric bedroom, with ensuite and a lifter through the bedroom into the ensuite;
- Bariatric equipment weighted to 250kg and super bariatric equipment to 450kg;
- Ceiling mounted hoist or mobile hoists;
- Sufficient readily accessible storage and charging spaces for frequently utilised ICT and medical equipment; and
- Radiation room (x2 included in one of the nine IPU's only).
    - *Note: Radioactive iodine therapy is effective and is therefore in high demand. However, radiation rooms have very specific technical requirements to ensure safe administration for patients, staff and the public. This includes (but is not limited to) lead-lining and radiation resistant plumbing to prevent the release of radiation. Existing access to radiation iodine therapy (I-131) is extremely limited to one room across the Territory. The service is currently located at Canberra Hospital (in 14A, Haematology). The next closest facility is located approximately ~250km north of Canberra in Liverpool, NSW. Alternatively, services can be accessed in central Sydney.*

Level 5 will include some additional area for Handover rooms comprising 105m^2 (GBA) for three (3) bookable meeting rooms to provide a dedicated and quiet space for medical staff to handover between shifts.

The layout of each IPU is outlined below in Figure 22 and has been designed in line with existing AusFHG standards and guidelines.

Figure 22: Inpatient and Outpatient Services Building – example layout of the 28-bed IPU configuration



Outpatient services

The new Inpatient and Outpatient Building will include a centralised consolidated outpatient service across three floors in a flexible and generic configuration. The following clinics will be accommodated across 4,513m^2 (GDA) delivering a total of 119 POC's, including 85 medical and 34 surgical POC's. The design includes:

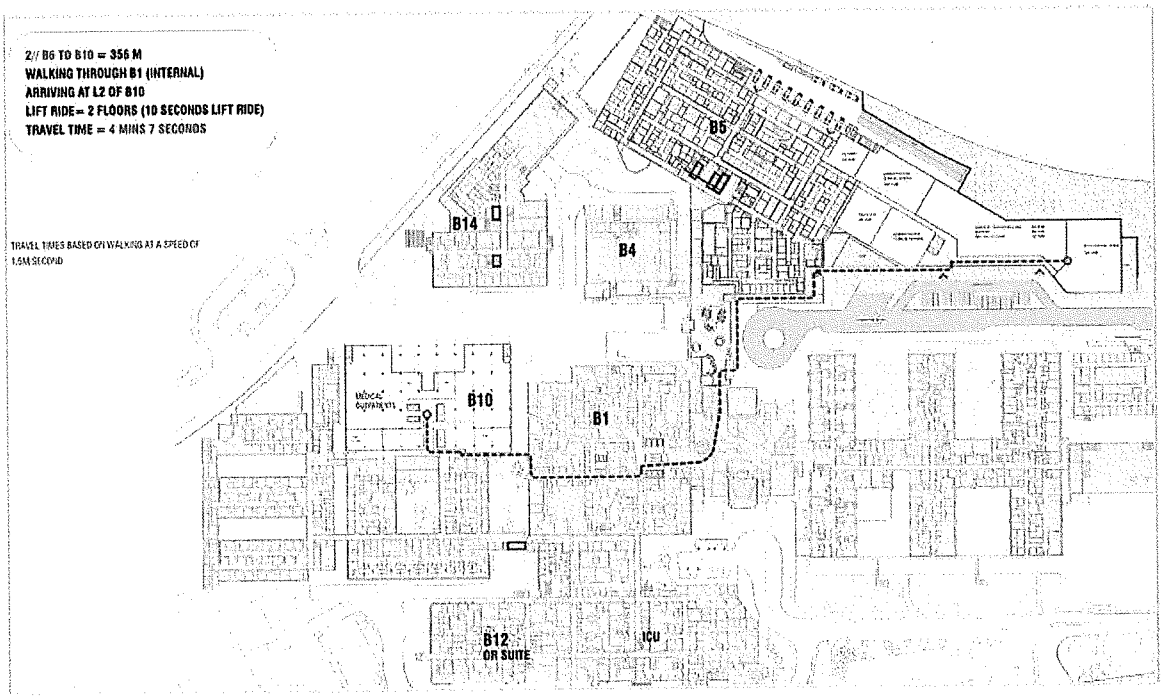
- Patient areas in pods of 15-23 POC, each with its own waiting area, examination plinths (for orthopaedics, general surgery and other outpatient clinics), patient toilets, clinical offices/workstations/workrooms, a cleaning utility room, and a height/weight bay. The POCs are generally made up of consult rooms (of various sizes), interview rooms, and (general) treatment rooms, with the addition of some allied health treatment rooms (including a hand therapy/splitting room, a plaster room, a podiatry room, an orthotics/prosthetics workshop, and an audiology testing room) as well as other specialised rooms (including a negative pressure room for respiratory outpatients, a lung function lab, and two stress testing rooms). The patient pods comprise:
    - 4 pods for medical clinics, comprising 15-17 POC's each;
    - 1 pod of 23 POC for cardiology/cardiothoracic and diagnostic cardiology clinics; and
    - 2 pods standardised/flexible pods of 15 and 19 POC each for surgery clinics (which would also include the orthopaedic and plastics registrar clinics).

- Clinical support services to be shared amongst two (2) adjacent pods (if there is an adjacent pod), including resuscitation bays, linen bays, equipment stores, general stores, cleaner's rooms, disposal rooms, dirty utility rooms, and specimen collection bays;
- Staff areas also to be shared amongst 2 adjacent pods (if there is an adjacent pod), including offices, workstations, file stores, photocopy stores, beverage bays, staff rooms, property bays, and staff toilets; and
- Sleep lab including 538m^2 (GBA) to accommodate 8 POC. This comprises inpatient rooms located adjacent to the Respiratory Outpatient area.

The consolidation of surgical and non-surgical outpatient services including the close proximity to peri-operative services and clinical support services such as medical imaging.

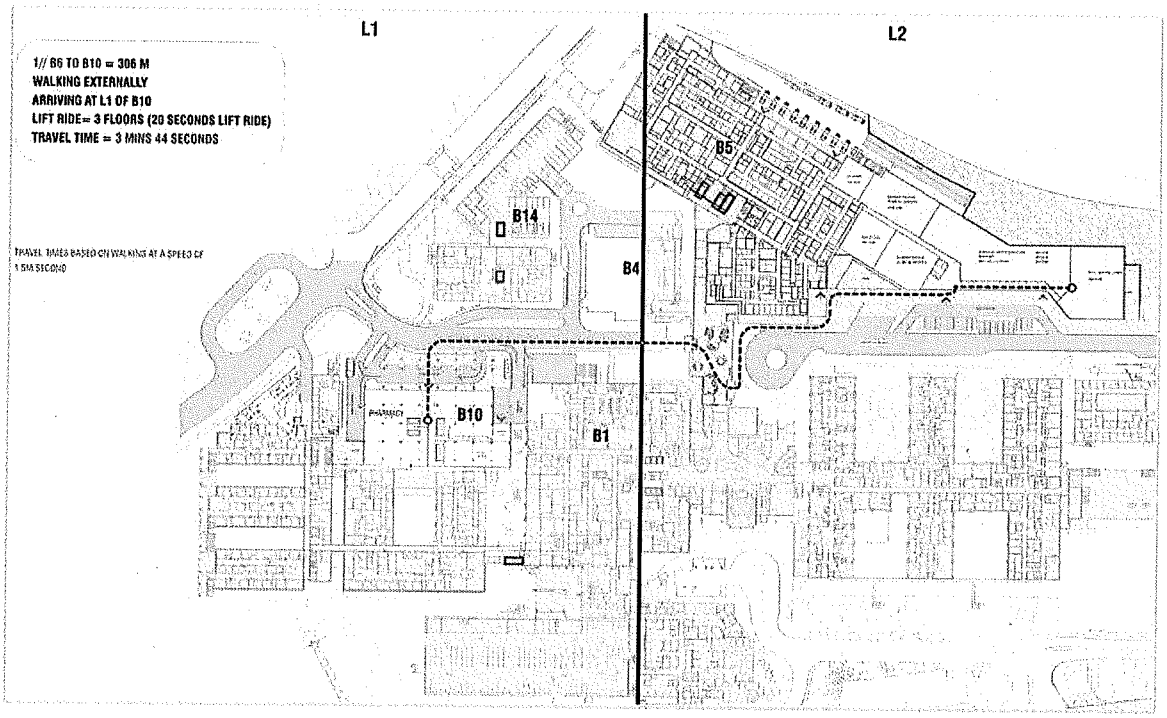
- An assessment was undertaken to determine the feasibility of spliting Outpatient Services across the two sites – including Surgical Outpatients in the new PCS building and Medical Outpatients in the new Inpatient and Outpatient Services Building. However, it was determined that a consolidated model in the new Inpatient and Outpatient Servides Building was preferred due to:
    - **Reduced travel times to Medical Imaging:** the location of Medical Imaging in new Inpatient and Outpatient Services Building would increase travel times between buildings and reduce the overall patient experience. The estimated internal and external distance and travel times between the PCS Building and Inpatient and Outpatient Services building are:
        - Internal: 356 metres / 4 minutes 7 seconds – as illustrated in Figure 23)

Figure 23: Internal travel time to Medical Imaging



- External: 306 metres / 3 minutes 44 seconds (Figure 24)

Figure 24: External travel time to Medical Imaging



- **Cost and operational considerations of a satellite Medical Imaging service:** the option to develop a satellite imaging service was determined to be (1) duplicative, (2) capital intensive, and (3) challenging to resource in the current skilled labour market.
- **Operational implications:** the increased travel time for medical staff working across both Medical and Surgical Outpatients would reduce productivity and overall operational efficiency.

Standardised rooms would include consult rooms and supported by interview rooms and/or treatment rooms. The treatment and interview rooms may be shared across pods if the final configuration allows and will allow for the provision and ventilation of medical gases. There will also be provision for a Negative Pressure Room on Level 2 for Pentamidine Aerosolised Therapy delivered through the Respiratory Outpatient service.

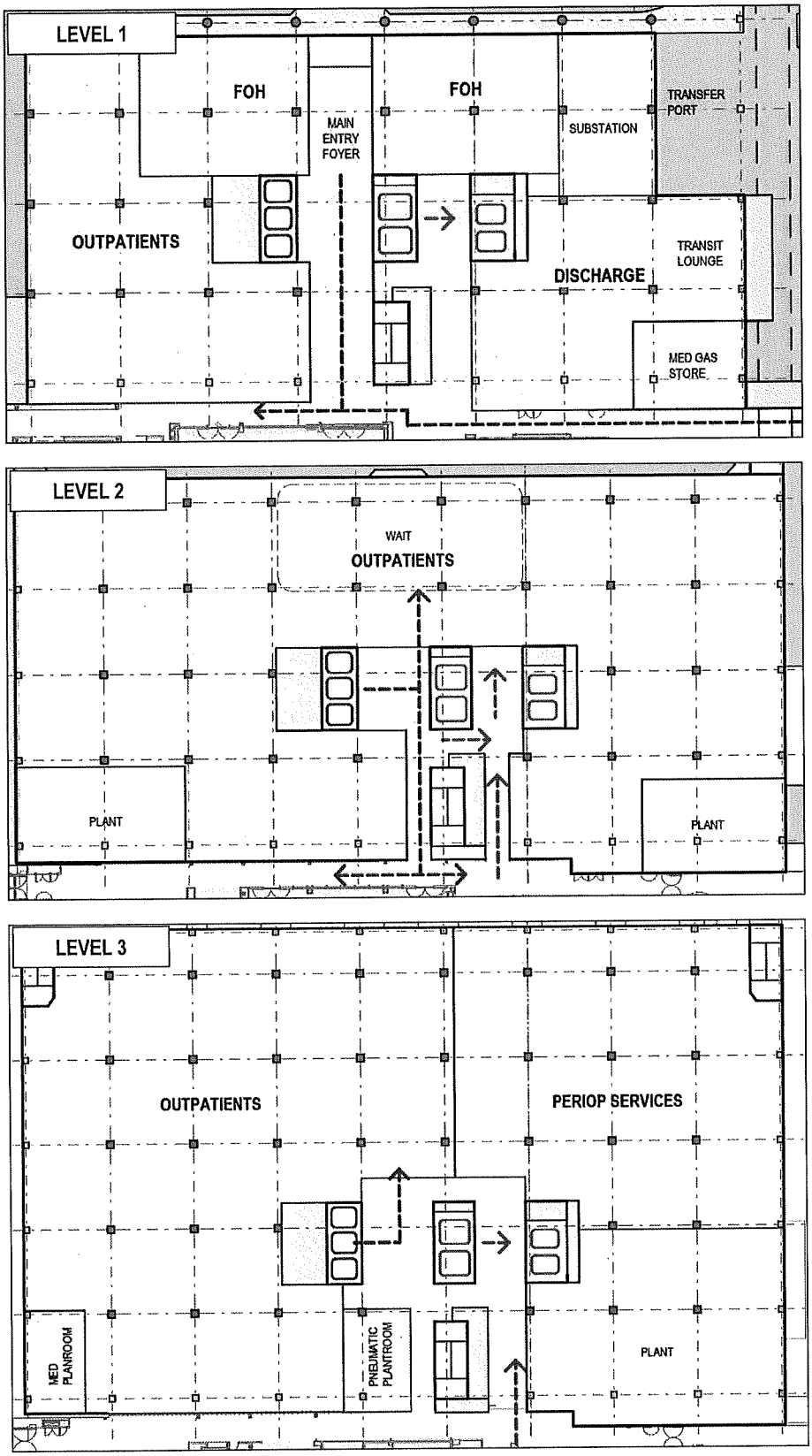
A mix of larger consultation rooms will facilitate multidisciplinary care, as well as cater for patients who bring children or larger family groups.

The support areas for outpatient clinics include:

- Resuscitation equipment for medical emergencies;
- Point of care testing for pathology and specimen collection;
- A system for reprocessing reusable medical devices;
- Storage for equipment and consumables; and
- Back of house functions such as waste disposal rooms.

The layout of each floor accommodating outpatient services is presented in Figure 25.

Figure 25: Floor plan layout of outpatient services



Medical imaging

The new Inpatient and Outpatient Services Building will enable the consolidation of public access Medical Imaging (MI) services in one central location (noting the provision of dedicated inpatient and emergency patient imaging services in B5). The current service is distributed across multiple locations and its consolidation would improve access and overall operational efficiency. It also allows for the decommissioning of Building 12. A total area allowance of 2,164m^2 (GBA) will accommodate 19 POC and provide the space needed for the following diagnostic equipment:

- 4 general X-ray machines;
- 4 Ultrasound machines (one procedural);
- 2 procedural Computed Tomography (CT) machines;
- 2 Magnetic Resonance Imaging (MRI) machines;
- 1 Fluoroscopy machine;
- 1 Positron Emission Tomography (PET) / CT;
- 2 Single Photon Emission Computed Tomography (SPECT) / CT;
- 1 Gamma Camera;
- 1 Mammography machine; and
- 1 Bone Mineral Density (BMD) scanner.

The design and layout of the MI service will include provisions for:

- Bariatric patients, including MI equipment with adjusted size and weight capacities of up to 250kg with appropriate lifting equipment.
- Radiation shielding for all walls, ceilings, floors doors, internal viewing windows, door viewing panels and external windows to protection patients and staff from ionising radiation.
- Faraday cages to shield the electromagnetic fields produced by the MRI machines.

The MI service would include a provision of front-of-house area including a public access reception and waiting area for patients. The new Core MI Service will operate as a 'booked or planned' MI service with only limited appointment capacity for any unscheduled community appointments, enabling operational efficiencies and reduction of interrupted service provision due to emergency examinations which would be managed through the B5.

Perioperative services

Perioperative services for emergency caesareans will be accommodated on Level 3. A total area allowance of 1,129m^2 (GBA) will accommodate 12 POC, including:

- Two fully fitted operating rooms (60m^2 each) as well as a third shell space for the development of a third operating theatre in the future to support increased birthing activity *(note: the shell space utilises the area that could have been used to accommodate the relocation of HIS from Building 12)*;
    - *Note: an extra doorway will be added along the existing East-West corridor to block public access and provide a discreet linkage for emergency Maternity patients transiting between Buildings 11 and 10 theatres.*
- Two dedicated patient holding bays; and
- Three patient recovery bays.

The service would also include:

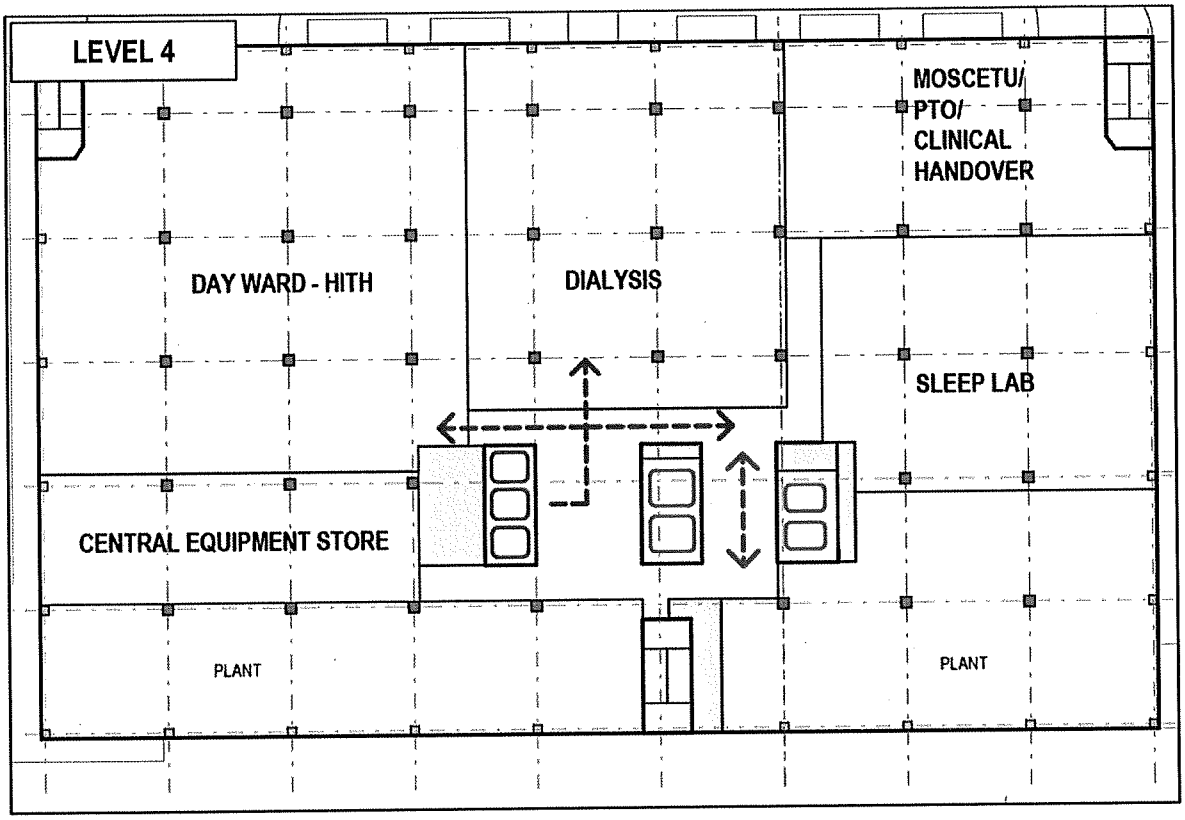
- A dedicated CSSD unit including sterilisation capability;
- 16m^2 of neonatal storage; and
- Clinical and non-clinical support areas, including reception and staff amenity areas.

Combined Medical Day Unit and Hospital in the Home

HITH, provides individualised clinical services in the patient's home or other community settings. The service will be based on Level 4 across 814m^2 (GBA) to accommodate 31 POC. The floor area will include 20 treatment bays, 8 patient bays for medical day treatments and an additional 3 bed rooms, one of which designed for bariatric patients.

Other day medical services such as dialysis and sleep labs will deliver 11 and 8 POC respectively. The Dialysis Unit will service inpatients in B5, the proposed new Inpatient and Outpatient Services Building, National Capital Private Hospital and North Canberra Hospital, as illustrated in Figure 26.

Figure 26: Floor plan layout of HITH and other day medical services



Administrative services and other functional areas

The Inpatient and Outpatient Services Building would include a range of administrative and other functional areas include:

- Medical Officers and Support Training Unit;
- General Practitioner (GP) Liaison Offices;
- Physician Training Office;
- Centralised equipment store;
- Junior Medical Officers (JMO) Lounge;

- Front-of-House including; and
- Transit Lounge including 10 chairs and 8 beds.

Back-of-House

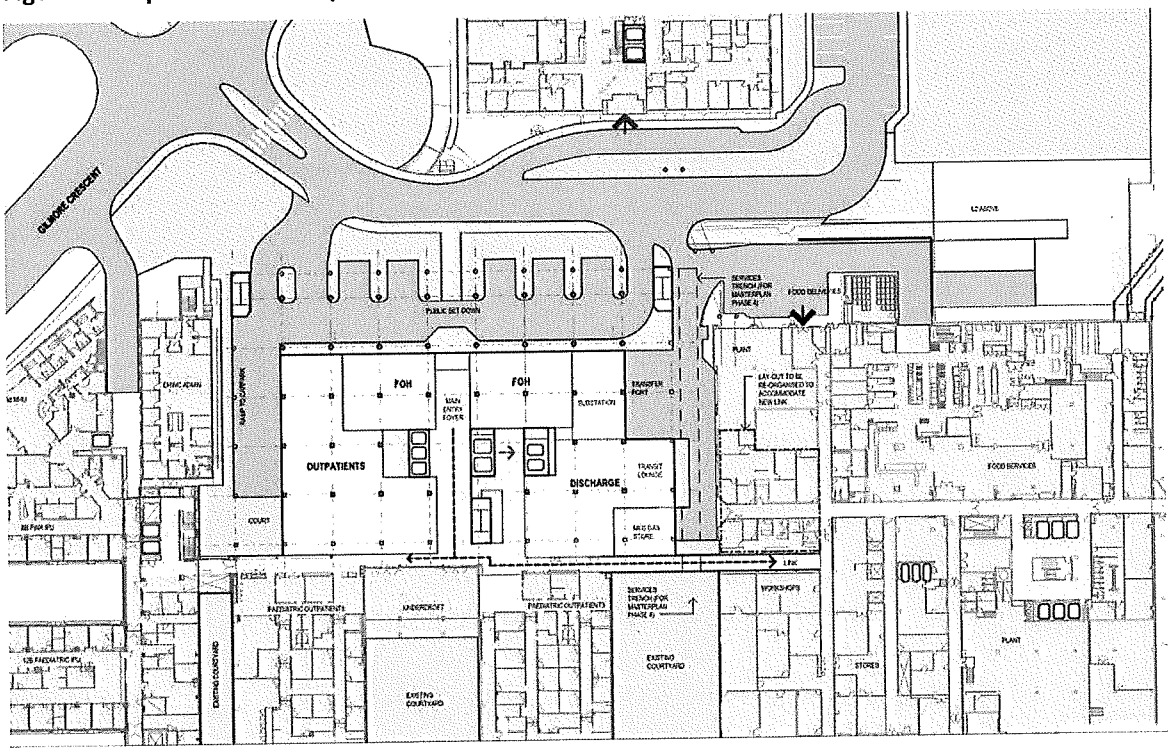
The BOH unit will provide the functional logistics of the new Inpatient and Outpatient Building, including the following components:

- Loading dock, including provision for a larger class of service vehicle;
- Linen services;
- Supply and materials management;
- Cleaners storage;
- Waste management and removal;
- Food services;
- Medical gases;
- Separate clinical and public access lifts, including the provision of a Bariatric patient capable lift;
- Healthcare Technology Management; and
- Information, Communication and Technology.

Traffic Management

The management of traffic around the Building 10 site is complex. To facilitate direct access, a series of ground plan interfaces will be located on Level 1 with additional links to facilities in Building 1 and Women's and Children's Hospital in Building 11. This will also include access to car-parking, including at-grade provisions distributed in the vicinity of the entry point and a below ground carpark for regular users of the facility. The ground floor will facilitate logistics and service vehicle and emergency vehicle access and have a dedicated transit / discharge lounge. The proposed layout of the ground plan including the traffic flow is presented in Figure 27.

Figure 27: Inpatient and Outpatient Services Building – the ground floor interface and traffic flow



The vehicular public access will include:

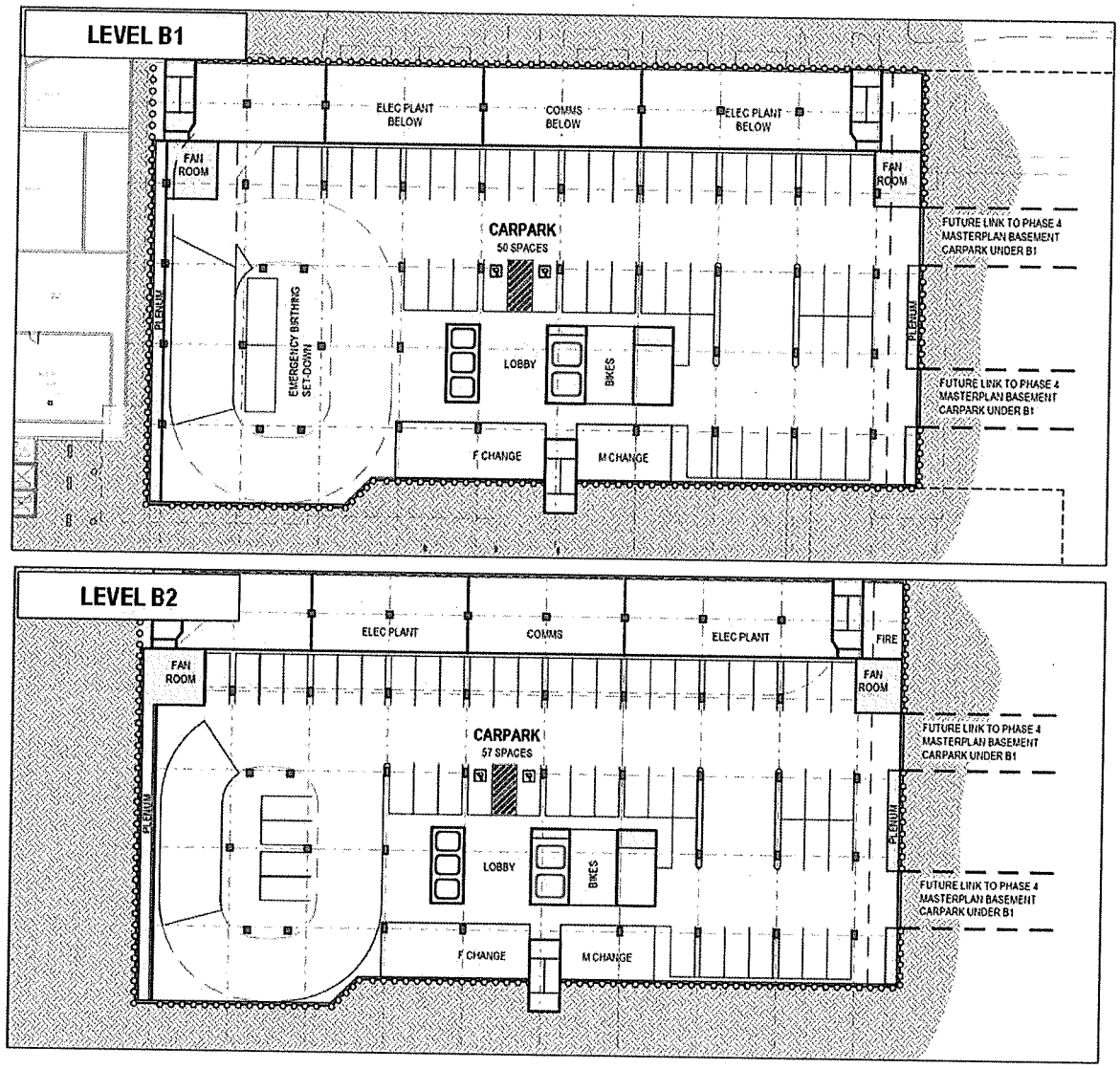
- A dedicated public set down area; and
- Two (2) basement levels for carparking.

Building access, cirulcation and connectivity were among the primary considerations from community consultations undertaken during Phase 1 of the CHMP. In addition to limited access using public transport, carparking issues were the single most recurrent issue raised during stakeholder consultations.

The two-level basement carpark will accommodate:

- **Carparking:** a total of 107 parking spaces including 50 spaces on Basement Level 1 and 57 spaces on Basement Level 2.
- **End-of-trip facilities:** the Basement will also provide a range of end-of-trip facilities including bike storage, showers and lockers.
- **Emergency birthing set-down areas:** Basement Level 1 will provide a dedicated and discreet set-down and parking area for emergency birthing patients immediately adjacent to the clinical service lifts providing direct access to theatres in the Perioperative Unit on Level 3. The floor plan layout of each floor is presented in Figure 28.

Figure 28: Floor plan layout of basement carpark



Site connections

The new Inpatient and Outpatient Building will deliver a range building linkages to enable rapid access to services within, and to, other adjacent buildings. This includes:

- A ground floor logistics link to Building 1 stores, dock and kitchen, via a reconstructed linkway, and reconfigured accommodaiton within Building 1.
- A ground floor discreet linkway to Paediatrics in Building 11 including the provision of a non-public access doorway.
- A clinical link on Level 3 connecting the Women's and Childrens services in Building 11 with theatres in the Perioperative Unit. This would include an extra doorway added along the existing East-West corridor to block public access and provide a discreet linkage for emergency Maternity patients transiting between Buildings 11 and 10 theatres.

2.3 Decanting Works – B1 and B12

Inpatient and Outpatient services currently located in Buildings 1 and 12 would be decanted and relocation into the newly commissioned Inpatient and Outpatient Services Building. This includes:

- Services decanted from Building 1:
    - Inpatient services including medical and surgical units;
    - Outpatient and ambulatory services, providing both medicine and surgical services
    - Haemodialysis day stay;
    - JMO and Discharge lounge; and
    - Administration units of patient flows.
- Services decanted from Building 12:
    - Medical Imaging; and
    - Obstetrics surgical services.

Program

The Phase 2 works will be delivered over a 6-year program of work spanning FY29-36. Table 16 outlines the key program milestones for design, procurement, construction and commissioning activities.

Table 16: Phase 2 program

Milestones	Est. Start	Est. End
Phase 2: Enabling and Early Works		
Building 10 Demolition Planning	Sept-30	Dec-30
Building 10 Demolition Contractor Procurement	Dec-30	Apr-31
Demolish Building 10 (including Contingency)	Apr-31	Nov-31
Phase 2: Main Works		
Engage Consultant Team to Develop PSP 50% Design	Feb-29	May-29
Prepare New B10 PSP Design & [redacted] Tender Documentation	May-29	Apr-30
Procure New B10 [redacted] Contractor	Apr-30	Nov-30
B10 Design Finalisation & Planning Approval	Oct-30	Mar-31
B10 Construction Commencement	Nov-31	Nov-31
B10 Practical Completion	Mar-35	Mar-35
B10 Operational Commencement	Aug-35	Aug-35

6.5 Phase 3

Stage 5 will be undertaken from FY34-39 and involves the expansion of the existing PCS Stage 1 Building. Stage 2 will be built over the same eight (8) levels (including plant level) as PCS Stage 1 and

will be located on the northern end of the site. The two buildings will be connected by developing the Stage 2 building against the northern face of the existing PCS Stage 1 Building.

3.1 Enabling and Early Works

- Remobilisation works to be undertaken on the remaining vacant land on the northern end of the Building 6/7/23 site. These works will take place immediately adjacent to the PCS Stage 1 Building completed in Phase 1. These works include:
    - Safety procedures.
    - Preparing alternate temporary building accessways.
    - Access road construction and designation of identified set down areas.

3.2 Construction Works

Construction of a new 8-level expansion building on the North-Eastern flank of the Building 6/7/23 site to accommodate a range of clinical and non-clinical functions. This would include a linkage strategy to connect the two stages of the building.

Note: The final linkage strategy to connect the two buildings is subject to further feasibility works.

Clinical scope

A rapid clinical planning activity undertaken in late 2024 analysed the clinical and functional requirements for the PCS Stage 2 development. Table 178 outlines the output Schedule of Accommodation (SOA) from this work which defines the proposed scope for the new PCS development.

Table 17: PCS Stage 2 SOA

Department	Existing	PCS Stage 2	
	Area m² (GDA)	Area m² (GDA)	Variance m² (GDA)
Endoscopy	528	1,843	+1,315
GEHU Outpatient	338	466	+128
Pharmacy	880	870	-10
MHSSU	434	633	+199
Surgical Bookings / Preadmission	429	494	+65
Clinical Trials	0	840	+840
Learning and Teaching	0	1,250	+1,250
Command/Control Centre	133	133	+0
ANU Medical School	2,188	2,188	+0
Multifaith	0	55	+55
Bone Lab	104	104	+0
Sub-Total Stage 2 GDA	5,035	8,877	+3,842
Travel and Plant 40%	2,014	3,551	+1,537
Sub-Total Stage 2 GBA	**7,049**	**12,428**	**+5,379**

Notes:

- *The SOA above is indicative and subject to change following more detailed feasibility works.*
- *Points of Care (POC) have not been re-evaluated as part of the Option 1 to-date and therefore have been removed pending further feasibility works.*
- *All Option 1 areas (m²) have been benchmarked against AHFG.*
- *Variance = the change (increase or decrease) in area relative to the current state.*
- *GDA = Gross Departmental Area.*
- *GBA = Gross Building Area (GBA) = GDA + 40% for travel, plant and central energy plant (CEP).*

3.3 B4 Works

Option 1 currently includes the indicative the removal of Building 4 and replacement of the site with open space in the short term, until such time as there is an identified development need as determined by CHS and ACTHD

Program

The Phase 3 works will be delivered over a 5-year program of work spanning FY34-39. Table 18 outlines the key program milestones for design, procurement, construction and commissioning activities.

Table 18: Phase 3 Program

Milestones	Est. Start	Est. End
Procure PCS Stage 2 [redacted] Contractor	Aug-33	Feb-34
PCS Stage 2 Design Finalisation & Planning Approval	Feb-34	Jun-35
PCS Stage 2 Construction Commencement	Jun-35	Jun-35
PCS Stage 2 Practical Completion	Mar-37	Mar-37
PCS Stage 2 Operational Commencement	Jun-37	Jun-37
Decant ANU Medical into PCS Stage 2 Building	Jun-37	Sept-37
Demolition of Building 4 (inc. Contingency)	Sept-37	May-38
Construction of New Open Green Space	May-38	Aug-38

6.6 Alignment with the CHMP

Design considerations

The CHMPP2 and the development of the new buildings adhere to the core principles underpinning the *ACT Health Services Plan 2022-2030*, including the design of:

- Person-centred services;
- Inclusive and culturally appropriate services;
- Safe and quality services;
- Health outcomes and access; and
- Sustainable services.

A key element of the Canberra Health Services Vision and Service Direction emphasises the delivery of exceptional quality person-centred health care which is effective and efficient.

6.7 Landscape and urban design

The planning and development of the CHMPP2 preferred option includes consideration of surrounding landscapes and urban design principles to promote healing and wellness, and improve the connection to the surrounding environment. This includes:

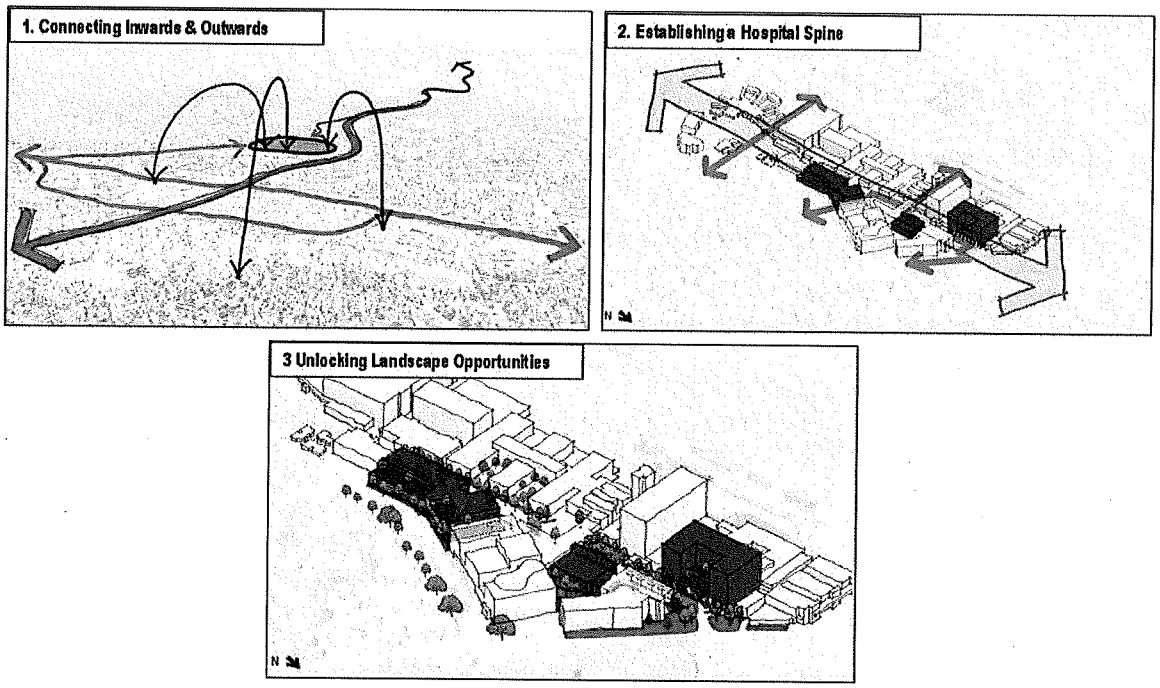
- Ensuring access to nature i.e., the integration of hospital gardens and terraces;
- Integrating natural air flow and ventilation for improved air quality;
- Creating spaces that are apolitical and culturally safe to address the gap between health outcomes and life expectancy of First Nations communities;
    - *Note: there is a cost allowance in this Business Case to develop a more comprehensive art and cultural framework to inform the development of culturally-sensitive infrastructure across the CHMP and beyond).*
- Implementing sustainable best practice architecture and landscape designs to promote social benefits such as a reduction in urban heat islands, increased biodiversity and connections to surrounding habitat networks, etc.

In line with the best-practice health considerations, the following key project design drivers were identified providing the foundational principles that shape the overall vision and direction of the project:

1. **Connecting Inwards and Outwards** to meaningfully integrate the proposed building and hospital campus with the surrounding landscape.
2. **Establishing a Hospital Spine** via Hospital Road as an identifiable main street for the hospital campus.
3. **Unlocking Landscape Opportunities** through the creation of new open spaces and connections to the landscape.

Each project design driver is visually presented in Figure 28.

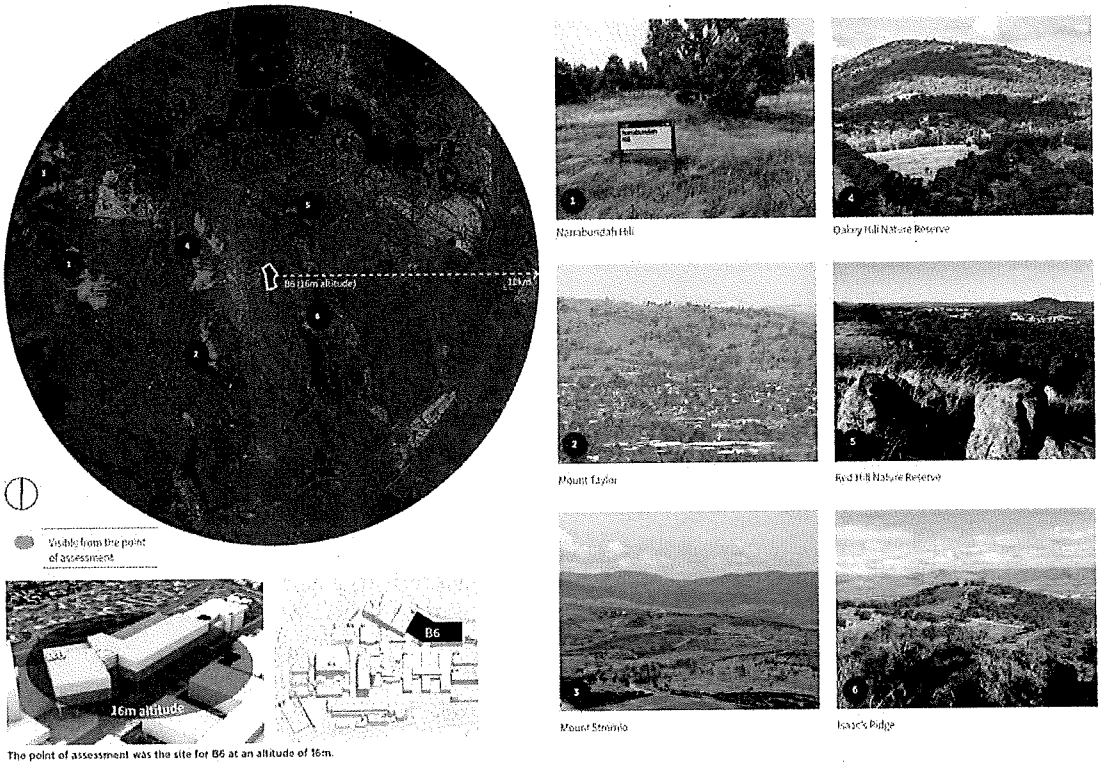
Figure 28: The key project design drivers



PCS Building Opportunities

The unobstructed views of the surrounding landscape provide picturesque views from B5, including several nearby landmarks such as Narrabundah Hill, Oakey Hill Nature Reserve, Mount Taylor, Red Hill Nature Reserve, Mount Stromlo and Isaac's Ridge as presented in Figure 29.

Figure 29: The viewshed of the new Pathology and Clinical Services Building



The point of assessment was the site for B6 at an altitude of 16m.

This would be complemented with additional opportunities identified on-site which would inform the future detailed design phase, including:

1. **Creating continuity in the Hospital Road** streetscape by establishing Hospital Road as the main spine of the campus and developing a continious pedestrian-focused environment.
2. **Maximising opportunities for canopy trees** to generate shade, reduce thermal mase and increase the aesthetic appeal of the hospital campus.
3. **Creating safe and legible crossing points for pedestrians** to reduce stress and confusion of both pedestrians and vehicle drivers.
4. **Increasing road reserve width to add to Hospital Road amenity,** easing the movement of traffic and enabling a clear line of sight.
5. **Adding to site permeability and a connection to Palmer street** to improve the connectivity to, and circulation around the hospital, strengthening the Hospital Road spine and ensuring the residential area around Palmer Street has easy access to the hospital campus.
6. **Creating a boulevard along Palmer Street with a double row of trees** to provide amenity to residents on Palmer Street and to ensure the PCS Building does not dominate the horizon for people traveling along Palmer Street.

7. **Creating new and desirable open spaces** in front of the northern entry and staircase to Level 4 of B5 which would become one of the largest, landscape spaces delivered across the CHMP.

An example of these opportunities is presented in Figure 30 and spatially visualised in Figure e 31, showing how the proposed new building and associated streetscape works could be integrated in the existing hospital setting.

Figure 30: The opportunities on site for the new PCS Building

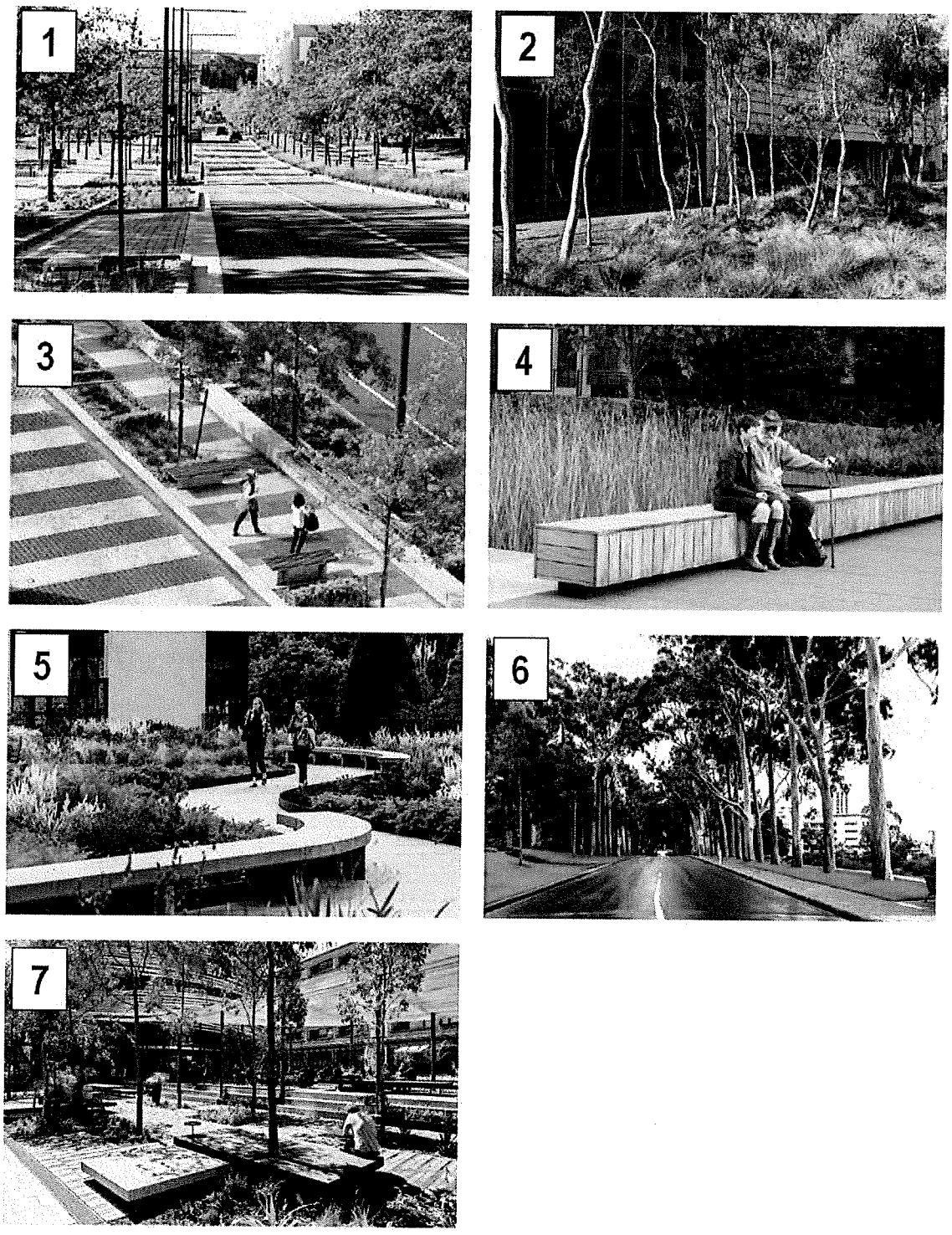
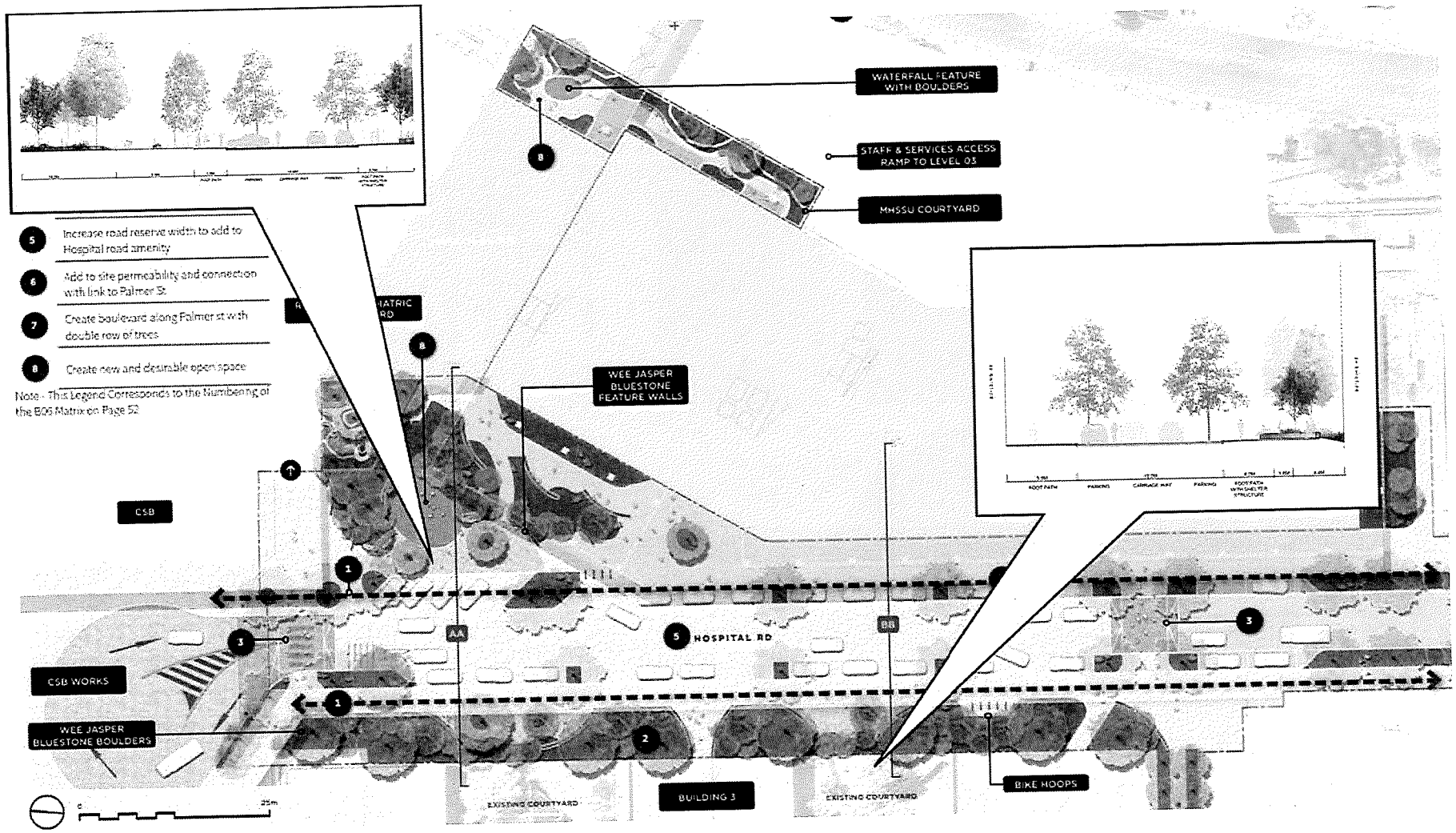


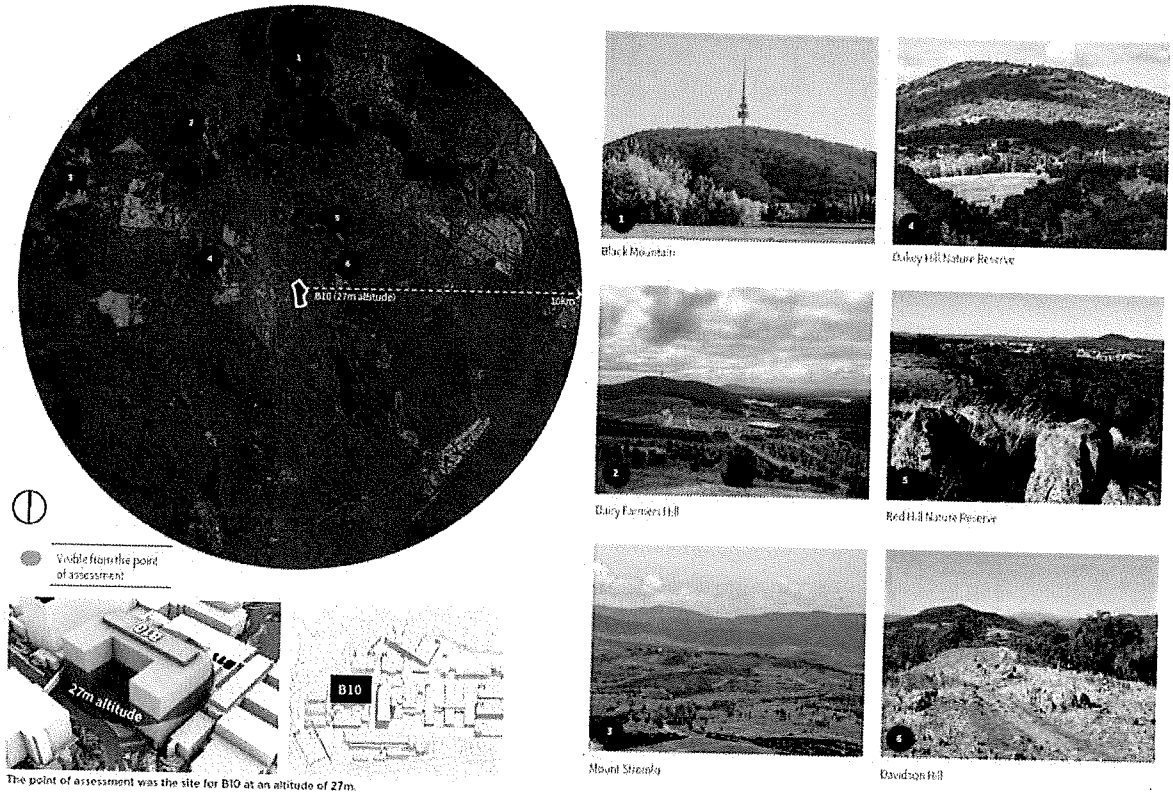
Figure 31: Spatial visualisation of the PCS Building opportunities



Inpatient and Outpatient Services Building Opportunities

The location of the new Inpatient and Outpatient Services Building will deliver unobstructed views of several nearby landmarks including Black Mountain, Oakey Hill Nature Reserve, Dairy Farmers Hill, Red Hill Nature Reserve, Mount Stromlo and Davidson Hill as depicted in Figure .

Figure 32: The viewshed of the new Inpatient and Outpatient Services Building



There are additional opportunities which would complement the landscape and urban design of the new Inpatient and Outpatient Services Building, including:

1. **Creating continuity in the Hospital Road** streetscape by establishing Hospital Road as the main spine of the campus and developing a continious pedestrian-focused environment.
2. **Maximising opportunities for canopy trees** to generate shade, reduce thermal mase and increase the aesthetic appeal of the hospital campus.
3. **Creating safe and legible crossing points for pedestrians** to reduce stress and confusion of both pedestrians and vehicle drivers.
4. **Enhancing the Gilmore Crescent Boulevard** by increasing tree cover, vegetation and enhancing the wider pedestrian environment.
5. **Leveraging open space opportunities for staff, patients and visitors** to create exciting, flexible and visually attractive new spaces.
6. **Establishing a unified hospital getaway** through the Gilmore Crescent providing access to the heart of the campus via safe and easily identifiable crossings, and vegetation increasing public amenity.
7. **Creating a green archway utilising the existing upper-level pedestrian bridge infrastructure** to enhance the bridge using greenery such as climbing species and tall trees.

8. **Enhancing Service Road and pedestrian connection with increased canopy cover** to improve the pedestrian experience on a linkway that is likely to be a busy thoroughfare for staff members travelling between buildings.

An example of these opportunities are presented in Figure 33 and spatially visualised in 4, showing how the proposed new building and associated streetscape works could be integrated with the existing hospital setting.

Figure 33:The opportunities on site for the new Inpatient and Outpatient Services Building

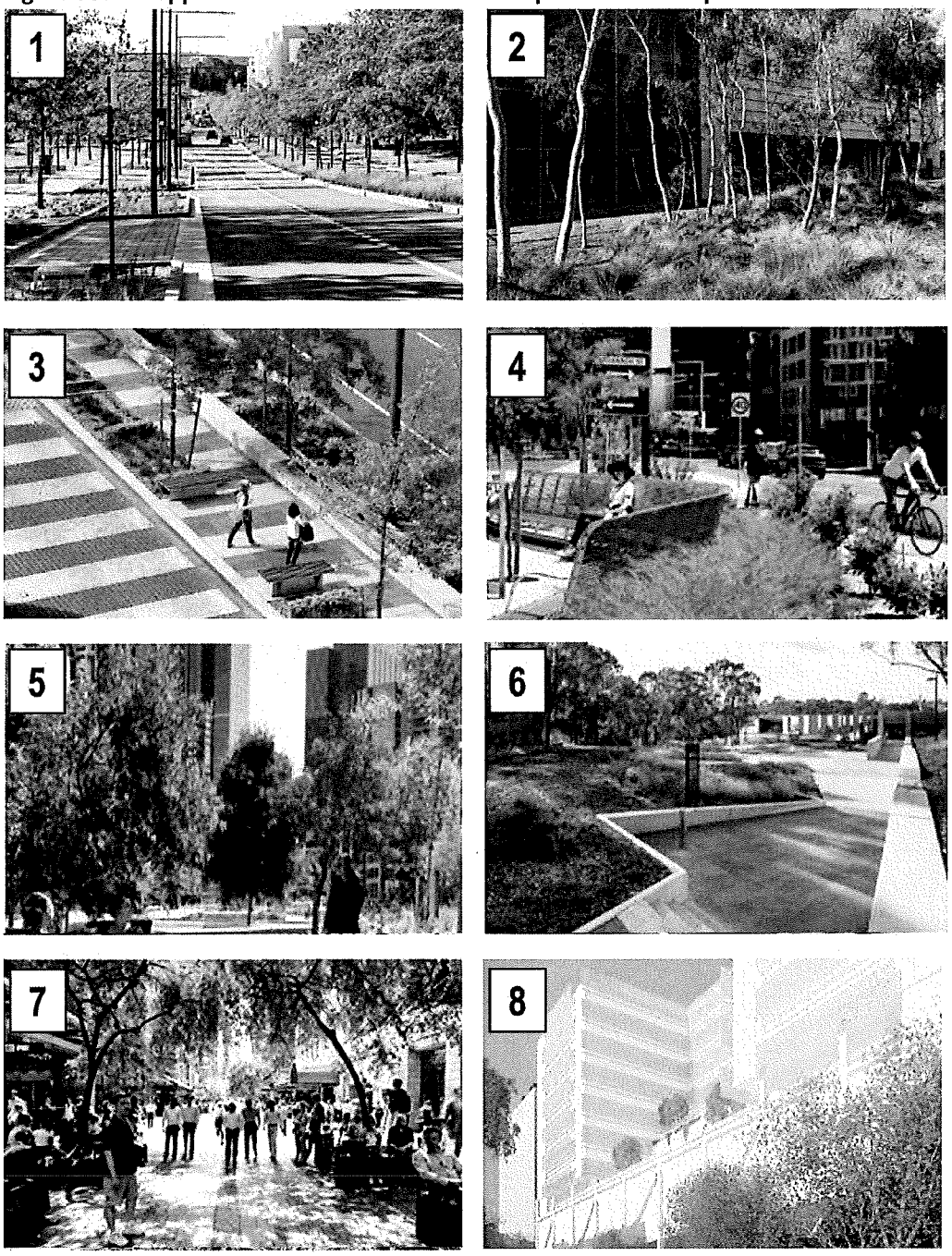
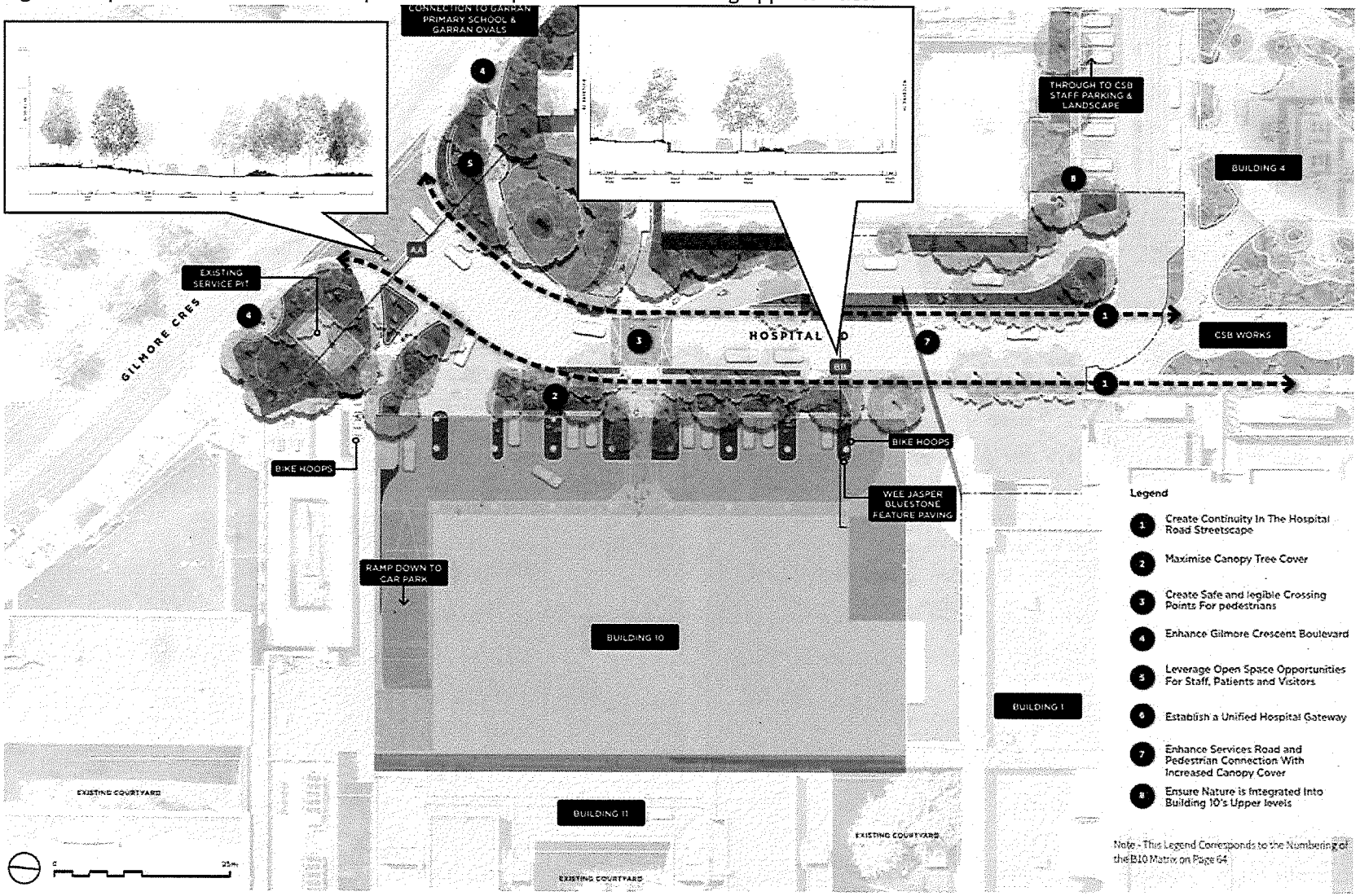


Figure 34:Spatial visualisation of the Inpatient and Outpatient Services Building opportunities.



6.8 Sustainability

The preferred option will comply with the requirements of the National Construction Code 2022 with a focus on energy efficient plant selection and low water use equipment, fixtures and fittings. This includes a costed allowance [redacted] to enable the development and delivery of sustainability elements across the project. The design process will be guided by the Net Zero Carbon Guide for New and Existing Buildings in Australia and include the following elements:

- **Green Star Rating:** The new developments will target a 5-star Green Star Building v1 rating and, for this reason, a registration for the Green Start certification with the Green Building Council of Australia will be required to be completed by December 2025 at the latest to enable the continious involvement of a Green Star Accredited Professional in the further development of the preferred Option;
- **Allowance for climate change:** The building design will be futureproofed against the impacts of climate change;
- **Removal of all site fuel sources:** To ensure the transition to an-electric hospital campus, all fossil fuels are to be removed from new buildings' sites with the exception of the diesel back-up generator systems for power redundancy;
- **Installation of photovaltaics:** The development will require roof mounted photovaltaic systems installed where permissible. Additional glare analysis will be required to inform any impact of solar panel systems on helicopter operations in proximity to B5;
- **Selection of buidling materials:** All materials selected for the development should have low embodied carbon to minimise the environmental footprint of the CHMPP2 project. This also includes the use of zero or low-carbon concrete, the instalation of no- or low-emitting materials inside the waterproofing barriers, and other;
- **Reducing energy transfer:** The new building design would seek to reduce energy transfer with a focus on roofing insulation, sky lights and associated glare screens, under floor insulation, façade insulation, glazing systems with double low e-glass and thermally split frames, and airtightness etc.;
- **Efficient building services:** including tuning mechanical and hydraulics plant, vehicle charging systems, water tanks and efficient tapware;
- **Development of end-of-trip facilities:** including change rooms with lockers and shower facilities, and additional bicycle parking areas;
- **Landscape designs incorporating the requirement of Green Star credits:** including the improvement of biodiversity, meeting minimum lanscape area guidelines and introducing a wide range of species, genus and families to further promote biodiversity; and
- **Earth works:** to limit the removal/disposal of materials and encourage the re-use of topsoil across the site where possible.

Further detail about these considerations is provided in the Proof of Concept Design Reporting, Appendix L -.

6.9 Project interdependencies

- **Delivery of the PCS Stage 1 Building:** the delivery of the new Inpatient and Outpatient Services Building is dependent on the completion of the new PCS Stage 1 Building. These projects must be delivered sequentially to enable the decanting of existing services from the existing Building 10 to the newly completed PCS Stage 1 Building. This includes Pathology and other clinical support services currently accommodated in Building 10. Once these

services have relocated, Building 10 can be decommissioned and demolished to enable the delivery of the new Inpatient and Outpatient Services Building.

- **Consideration of the Northside Hospital Project:** Once the Northside Hospital Project has completed detailed design, the scope, program and costs would need to be incorporated into the CHMPP2 to confirm the distribution of services meets projected demand and maximises accessibility into the future.

7. Risk Analysis

Key messages

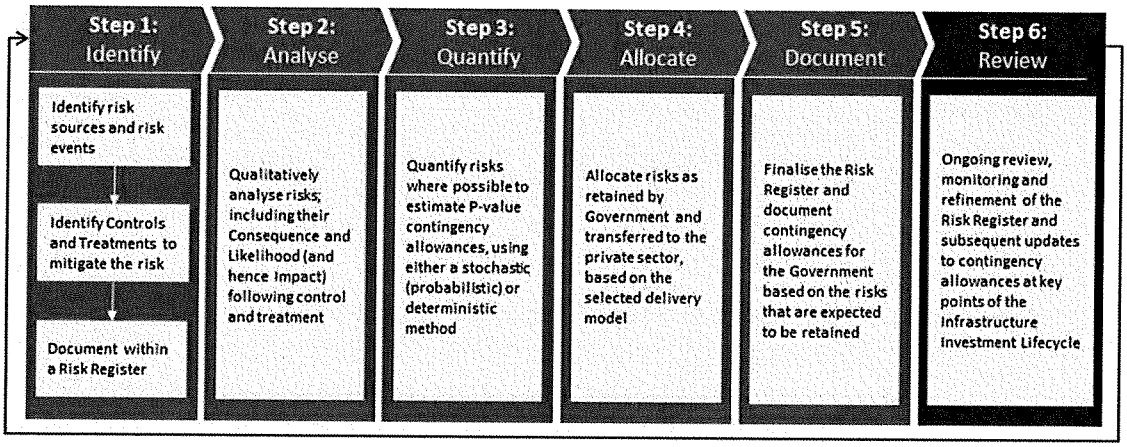
- The ACT Government Risk Management Policy 2021 has been adopted for the identification and assessment of critical project risks.
- Based on the risk assessment undertaken to date, the following risks have been identified as high risk and/or material to project delivery:
  - That planning processes and demand modelling for Territory-wide hospital projects need to be aligned with the CHMPP2 Project.
  - That planning processes and designs do not adequately consider service and infrastructure integration and connectivity with existing and new facilities, including B5
  - That planning and approvals processes take longer than anticipated or impose unforeseen conditions on the Project.[52]
  - That the proposed decanting strategy, particularly with respect to Building 7, is inadequate and there are insufficient contingencies provided for delays.
  - That the enabling works and extension of life buildings are not appropriately scoped, funded and implemented impacting on the ability to commence construction and the continuity of service provision at adjacent buildings.
  - That the staging strategy presents both affordability and deliverability risks leading to delivery delays and impacts on business continuity respectively.
  - Risk associated with utilities, such as unanticipated utilities/services upgrades are required or that unknown utilities/services are discovered onsite.
- Mitigation strategies to address critical risks include:
  - Detailed project management and planning to understand sequencing, dependencies, and approvals processes.
  - Early and ongoing engagement with key stakeholders, including clinicians, community groups, planning agencies, operational commissioning teams and utilities providers.
  - Detailed technical surveys and site investigations.
  - Detailed design definition stage, including ensuring that Functional Design Briefs (FDB's) are incorporated into the tender for design.
  - Incorporating sufficient time for planning, design and decanting in the Master Program.
- The Programme Director, Project Control Group (PCG) and the Executive Steering Committee will be responsible for monitoring project risks throughout planning and implementation phases within existing project governance committee structures.

52 It should be noted that, although this risk is well-understood and able to be mitigated, it was assessed as material to project delivery due to its high delay consequence rating of "catastrophic", which equates to a potential delay of greater than six months (refer to Table).

7.1 Risk Analysis Process

A risk assessment and quantification process has been undertaken in developing this Business Case. The approach has aligned with the ACT Government Risk Management Policy 2021 and Capital Framework guidance and has involved workshops with key stakeholders and advisors from across ACT Government (ACTHD, CHS and iCBR) and external advisors. Figure 35 provides an overview of this process.[53]

Figure 35:Risk analysis process



Step 1: Identify

Risks were identified and collated within a preliminary risk register. The register outlined potential risks according to key risk categories;[54] a detailed description of each risk and additional context to support the allocation of likelihood and consequence ratings (refer to Step 3); a description of the potential consequences of each risk; and potential risk mitigation strategies.

A variety of different types of risks were identified and classified into key risk categories, in alignment with ACT Government Capital Framework guidance on recommended risk categories. Table 19 presents some of the key project risk categories.

Table 19: Risk categories

Type of risk category	Risk description
Design	Risks associated with the design of the Project, such as ensuring the design is fit for purpose and aligns with the required Model(s) of Care
Planning	Risks associated with the planning approvals required to progress the Project to implementation, including that processes take longer than anticipated or impose unforeseen conditions on the Project
Procurement	Risks associated with processes for procurement of the Project; for example, that the documentation required to proceed with procurement is inadequate
Stakeholder	Risks associated with the varying and conflicting interests of stakeholders, including governance arrangements
Site	Risks associated with the condition of the site, including unknown geotechnical conditions, contamination and utilities upgrades

53 Source: ACT Government Capital Framework (2023). Risk analysis process. Retrieved on 1 December 2023 from https://www.treasury.act.gov.au/capital-framework/prove/detailed-technical-guidance/risk-analysis/risk-analysis-process

54 Utilising ACT Government Capital Framework guidance on recommended risk categories.

Type of risk category	Risk description
Construction	Risks associated with the construction and delivery of the Project, including accessibility considerations and impacts on existing operations
Safety	Risks associated with the safety of the community, workforce and others
Climate	Risks associated with the physical and economic impacts of natural hazards and climate change, including force majeure events that may impact project timelines
Market	Risks associated with the wider market, including the supply of labour, materials and equipment needed to undertake the Project, as well as market capacity and interest to undertake the Project
Financial	Risks associated with the financial sustainability and structure of the Project, such as insufficient OPEX cost provisions to deliver the intended outcomes of the Project
Operational	Risks associated with the operations and implementation of the Project once delivered, including risks related to changes in clinical practice, laws, contractors and demand

This preliminary risk register was developed using key project information, technical sources and scope documents shared as part of the overall business case optioneering process. In addition, the business case considered risk identification work undertaken for other relevant projects at CH.

Additional risk identification analysis and refinement of the preliminary risk register was then conducted through an internal Risk Identification workshop with input from relevant ACT Government stakeholders and technical advisors. During this workshop, identified risks were tested and validated, and any missing or obsolete risks were identified.

Step 2: Analyse

Following the risk identification workshop, the preliminary risk register was refined based on stakeholder feedback.

Likelihood and consequence rating systems were developed for the risks (refer to Table 20 and 21 respectively). The likelihood consequence rating system is based on the ACT Insurance Authority (ACTIA) Risk Matrix 2021 and the indicative probability ranges were informed by similar infrastructure projects, including hospital brownfield redevelopment projects, such as the B5 project. The cost consequence rating system was developed in consultation with the cost advisors for this Project, and the delay consequence rating system was informed by ratings used for other similar projects on the Canberra Hospital campus.

Table 20: Likelihood rating system

Level	Likelihood	Historical frequency	Expectation	Indicative probability range
5	Almost certain	Occurs on most occurrences of the activity.	Expected to happen this time.	More than 90%
4	Likely	Occurs on some occurrences of the activity.	Expected to occur on one of the next few occasions.	50-90%
3	Possible	Infrequently occurs here.	Could occur at some time in the future. Would not be surprised if occurred.	25-50%
2	Unlikely	Has never occurred here.	Might occur but unlikely. Would be surprised if it occurred.	10-25%
1	Rare	Has never occurred here but may have/has occurred somewhere.	Might occur, but only in exceptional circumstances. Would be very surprised if occurred.	Less than 10%

Table 21: Consequence rating system (Preferred Option)

Level	Consequence	Capital value[55]	Time
5	Catastrophic	Greater than $40m	More than 6 months
4	Major	$20m – $40m	2-6 months
3	Moderate	$10m - $20m	1-2 months
2	Minor	$4m - $10m	0.5-1 months
1	Insignificant	Less than $4m	Less than 0.5 months

Each risk was assigned an initial likelihood and consequence rating (for both cost and delay impacts), in accordance with the ACT Government Capital Framework guidance. These ratings were applied based on residual risk i.e., the likelihood and consequence of the risk once the proposed mitigation strategies have been implemented.

A Risk Quantification workshop was conducted with key relevant ACT Government stakeholders and technical advisors to test and validate the likelihood and consequence ratings for all risks.

Step 3: Quantify

The risk quantification approach followed the requirements of the Capital Framework for Tier 1 business cases and included a Monte Carlo probabilistic analysis. This process consists of modelling the probability and impact values for each risk identified in the risk register to a P50 and P90 level of confidence to estimate the contingency allowances for the Project.

To quantify cost and delay impacts, the following calculation was used:

$$Cost\ Risk\ /\ Delay\ Risk = P \times \frac{BC + 4ML + WC}{6}$$

Where:

- P = Probability
- BC = Best case (lower range of the capital value for the relevant consequence rating)
- WC = Worst Case (upper range of the capital value for the relevant consequence rating)
- ML = Most Likely (average of the best case and worst case)
- 4-times the weight is given to the Most Likely value and divided by 6 to get the average.

The contingency allowance was subsequently verified through a top-down assessment, including consideration of risk profile and other recent health infrastructure projects, to ensure the determined allowance was appropriate relative to total project capital.

Further detail on the risk quantification and contingency allowance methodology can be found in Chapter 9 – Financial Analysis.

Step 4: Allocate

For each risk identified in the risk register, the risk allocation was determined giving consideration to the following categories:

- Fully retained, and therefore managed, by the Territory;

55 Capital values were determined based on the latest CHMPP2 Cost Plan B and consultation with MBM.

- Transferred, and borne entirely by the private sector; and
- Shared between the Territory and the private sector.

The risk allocation process was informed by the ongoing delivery model analysis and precedent case study projects. However, it should be noted that the ability to allocate risks to the private sector is also dependent on:

- The changing risk appetites of market participants over time;
- The capability of the private sector counterparty to manage the risk allocated to it;
- The financial capacity of the private sector counterparty to absorb the risk should it eventuate; and
- The robustness of the contractual arrangement of the delivery model in terms of the Territory's ability to enforce the allocation of risk to the private sector.

Further information on the delivery model analysis for this Project is set out at Chapter 8 – Delivery Model Analysis.

Step 5: Document

Following Step 4, the risk register was updated and finalised. The complete risk register, including ratings and proposed mitigation strategies, is included at Appendix M - and Appendix N -. An outline of the key project risks is contained in Section 7.2.

The final contingency allowance in terms of cost and time impacts for the Government based on the retained risks can be found in Chapter 9 – Financial Analysis.

The risk register should be considered a living document and at key points of the Project, it should be reviewed and updated to ensure that it is fit for purpose, which will inform whether any updates to the contingency allowance are required, and to ensure that the Project is achieving its intended outcomes and providing value for money for key stakeholders. Further detail on how risks should be managed on an ongoing basis as the Project progresses can be found in Appendix M - and Appendix N -.

Ongoing Risk Management

The Project's governance framework provides a whole-of-territory framework that enables collaborative decision making and will ensure accountability and transparency throughout project planning, development and delivery. This framework allows cross-directorate executive leadership representation from ACTHD, CHS, iCBR, and ACT Treasury. Further detail on the governance framework can be found in Chapter 11 – Project Governance, Stakeholder Engagement Plan and Advisor Engagement Plan.

The following project governance bodies will have responsibility for risk oversight on the Project.

Table 23: Risk management and reporting responsibilities

Individual/group	Roles and responsibilities
Executive Steering Committee	The Executive Steering Committee will oversee and provide collective endorsements and/or approval as necessary for the development of the Project, as well as provide guidance and advice to the Director-General and Deputy Director-General of ACT Health. Responsibilities will include identifying and monitoring risk and issues management and assist in the establishment of mechanisms to effectively mitigate these.
Programme Director	The Programme Director will have oversight of the PCGs and will be responsible for the ongoing review of the risk register and contingency allowances.
Project Control Group	PCG will act as a decision setting and monitoring body for various components of the Project, including decanting, demolition, early works and main works. They will be responsible for escalating relevant issues to the Executive Steering Committee as they arise, according to risks identified in the risk register.

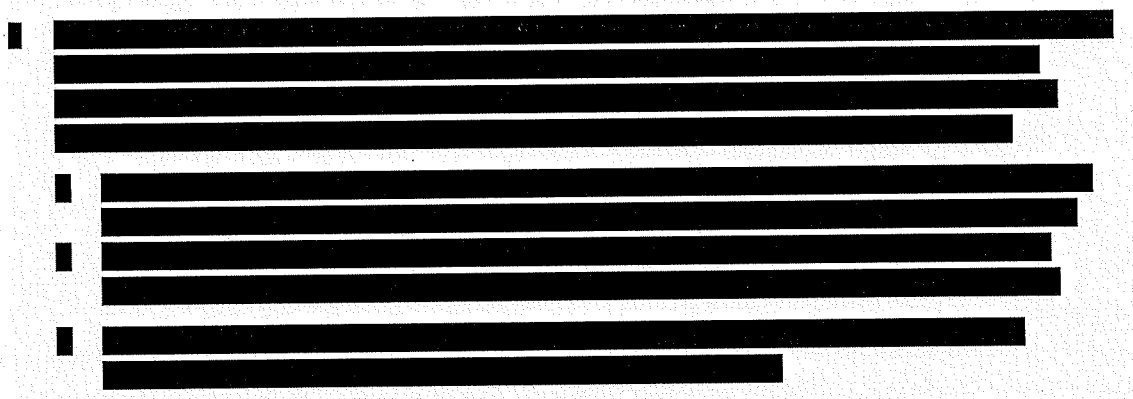
It is recommended that the risk register is continually monitored throughout the project lifecycle and updated at key milestones to ensure that contingency allowances are accurate. The Programme Director, as the individual responsible for oversight of the PCG, will have ultimate responsibility for ensuring the risk register is kept up to date. To monitor and update the risk register, the following activities should be undertaken:

- Contact individuals with responsibility for risk management and mitigation strategies and ensure they are being enacted;
- Review the effectiveness of mitigation strategies that have been implemented;
- Update the mitigation strategies and the consequence and likelihood of ratings of risks occurring once mitigation strategies have been implemented, as required;
- Add new risks as they arise and close risks that have occurred or are no longer relevant to the Project;
- Table and discuss the Risk Register regularly at Executive Steering Committee meetings; and
- Update the risk allocation as required.

8. Delivery Model Analysis

Key messages

- Delivery model analysis considered traditional and non-traditional models as well as packaging options to effectively deliver a project of this scale. The recommended packaging approach for the preferred option (Option 1) includes:
  - **Package 1: Building 7 decanting and demolition.**
  - **Package 2: PCS Stage 1 Building enabling, early works and main construction works package** comprising enabling works, new building works, refurbishment works, FF&E provisions, and infrastructure services upgrades and utilities for the new PCS Stage 1 Building.
  - **Package 3: Building 10 decanting and relocation of services package.**
  - **Package 4: Building 10.**
  - **Package 5: Inpatient and Outpatient Building enabling, early works and main construction works package** comprising enabling works, new building works, refurbishment works, FF&E provisions, and infrastructure services upgrades and utilities for the new Inpatient and Outpatient Building.
  - **Package 6: PCS Stage 2 Building main construction works package** comprising enabling works, new building works, refurbishment works, FF&E provisions, and infrastructure services upgrades and utilities for the new PCS Building Stage 2, as well as relocation of the ANU Medical School to the new PCS Stage 2 Building.
- The decanting, relocation and demolition of Buildings 6 and 23 were funded from the CHMPP2 implementation (concept design and business case) appropriation and were in a separate contractual arrangement for completion in mid-2024 and therefore have not been included in the packaging approach outlined in this chapter.
- The operations and maintenance components will continue to be delivered using existing arrangements including existing insourced services and contractual arrangements with the private sector (i.e., FM contracts). Building audits are currently being undertaken by CHS.



- To deliver CHMPP2, the Territory will be supported by a range of groups including an Executive Steering Committee, PCGs, the Building Health Services Program (BHSP) Strategic Advisory Committee, specialist design consultants and technical advisors, and an Independent Commissioning Agent (ICA).

- The concurrent development of the NH project is likely to impact the delivery approach for CHMPP2. There may be opportunities to coordinate procurement activities or test innovative approaches with the market across both campuses. Following the finalisation of scoping and concept design for both sites, a targeted market sounding process is recommended to support this outcome.

8.1 Overview of the Delivery Model Assessment Process

A delivery model assessment process has been undertaken for the preferred option (Option 1) in developing this Business Case. The approach has aligned with ACT Government Capital Framework guidance and has involved workshops and interactions with key stakeholders and advisors from across ACT Government (ACTHD, CHS, iCBR and Treasury).

The aim of the delivery model analysis was to identify the appropriate delivery model(s) for each project package that will achieve the best balance between the control of project cost and the risk of not achieving the intended project objectives and outcomes.[57] The phases below outline the key steps taken in the delivery model assessment process.

A targeted market sounding is proposed to be held once the planning and distribution analysis is completed for both the NH and CH campuses. This process is recommended to be undertaken in the next phase of planning and include targeted discussions with the private construction sector to test and validate market views on delivery approaches. Accordingly, views on market interest outlined in the delivery model assessment – relating to the main works packages – are informed by recent market sounding processes on other social infrastructure projects, inclusive of brownfield hospital redevelopments.

Phase 1: Data Gathering

The first phase in the delivery model assessment process was to gather and review data and background material, so as to base the selection of the most appropriate delivery model(s) on objective analysis. Key data reviewed as part of this process included:

- Project objectives, including those set out in Chapter 3 – Needs Analysis;
- Project requirements, including service delivery requirements, scoping documents, project masterplan and the options analysis as per Chapter 5 – Options Analysis;
- Project risks, including the risk analysis in Chapter 7 – Risk Analysis and risk register as per Appendix M - and Appendix N -;
- Project characteristics, including scope analysis as per Chapter 6 – Project Scope and cost planning documentation; and
- Packaging opportunities.

Phase 2: Shortlist Delivery Model Options

After consolidating the required data, two workshops were held with relevant ACT Government stakeholders to progress the development of packaging and delivery model options. The workshops comprised a packaging assessment and a delivery model assessment respectively.

The packaging assessment workshop covered the following areas:

57 Source: ACT Government Capital Framework (2023). Delivery Model Analysis. Retrieved 20 December 2023 from https://www.treasury.act.gov.au/capital-framework/prove/detailed-technical-guidance/delivery-model-analysis

- Discuss and validate objectives, scale and risks, as determined through the data gathering exercise;
- Outline and confirm current delivery model arrangements for project scope components;
- Discuss and validate project packaging drivers; and
- Develop and assess packaging options.

Building on the findings from the packaging workshop, a delivery model assessment workshop was held. Key topics discussed included the following:

- Validate delivery model evaluation criteria, to be used in the MCA to determine the preferred delivery model option(s) for key project packages;
- Conduct an indicative evaluation of potential delivery model options; and
- Agree the preliminary preferred delivery model approach.

Phase 3: Refinement of Preferred Delivery Model Options

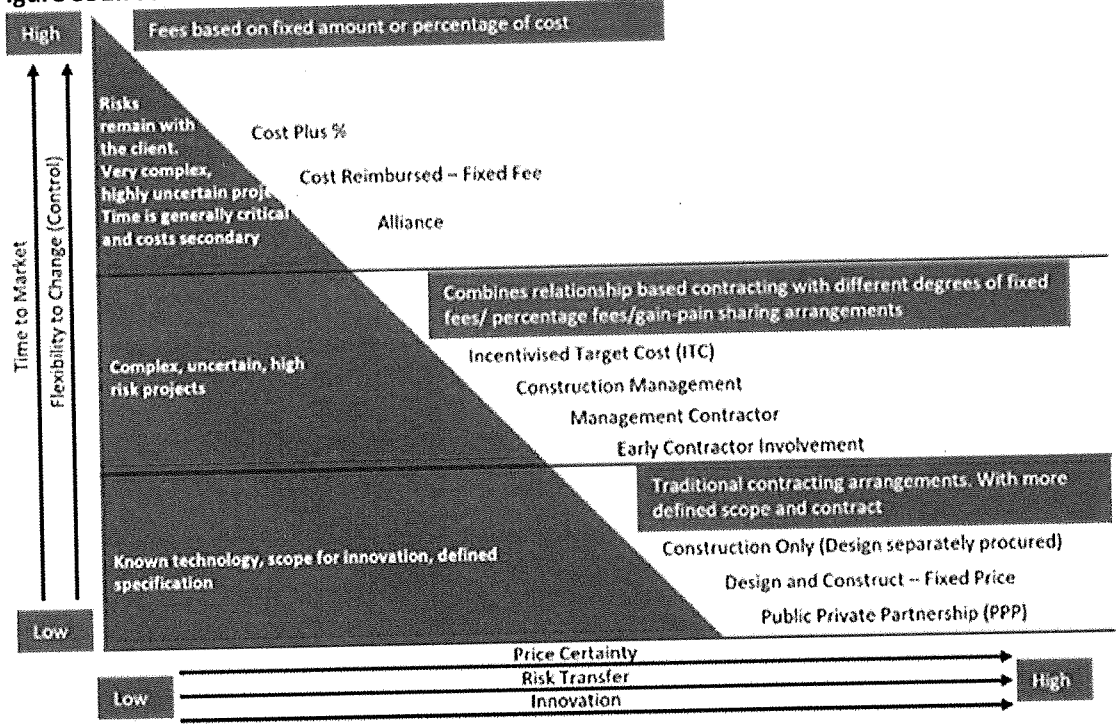
At the conclusion of the Phase 2 workshops and with consideration of feedback from ACT Government stakeholders received therein, the delivery model evaluation criteria and weightings were refined, and the MCA subsequently tested to determine a preferred delivery model option(s). Sensitivity analysis was conducted on the shortlisted options to test the outcome of the analysis (using agreed weightings for each evaluation criteria as well as an equal weighting approach).

8.2 Project Characteristics

Key Project Risks and Considerations

Certain procurement models are more likely to meet specific project objectives or criteria. The choice of model is dependent on several factors, such as time to market, ability to transfer risk, flexibility to change and imperative for price certainty. Figure 35 provides an overview of the extent to which different procurement models are likely to achieve these factors.

Figure 351:Procurement models' ability to achieve objectives



Risk transfer and allocation are key factors in packaging and procurement, as there may be particular risks that either the public or private sector might be able to better manage through a specific delivery model. There are several key risks associated with the CHMPP2 Project, such as decanting and demolition, service and infrastructure integration to support continued operational capability, and market capacity and interest to deliver the Project. All of these risk categories are anticipated to impact the packaging and procurement strategy for the Project. In addition, the size and complexity of the works required to deliver CHMPP2 aligns closely with the middle chevron of projects in **Figure 351**, where relationship and collaborative arrangements such as ECI and Managing Contractor (MC) are often suitable delivery approaches.

As outlined in Chapter 7 – Risk Analysis, many of these key risks are categorised as high risk and/or material to the Project, with some project characteristics creating complexity and/or uncertainty which would likely place the Project in the category of "complex, uncertain, high risk projects" in the middle of **Figure 351**. For example, the nature of the Project, being a redevelopment of a brownfield site, creates complexities regarding minimising disruption to operations and the ongoing delivery of person-centred care to existing and new patients throughout Project delivery. Additional technical complexity and uncertainty arises from the scope of the extension of life works, which impacts both risk transfer between the Government and the contractor(s) but also flexibility to amend the scope from the Government's perspective. The staging of the Project within the Master Program, sequenced to allow for ongoing operations at CH, impacts the packaging approach and time to market for each of the relevant Project packages.

For further detail on the risks of the CHMPP2 Project, please refer to Chapter 7 – Risk Analysis and Appendix M - and Appendix N -Risk Register.

Key Project Components

CHMPP2 involves the redevelopment of the CH campus to include a Pathology and Clinical Services (PCS) Building (proposed for the redeveloped Building 6, 7 and 23 site) and a new Inpatient and Outpatient Services Building (proposed for the redeveloped Building 10 site).

Table 1 outlines the scope of capital works for the CHMPP2 Project followed by detail relating to the operations and maintenance scope components.

Table 1: Capital works scope[58][59]

Scope category	Detail
Enabling works, site and external works	• Site preparation and early works for Buildings 6 and 10 • Decommissioning and demolition of Building 10[60] • Demolition of Building 7 and Building 4 • Disconnection of services • Retaining walls • Piling works • Roads, paths and paving • Boundary walls and fences • Outbuildings and covered ways • Landscaping • Special provisions e.g., tunnel extension, links, interface works, utilities

58 Sources for the various capital works scope components include the relevant Schedules of Accommodation, Cost Plan A, Cost Plan B, the Masterplan Decant Strategy (version 5), the Capital Framework Business Case Development Brief – Facilities Management, and inputs from government stakeholders during the first delivery model workshop.

59 Note that the scope of works considered within the packaging assessment and delivery model options analysis relates to the scope contained within the preferred option (Option 2) only.

60 Note: Building 11 augmentation work may allow access while Building 10 is being demolished and then built. In addition, temporary entrances are likely to be required for the Centenary Hospital for Women's and Children and National Capital Private Hospital as part of the Building 10 scope of works.

Scope category	Detail
Decanting and relocation of services	• Building 7 decanting and relocation of services – including the relocation of the Alcohol and Other Drug (AOD) Unit to another suitable location still to be determined by ACTHD. • Decanting of Building 10 and relocation of services to new PCS Building • Notional relocation of the ANU Medical School from Building 4 to the new PCS Building • Decanting of Building 1, Building 3 and Building 12 services into new Inpatient and Outpatient Services Building
Construction works for PCS and the new Inpatient and Outpatient Services Buildings	• Construction works as per Schedules of Accommodation and cost plan • Inpatient and Outpatient Building basement carpark • Refurbishment building works • Preparation of culture and art strategy framework
Other construction works	• Wayfinding signage upgrade provision across campus
Infrastructure services upgrades	• Mechanical services (including medical gases, pneumatic tube) • Electrical services • Communications and security services • Fire infrastructure services • Hydraulic services • Stormwater retention and external stormwater drainage • Vertical transport
FF&E – Major Medical Equipment	• New medical equipment required • Repurposed medical equipment from existing facilities
General furniture and fixtures	• Beds, chairs, blinds, televisions etc. • ICT equipment • Health technology (including robotic automation pharmacy and pathology systems)

Operation services in the buildings within the scope of the CHMPP2 Project include a range of clinical and patient facing services (e.g., perioperative services, CSSD, medical imaging, IPU, pathology, endoscopy, bronchoscopy), administration services (e.g., ED and ICU staff admin, GP liaison offices, surgical bookings office) and back of house logistics and services, such as the loading dock to facilitate access to the mortuary.[61] The scope of operating services is further referenced in Chapter 6 – Project Scope.

Facilities management (FM) services – comprising both soft FM and hard FM as outlined in Figure 36 – will be key requirements for the new buildings with effective integration with existing FM services at CH a critical dependency. Most soft and hard FM services are currently being delivered at CH via campus-wide contractual arrangements and/or in-house contract management arrangements which involve contracting FM specialist trades through the Health Infrastructure Trade (HIT) Panel. This will likely continue as part of the CHMPP2 Project; therefore, soft and hard FM services are not being considered for procurement as part of this Project. It will be important to maintain a balance between the maintenance and operational requirements for existing buildings – to ensure that existing facilities remain safe and integrated with the campus – as well as new building operation as packages are delivered. Further information on this is set out in Chapter 9 – Financial Analysis, including the cost and funding implications for delivering the preferred option (1).

All key project components and their current contracting arrangements are presented in Figure .

61 Other key operational items including the tunnel, loading area and back of house functions will need to be considered and future proofed when Building 1 is demolished at a later date – including temporary connections. Demolition activities associated with Building 1 are not proposed within the schedule of works for this business case.

Figure 36: CHMPP2 contracting arrangements

	Existing arrangement
Operations package	
Clinical staff (medical, nurse, and allied health) and services	Territory
Administration and clerical	Territory
Soft FM package	
Laundry	Territory
Waste management	Contract out (ISS)
Food services (in B1)	Territory
Cleaning	Contract out (ISS)
Security	Mixed/hybrid
Parking management	Territory
Pest control	Contract out (ISS)
Portering / distribution	Territory
Mailroom	Territory
Hard FM	
Building maintenance	Mixed/hybrid
Utilities maintenance	Mixed/hybrid
Maintenance – roads	Territory (Roads ACT)
Maintenance - landscaping	Contract out - FM
Security systems management and maintenance	Mixed/hybrid

Legend		
Territory	Delivered internally by government including through the Health Directorate and other Departments that interface with CH	
Contract out - civils	Delivered externally by the private sectors (e.g. a Tier 1 contractor)	
Contract out - FM	Delivered externally by a facilities management service provider	
Mixed – Territory / contract out		

8.3 Delivery Model Assessment

Packaging Assessment / Services Bundling

This section sets out the process for selecting the preferred approach to packaging the works. In undertaking the packaging assessment for the CHMPP2 Project, it was important to consider the following drivers set out in the figure below.

Figure 37: Indicative packaging drivers

Packaging drivers	Description
Person centric model of care	The extent to which the packaging approach supports the creation of a person centric model of care
Integration and interfaces	The extent to which the packaging approach supports: ▸ effective integration with existing facilities, systems and operations ▸ continued operational capability at CH and minimises disruption onsite ▸ appropriate management of interface risks
Program	The extent to which the packaging approach supports the project program and does not introduce additional risk to meeting timeframes
Market appetite, capacity and capability	The extent to which the packaging option consists of packages of appropriate scale to: ▸ be attractive to the market; ▸ be achievable given current and anticipated market capacity; and ▸ provide opportunities for economies of scale, while enabling a competitive process to deliver value for money and achieve social procurement objectives.
Flexibility	The extent to which the packaging option maximises the procurement and delivery flexibility for ACT Government as priorities change over time, particularly given the long time horizon for these activities.
Technical specifications	▸ The extent to which the technical specifications of certain scope items (e.g. medical equipment) may warrant a particular packaging solution

The packaging process explored a number of possible permutations and ultimately balances these characteristics to select a preferred approach. The preferred packaging option was developed after analysing the characteristics, interdependencies and specific risks associated with each of the components of the project in order to identify opportunities for bundling various components into a broader package of works.

Integration, interfaces and program are primary drivers for considering capital works packages, due to the proposed sequencing of demolition, decanting and construction activities. Systems, connectivity and utilities integration were highlighted among the key considerations in determining the packaging approach(es). Key government stakeholders also highlighted the need for a packaging approach whereby civil works are bundled according to the proposed staging approach, to ensure service continuity and minimise disruption across the hospital campus to the extent possible.

Risk mitigation – packaging approach

The recommended packaging approach outlined in Figure 38: and Table of this chapter comprises a mix of aggregated opportunities for capital works delivery supported by smaller, standalone packages that may support Tier 2 / 3 contractor delivery. While this approach is capable of being effectively delivered over the proposed 9-10-year program, consideration should be given to the following aspects in the next stage of planning:

- Whether the early and enabling works packages for the PCS Building and Inpatient and Outpatient Services Building can be aggregated within the main works packages and delivered by the market – as per the master program schedule – noting capacity constraints. As noted in the key messages, Package 1, 3 and 4 respectively aggregate early and enabling works with main works delivery for the PCS and

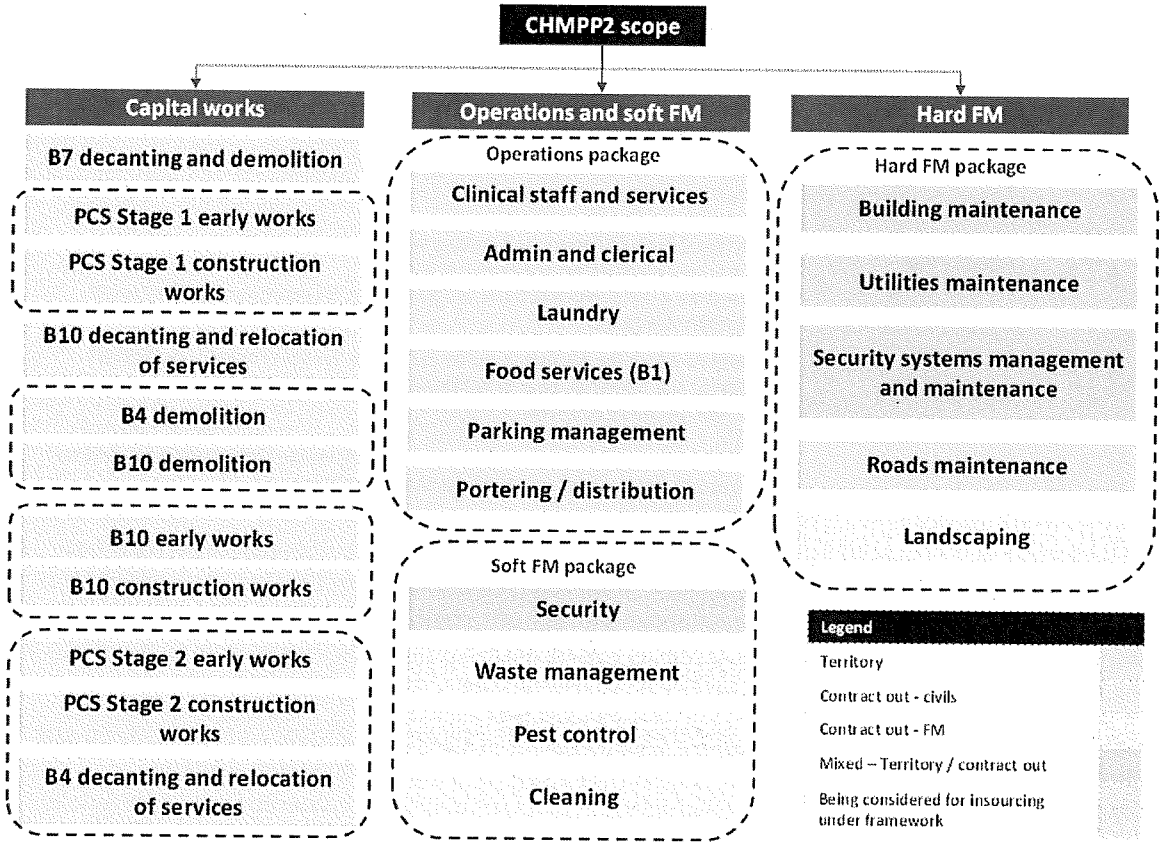
Inpatient and Outpatient Services Building. This may limit the number of different contractors onsite at any one time and reduce the administrative burden on the ACT Government to manage project packages; and

- The in-house capacity and resourcing within government to manage the capital works packages, noting that there is likely to be crossover between the delivery of the PCS Building and Northside Hospital capital works.

It is recommended that these considerations are tested through a market sounding process once the planning and distribution analysis is finalised for the NH and CH campuses.

The outcomes of the packaging assessment are outlined in **Figure** [62] following two workshops with ACT Government stakeholders and advisors.

Figure 38: CHMPP2 scope and packaging



Note: the above diagram considers the scope components specific to the preferred Option (1 – Staged).

In developing the preferred packaging approach(es), consideration was given to the potential delivery models that may best deliver each package, including consideration of whether packages could be delivered on a standalone basis or as a combined package of works.

In terms of packaging, the decanting and relocation of Building 6 and 23 are funded from the CHMPP2 implementation (concept design and business case) appropriation. Further, it is understood that demolition of these two buildings has already been mobilised through an existing contractual arrangement completed in mid-2024, with decanting and relocation having taken place prior.

Further detail on the outcomes of the packaging assessment is outlined in Table .

62 Building 4 decanting and relocation of services refers to the relocation of the ANU Medical School from Building 4 to the new PCSS Building.

Table 25: Preferred packaging approach

Ref	Package	Description	Rationale and approach	Links to key considerations
1	Building 7 decanting and demolition	Package for Building 7 including demolition of Building 7 and decanting of existing services and relocation of staff from Building 7 to a new suitable location yet to be determined (see below). A key component of this package includes provisioning for existing Building 7 facilities, such as the alcohol and other drugs treatment facility. A final preferred option has not yet been identified and is subject to further work by ACTHD. The final costs will be reflected following completion of the final stage of planning and development.	An aggregated package for demolition and decanting works for Building 7 is driven by the following factors: • Optimisation of program requirements, such as allowing commencement of site works immediately, while procurement of other packages is underway. • Flexibility and control, with the same contractor undertaking both demolition and decanting works for Building 7, which is critical to the CHMPP2 program.	**Program** – the proposed approach supports sequencing of demolition, decanting and construction activities. **Flexibility and control** – the greater control for ACT Government with the same contractor undertaking decanting and demolition activities.
2	PCS Stage 1 Building enabling, early works and main construction works	An aggregated package which includes: • Enabling works (inclusive of site clearance, disconnection of services, retaining walls, piling works etc); • New building works for the construction of the PCS Building; • Relevant refurbishment building works; • FF&E provisions (including art and cultural framework); • Infrastructure services upgrades (e.g., mechanical services, electrical services, communications and security services etc.); and • Utilities and systems requirements e.g., ICT.	An aggregated package for the PCS Stage 1 Building is driven by the following factors: • The aggregation of enabling works with main works minimises site risk through delivery from a single head contractor. This approach also worked well on B5. • Maintains a packaging approach consistent with the sequencing of Project works. • Package contract value is of a substantial size to generate competition, interest and participation from Tier 1 and 2 contractors.	**Program** – the proposed approach optimises timeline and minimises risk of delay due to separate procurement packages. **Market appetite, capacity and capability** – larger package size would appeal to Tier 1 contractors. **Integration and interfaces** – packaging of multiple construction activities will likely assist with the management of interface risk and integration with the building.

Ref	Package	Description	Rationale and approach	Links to key considerations
3	Building 10 decanting and relocation of services	An aggregated package which will include: • Decanting planning and enabling works; • Decanting including relocation of existing teams; and • Undercroft as Temporary Entry to the CHWC.	An aggregated package for decanting and relocation of services for Building 10 is driven by the following factor: • Allows flexibility to address potential scope changes given long time horizon for demolition, relocation and temporary accommodation activities.	**Program** – the proposed approach supports sequencing of demolition, decanting and construction activities. Also allows the Government to obtain funding and contractors to price accurately and closer to the time of demolition. **Flexibility** – the proposed approach enables flexibility for ACT Government over time, given Building 10 demolition will not occur until approx. 2030.
4	Building 10 and Building 4 demolition	Demolition works package for Building 10 and Building 4 including demolition of the existing: • Buildings; • Stairs; • Carpark; • Stormwater and sewer pipes; • Trees, roads and footpaths; and • Retention walls. This package will also include the conversion of the former Building 4 space into a designated green amenity space for the campus. Note (a): Building 11 augmentation work may allow access while Building 10 is being demolished and then built.	An aggregated package for demolition works for Building 10 is driven by the following factors: • Optimisation of program requirements, such as allowing commencement of site works immediately, while procurement of other packages is underway. • Maintaining consistency with the procurement approach for Building 6 demolition works.	**Program** – the proposed approach supports sequencing of demolition, decanting and construction activities. Also allows the Government to obtain funding and contractors to price accurately and closer to the time of demolition. **Flexibility** – the proposed approach enables flexibility for ACT Government over time, given Building 10 demolition will not occur until approx. 2030.

Ref	Package	Description	Rationale and approach	Links to key considerations
5	**Inpatient and Outpatient Services Building enabling, early works and main construction works**	An aggregated package which includes: • Enabling works (inclusive of site clearance, disconnection of services, retaining walls, piling works, enabling works for CHWC and National Capital Private Hospital (such as temporary entrances) etc); • New building works for the construction of the Inpatient and Outpatient Building; • Relevant refurbishment building works; • FF&E provisions (including art and cultural framework); • Infrastructure services upgrades (e.g., mechanical services, electrical services, communications and security services etc.); • Utilities and systems requirements e.g., ICT; • Construction of basement carpark; and • Decant and relocation of services from Building 1 (as part of Phase 2 works in the Project Scope)	An aggregated enabling, early and construction works package for the Inpatient and Outpatient Building is driven by the following factors: • As noted in Package 4, the aggregation of enabling works with main works minimises site risk through delivery from a single head contractor. This approach also worked well on B5. • Maintains a packaging approach consistent with the sequencing of Project works. • Package contract value is of a substantial size to generate competition, interest and participation from Tier 1 and 2 contractors.	**Program** – the proposed approach supports sequencing of demolition, decanting and construction activities. **Market appetite, capacity and capability** – larger package size would appeal to Tier 1 contractors. **Flexibility** – the proposed approach enables flexibility for ACT Government over time, given Building 10 demolition will not occur until approx. 2030. **Integration and interfaces** – packaging of multiple construction activities will likely assist with the management of interface risk and integration with the building.

Ref	Package	Description	Rationale and approach	Links to key considerations
6	**PCS Stage 2 Building enabling, early works and main construction works**	An aggregated package which includes: • Enabling works (inclusive of site clearance, disconnection of services, retaining walls, piling works etc); • New building works for the construction of the PCS Building; • Relevant refurbishment building works; • FF&E provisions (including art and cultural framework); • Infrastructure services upgrades (e.g., mechanical services, electrical services, communications and security services etc.); • Utilities and systems requirements e.g., ICT; and • Notional relocation of the ANU Medical School from Building 4 to the new PCS Building.	An aggregated package for the PCS Stage 2 Building is driven by the following factors: • The aggregation of enabling works with main works minimises site risk through delivery from a single head contractor. This approach also worked well on B5. • Maintains a packaging approach consistent with the sequencing of Project works. • Package contract value is of a substantial size to generate competition, interest and participation from Tier 1 and 2 contractors.	**Program** – the proposed approach optimises timeline and minimises risk of delay due to separate procurement packages. **Market appetite, capacity and capability** – larger package size would appeal to Tier 1 contractors. **Integration and interfaces** – packaging of multiple construction activities will likely assist with the management of interface risk and integration with the building.

As outlined in Figure 36:, existing arrangements for soft and hard FM are largely managed through campus-wide contractual arrangements, in-house delivery and involve contracting FM specialist trades through the HIT Panel, and management by a contract management team and Standard Facilities Specifications. It is proposed that existing arrangements for operations (clinical and admin staff), soft and hard FM will largely be carried through to the redeveloped sites. Note, this is likely to also include several services (cleaning, waste management, grounds maintenance) currently being assessed for insourcing under the ACT Government's framework. It is expected that continuing with the current contractual arrangements for soft and hard FM and operations will best allow service continuity and complement existing processes.

Lessons learned: Defect Liability Period (DLP)

The CSB at CH utilised a 24-month DLP for hard FM and maintenance. This has been managed through an arrangement with the current construction contractor prior to transitioning to CHS' FM team. For the CHMPP2 Project, it will be important to ensure clarity in maintenance requirements – including for the DLP – such as clear requirements during the procurement phase to assist with the pricing, scope of services and transition period.

Shortlisted delivery model options – overview

Each package was evaluated to determine a recommended delivery model. An initial screening was performed on each package based on the models identified within the Capital Framework. Package 2, Package 5 and Package 6 (the respective main works packages) were identified as requiring further assessment using a multi-criteria assessment (MCA).

The delivery model options for the remaining capital works packages (including demolition works; decanting and relocation activities) were identified as suitable for traditional delivery model delivery, including through a Design & Construct (D&C) or Design then Construct approach. The majority of these packages are likely to be under $100 million based on the latest cost plan – reducing the need for more collaborative and/or relationship based contracting approaches (such as ECI, Public Private Partnership (PPP) and Alliances). The finalised approach for these packages is subject to a future market sounding and consultation process.

Shortlisted delivery model options – main works packages

As outlined in the Cost Plan, the main works packages (Package 2, Package 5 and Package 6) are of a substantial size, scale and risk profile to warrant detailed consideration across a range of contracting options, including collaborative and traditional delivery methods. Upon detailed consideration of the spectrum of contracting options, the delivery models listed in Table 25 were deemed not suitable for the main works packages.

Table 25: Delivery models not shortlisted – main works packages

Delivery model	Rationale
Design Construct Operate Maintain (DCOM), Design Construct Maintain (DCM), Design Construct Operate (DCO)	Integrated packaging options, which combine capital works with operations and maintenance for a whole-of-life approach, were considered but ultimately not shortlisted due to the Government's preference to maintain current operations and maintenance contractual arrangements, which are largely being delivered in-house. This separation of construction, and operations and maintenance, will likely reduce the whole-of-life and value for money benefits that would be realised through use of the DCOM models. 63

63 Although the Public-Private Partnership (PPP) model also represents an integrated packaging approach, it was shortlisted for different reasons.

Delivery model	Rationale
Project Management Agreement (PMA)	The PMA model was considered but discounted on the basis that it is not appropriate for a project with complex design and construction considerations. Capital Framework guidance also indicates that this model is not appropriate for projects over approximately $500m in value. Additionally, with this model, the financial and time risk generally remains with government, and there is little precedent or familiarity with using this approach in the ACT.
Design then construct, Document and construct, Alliance	The Design then construct, Document then construct, and Alliance models are not typically considered to be appropriate for projects with unknown risks that cannot be readily priced, and so were discounted on that basis. Furthermore, there is limited scope for flexibility and innovation with these models. The Alliance model also presents some disadvantages in terms of price competition and lengthy procurement timeframes.

Lessons learned: Importance of robust FDB's

To ensure that there is balance between time, budget and scope, it is important to ensure that there are clear scope requirements, which includes the preparation of tight FDB's and project specifications. Experience on the CSB project at CH has highlighted the importance of building in sufficient time to ensure the FDB's are accurate and robust, which in turn, become an important risk mitigation mechanism.

Shortlisted delivery model options for the PCS Building and Inpatient and Outpatient Services Building construction works packages include D&C, ECI, MC and PP) models. The rationale for shortlisting these models is presented in Table .

Table 26: Shortlisted delivery models

Delivery model	Description	Advantages	Disadvantages	Rationale for shortlisting
D&C	• Government procures an integrated design and construction outcome. • Procurement generally takes place based on Concept or Preliminary Design (or even no design at all) and fully documented functional, technical and asset performance requirements (an Output Specification). • Under two-phase D&C model, at the end of the design phase, scope, time and budget must meet the Territory's requirements before entering the construction phase. • D&C models are generally fixed price contracts with fixed timelines, which may not provide the Territory with the flexibility required to manage any scope changes on CHMPP2.	• Simple model that is well understood by the market and attractive to a broad range of contractors. • Provides price certainty around construction costs for budgeting purposes. • Strong contractor input into design and potential for some design risk transfer to the contractor. • Design partly driven by construction price competitiveness. • Construction works can commence ahead of full design. • Incentives for innovation in design. • Contractor motivated to achieve earliest completion.	• Emphasis on upfront technical and performance specifications is necessary to ensure the asset is fit for purpose. • Requires more upfront design work by the Territory, potentially impacting on development timing (longer tender period to allow tenderers to develop designs). • Limited incentives for D&C contractor to consider whole of life cost considerations and benefits – price competition may drive low quality of finish and durability. • Enforceability of construction warranty relies on adequate maintenance. • Potentially risky to Government if applying to bespoke or niche projects where the Territory has limited experience and/or internal expertise.	Opportunity to integrate design and construction. Well understood delivery model in the market with strong precedent.
	Case Study: Ballarat Base Hospital Redevelopment			

	• The Ballarat Base Hospital Redevelopment project aims to upgrade and expand the existing hospital.
	• The project cost is estimated around A$541.6 million, and the construction is expected to commence in 2024 and end in 2027.
	• The project is being delivered in three stages:
	  o Stage 1 - Decanting and Demolition works;
	  o Stage 2 - Central Energy Plant and Support Services Building, including the new pharmacy, pathology and an education centre; and
	  o Stage 3 - A new multi-level tower (the Main Tower).
	• The Victorian Government appointed John Holland in December 2022 to deliver Stage 2 of the project using the D&C procurement method.
	• John Holland is responsible for both the design and construction of the new six-storey Central Energy Plant, which includes a pharmacy, pathology services, and an Education and Learning Centre.			

Delivery model	Description	Advantages	Disadvantages	Rationale for shortlisting
PPP	• Involves Design and Construction with private finance and a bundling of operations (core services) and maintenance usually for a period of between 5 and 40 years. • Ideally for complex and long-term infrastructure projects with a capital value of at least $150 million and where whole-of-life asset management is achievable. • Both the PCS Building and Inpatient and Outpatient Building packages are likely to be in excess of $500 million presenting an opportunity to consider whether a PPP may be a suitable approach.	• Design outcome reflects commercial risk of facilities management and operations. • Private finance due diligence investigations provide additional robustness. • High innovation. • Financial certainty through pre-determined service payments. • Drives quality outcomes through application of performance management regime within payment mechanism.	• Comparatively higher procurement and bid costs. • Requires a high level of expertise within Government for development, procurement and monitoring performance. • Low flexibility after financial close, due to need to negotiate with multiple parties. • Generally, only attractive to major contractors and specialist infrastructure investors. • Complex contract management. • Long term commitment to a fixed payment stream.	Appropriate for projects of this size and scale. May allow for innovation and incentive to address project objectives of enhancing clinical capability, optimising operational services and providing more contemporary Models of Care.
	Case Study: Frankston Hospital, Victoria • On 13 April 2022, the State Government of Victoria entered into a PPP contract with Exemplar Health (Project Co, comprised Lendlease, Honeywell, Compass Group and Capella Capital) to design, construct, finance and maintain the new facility for a period of 25 years at an investment of $562 million for the government. • The redeveloped Frankston Hospital will provide a full range of medical and surgical specialties, with a focus on new models of care for treating patients and is expected to become operational in 2026.			
ECI	• This model is generally adopted for complex, highly technical and/or risky projects, as early collaboration provides an opportunity to resolve design and other risks. • The Government develops an FDB, which informs a concept design and a pre-tender estimate for construction. Tenderers bid a fixed price to develop detailed design and target price (with fixed preliminaries, margin and overheads) for construction.	• Ability to switch to Construct-Only contract if contractor's price is not acceptable. • Interactive design process may result in innovative design solutions being incorporated. • Greater flexibility and early collaboration during the design phase which may reduce variations later and provide opportunities to reduce risk. • Likely attractive to contractors in a constrained east coast construction market.	• Program delays if contractor's fixed price is not acceptable. • High level of Government input required to ensure that the project is value for money. • May over-engineer the design. • Generally unattractive to smaller contractors. • Can be inflexible in construction phase.	Similar rationale to D&C model above. Additionally, successful precedent on B5 with lessons learned. Early involvement and collaboration likely to be beneficial to address key project risks (such as interface and connectivity risks).

Delivery model	Description	Advantages	Disadvantages	Rationale for shortlisting
	• The contractor then develops the design and finalises the fixed construction price. • Government either accepts this price, or tenders a Construct-Only contract. The Government may retain IP (detailed design) gathered and can tender construction competitively if necessary. • This model is often used for enabling works for a major project. • May be suitable for CHMPP2 given the likely risk profile of the project and the benefits that early collaboration could provide for the design and construction phases. Lessons learned from the B5 project can also be leveraged for the PCS Building and/or the Inpatient and Outpatient Services Building.	• Lower tendering costs. • Can be used with a variety of subsequent delivery models.		
	Case Study: CSB, Canberra Hospital • The ACT Government is expanded the CH with a new B5 (delivering nearly 40,000m^2) at the existing hospital campus in Woden. • The new building includes more operating rooms, more treatment spaces and more intensive care beds to expand the overall capacity of the CH. • Represents an investment of more than A$500 million. • Construction of the new facility began in 2021 and has been completed. • Practical lived experience from B5 can be leveraged for future projects at CH – including the importance of robust FDB's and working through the DLP.			
MC	• Government appoints a MC, typically early in the delivery process, to manage the scope definition, design documentation and construction. • The MC engages subcontractors to deliver the works. • The MC is responsible for administering these subcontracts and accepts an element of delivery risk, although they may not design	• May allow for more rapid procurement, as full scope definition is not necessary. • High visibility of subcontractor pricing and ability to competitively tender for individual works packages. • Greater flexibility during the design phase which may reduce variations during the D&C process.	• A fixed lump sum for main works is typically negotiated and not competitively tendered, potentially impacting on value for money – although incentives can be built into the contract. • Requires close Territory oversight during the design development to prevent unnecessary scope creep and cost increases for the project.	Beneficial for projects with unknown elements, complex risk profiles and that require the management of specialist trade contractors.

Delivery model	Description	Advantages	Disadvantages	Rationale for shortlisting
	and construct the project themselves. • The contract typically has a fixed management fee (often a percentage of subcontract values) plus reimbursement of subcontractor costs. • Often, there is a performance incentive for delivery within the timeline and budget. • Typically used for complex or high-risk projects, or those with an uncertain scope where a high degree of technical input is required. Also used for projects where there is a need for maximum design flexibility throughout the project. • The MC model could be used for CHMPP2, given the interconnected nature of the buildings involved in the redevelopment, including their systems (ICT in particular) and utilities, and the risks involved with connection and disconnection of services and ensuring continuous service and minimal disruption to operations. This model would allow greater flexibility in delivery to manage some of these uncertainties.	• The Territory is able to retain a high level of control throughout the project, including selection of subcontractors, ensuring that its strategic outcomes and priorities are met. • There is a single point of responsibility for the design and construction of the project. • Enables early contractor involvement.	• Territory will share time, cost and design risk until award of construction contract. • Whole of life benefits may be reduced if not included in the contract scope. • Generally unattractive to smaller contractors.	
	Case Study: Victorian Heart Hospital • In partnership with Monash Health and Monash University, the Victorian Government contracted the John Holland Group to build Australia's first dedicated, state-of-the-art cardiac facility that will bring together treatment, medical research and training. • The hospital includes 144 inpatient beds, 16 ICU beds, three operating theatres, 10 cardiac catheterisation labs, including two hybrid labs, one procedure room, 26 ED points of care, 46 same-day chairs, as well as pathology, pharmacy, cardiac imaging, cardiac emergency department, and ambulatory care services and helipad. • The project cost is estimated to be around A$577 million. • Construction of the project commenced in July 2019 and the hospital commenced operations in February 2023.			

Delivery model	Description	Advantages	Disadvantages	Rationale for shortlisting
	• As the MC, John Holland was responsible for overall delivery of the project, including coordination of all construction activities, managing subcontractors, and ensuring compliance with safety and regulatory standards. • Lessons learned: o The importance of integrating various hospital functions (clinical, research, education) for maximised utility. o John Holland played a key role in managing the project's budget, including accommodating increased funding for additional features like the helipad. o Extensive community engagement with hospital staff, medical professionals and patients was conducted at critical stages throughout the project, to inform the design and services. o Collaboration with Monash Health, Monash University, and the Victorian Government for a holistic approach to the hospital's design and functionality.			

Evaluation Criteria – Delivery Model Assessment

The following evaluation criteria in Table 27 were developed following a consultative process with key Territory stakeholders to compare procurement models. Each criterion is supported by a description of the criterion and the key issues associated with it, along with a relative importance weighting attributed to it.

Four evaluation criteria have been assessed as "high" importance for the delivery model assessment including optimise market interest; program; effective risk management and allocation; and budget certainty.

Table 27: Delivery model evaluation criteria

Criterion	Description	Key issues	Importance
Optimise market interest	The extent to which the delivery model optimises market interest (and therefore competition) amongst participants with the relevant skills, expertise and capacity.	• A number of contractors have experience in delivering similar projects in Canberra and nationally. • Large number of infrastructure projects in planning or delivery on the east coast is constraining the market. • Market interest is anticipated to be tested through a market sounding in the new year.	High
Program	The extent to which the delivery model supports program timelines (including time and speed to market; construction certainty; and approval pathways).	• Key driver for the project's development. • Critical given staging of the project and interdependencies of different demolition, early works and construction packages.	High
Effective risk management and allocation	The extent to which the delivery model enables effective management of risks (including existing contractual interfaces) during the different phases of the Project and an efficient risk allocation to the parties best able to manage and price risk.	• Interface risks with existing operations as the PCS Building and Inpatient and Outpatient Services Building redevelopment will be constructed on a brownfield site (patient front of house, back of house, infrastructure interfaces). • Accessibility (patients, visitors, emergency vehicles, public transport etc.) are critical to CH functionality. • Alignment of risk and interface with the Territory-run operations and FM services to ensure whole-of-life benefits are delivered.	High

Criterion	Description	Key issues	Importance
Budget certainty	The extent to which the delivery model provides certainty that the Project budget, as agreed in the awarded contracts, will be achieved (for the anticipated scope).	• Maintaining a whole-of-life approach with respect to costs that factors in the design, construction, operations and maintenance elements. • Achievement of project principles within capital affordability requirements. • Key objective to increase operational efficiency and upgrade aged assets with significant maintenance expenditure (extension of life).	High
Flexibility and control	The extent to which the delivery model is flexible and can easily accommodate uncertainty and variation to scope and/or operational flexibility into the future.	• Changes in clinical practice and Model of Care are likely. • Operations need to fit into CH campus operations. • Operational flexibility required to accommodation future expansion. • Number of projects (B5, NH) in the area will influence each other in a variety of ways (e.g., design, timing, traffic management and accessibility).	Medium
Innovation and incentive	The extent to which the delivery model promotes opportunities for innovation, including in design; construction; financing and maintenance (if relevant); risk management; and whole of life outcomes.	• Innovative solutions can be put forward by the market as a means for addressing key project risks and issues – such as the management of integration and interfaces and scope complexity in the context of a live, brownfield hospital site. • Contractor innovation can also play an important role in promoting a person centric model of care – a key program objective – and sustainable outcomes.	Medium

Assessment Against Evaluation Criteria

This section identifies potential delivery model options for the preferred packaging option for the **PCS Building construction works (Package 2 and Package 6) and Inpatient and Outpatient Services Building construction works (Package 5) packages** through an MCA assessment.

Shortlisted delivery model options were considered against the evaluation criteria in line with the rating scale outlined in Table 2:

Table 28: Delivery model evaluation rating scale[64]

Rating	Description	Optional numeric equivalent
✓✓	Delivery option is very effective in satisfying the requirement of the criterion	2
✓	Delivery option is effective in satisfying the requirement of the criterion	1
-	Delivery option is neither effective nor ineffective in satisfying the requirement of the criterion	0
✗	Delivery option is ineffective in satisfying the requirement of the criterion	-1
✗✗	Delivery option is very ineffective in satisfying the requirement of the criterion	-2

Shortlisted delivery model options as per Table were considered against the evaluation criteria outlined in Table. Sensitivity analysis was conducted on the shortlisted delivery model options to test the outcome of the analysis if the criteria weightings were equal; the results of this process can be found in Table , with unweighted scores and final weighted scores listed for each shortlisted delivery model option. The sensitivity analysis using unweighted scores reveals that there is little overall change to the rankings of the shortlisted delivery model options, and very little impact on the determination of the preferred option.

64 Rating scale aligns with the recommended approach released by the Capital Framework.

Validation

As discussed in Section 8.1, a workshop was held with relevant ACT Government stakeholders to validate the delivery model evaluation criteria and agree the preliminary preferred delivery model approach.

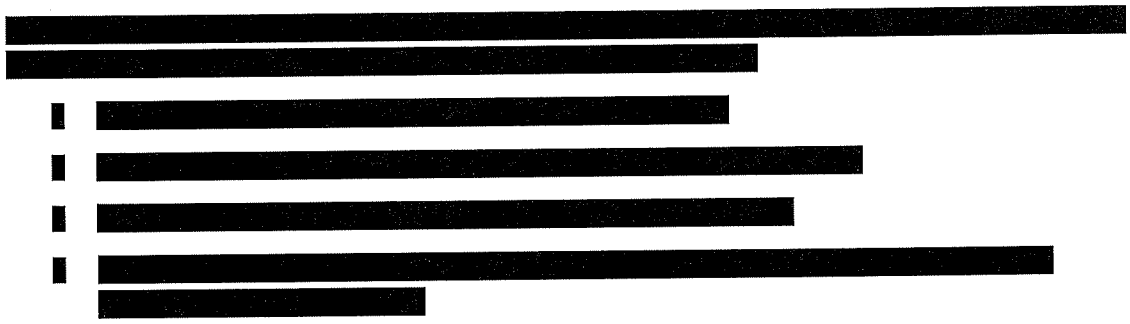
In addition, a targeted market sounding is proposed to be held once the planning and distribution analysis is completed for both the NH and CH campuses. This process will provide an opportunity to facilitate targeted discussions with the private sector (specifically the Tier 1 contractor market for the main works packages and where possible, local and Tier 2/3 contractors for smaller works packages) to test and validate market views on delivery approaches.

As a result, there may be opportunities to consider alternative delivery approaches for this project that account for the delivery of NH alongside CHMPP2. Opportunities for streamlining delivery could be particularly beneficial given the volume of construction work, the funding ask and the compressed pipeline of hospital projects already in the pipeline on the East Coast (such as the Queensland (QLD) Government's $14 billion investment in health infrastructure projects as part of the QLD Health Big Build; and plans for up to nine (9) major hospital redevelopments forecasted to go to market and/or commence construction in NSW). For example, the following alternative delivery approaches may benefit from further investigation in light of NH and CHMPP2:

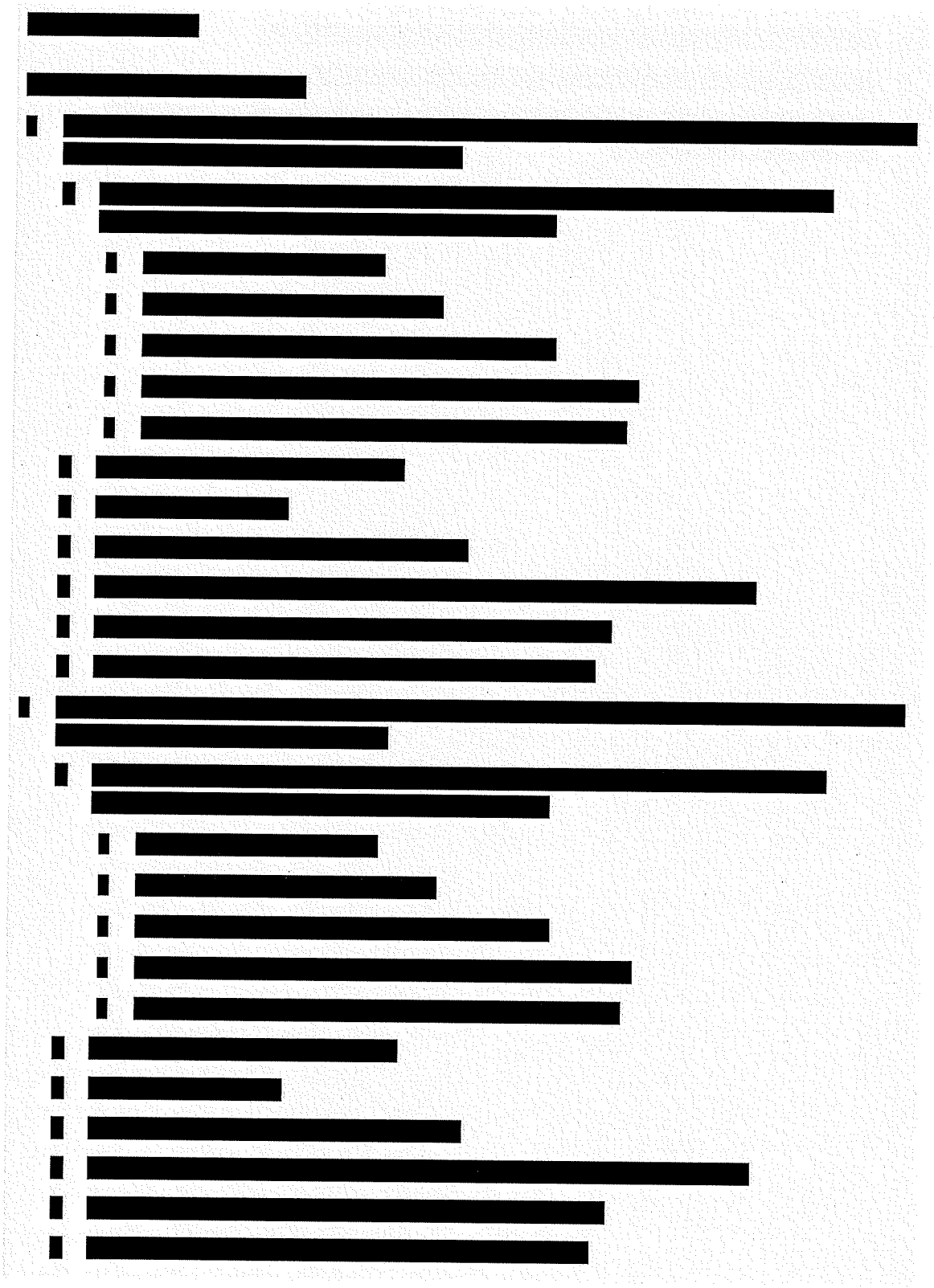
- **Streamlined procurement approaches**: Noting that market capacity and competition is a potential risk for both projects, prequalification and/or panel approaches could be used to allow market participants to prioritise their preferred packages; manage the number of parties shortlisted for large packages of work; and that those who are awarded contracts in earlier procurements could be excluded from later procurements to build capacity in the market.
- **Consideration of procurement methods that allow for large scale delivery and budget optimisation:** Some procurement models can effectively allow for delivery of multiple packages and a broad pipeline of works. This includes the Delivery Partner model where a Delivery Partner can be appointed to manage works across an entire site, including administering contracts to reduce the administrative burden on government. In addition, PPP delivery may be beneficial to explore further, as PPP's can promote a whole of life approach and an ability to manage whole-of-life costs through the use of private sector finance (noting that PPP delivery may be more suitable at NH given the current campus wide contractual arrangements for maintenance and operations at CH).

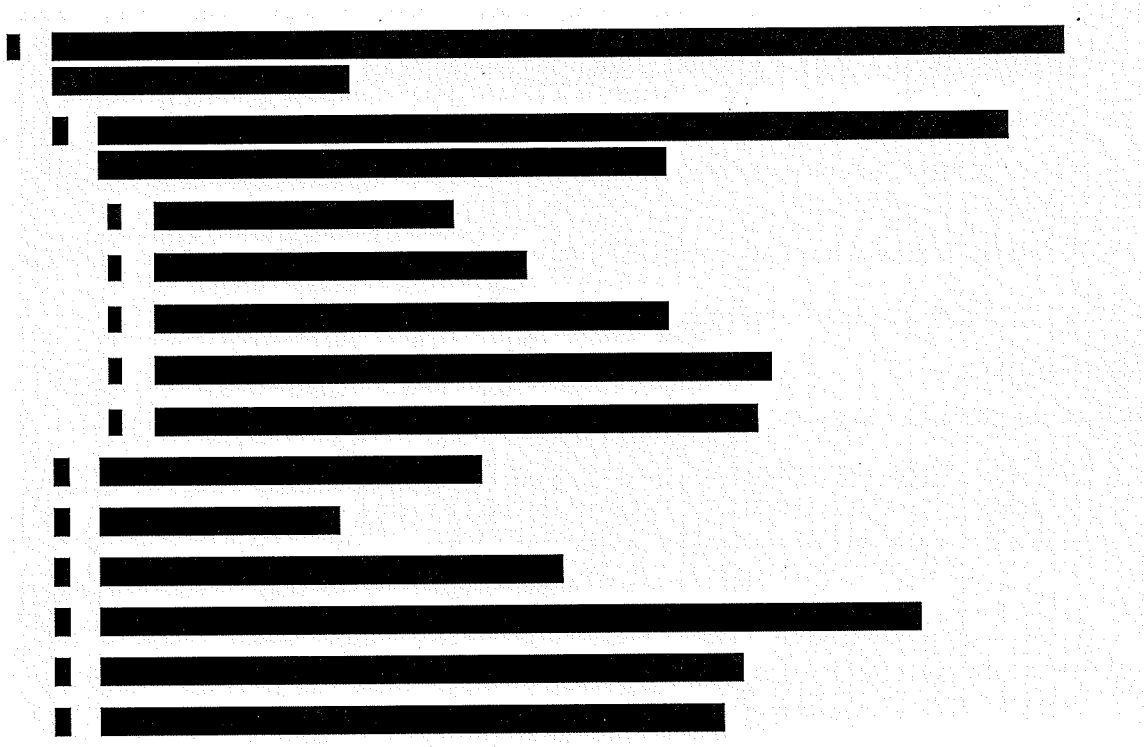
It is recommended that the above items are considered in the next stage of planning for NH and CHMPP2.

[redacted]



9. Financial Analysis





This chapter sets out the costs of the Project Case Options identified in Chapter 5 to inform an assessment of the options and the funding request to government. Appendix O - consists of detailed cost estimates for the options.

Costs in this chapter have been separated by funding arrangements, that is:

- **Indicative Project Costs** – Costs in which ACTHD has not yet sought funding but relates to key aspects of future project costs. Understanding indicative costs allows ACT Government to be more informed when making project decisions. These costs include CAPEX, OPEX, and contingencies. Appendix P - provides detailed capital costs and cashflows.
- **Funding Related Costs** – Costs in which ACT Health will seek direct funding from the Government. These costs include ongoing planning and development costs to finalise feasibility assessments and the concept design for the preferred option including alignment with the NH planning. Appendix P - provides detailed annual cashflows.

Cost estimates for Option 1 (Staged, Base Case), Option 2 (Full Shell + Staged Fit-out) and Option 3 (Single Stage) have been calculated as incremental to the status quo. These costs have been developed based on Cost Plan B (received January 2025). Please note that costs presented in this chapter are an estimate only.

In general, changes to the project scope, cost allocation and timing for the Project's delivery are likely to impact on the total capital cost estimate outlined in this Business Case. WoL costs will be impacted by actual demand and activity for the services in the new PCS Building and the new Inpatient and Outpatient Building.

Whilst a significant amount of work has been undertaken with ACT Government's cost advisor to estimate total capital cost, ultimately it is the market that will determine the cost of the Project through a competitive process. This cost will be a function of many factors, including:

- The final project scope and the ACT Government's project requirements during the procurement process;

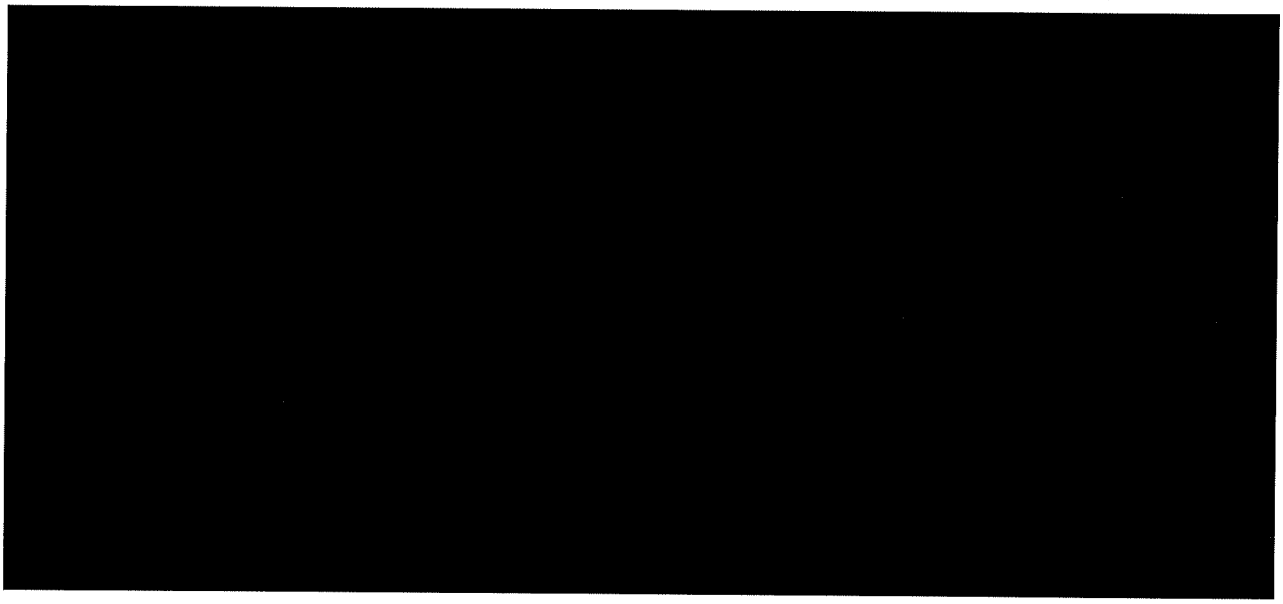
- Market capacity and competitive tension in the bidding process, noting the significant pipeline of health infrastructure projects in planning, procurement, and delivery;
- The delivery model selected for the project's capital works;
- Costs and existing contractual arrangements (as relevant) for the delivery of operations and maintenance activities; and
- The ultimate allocation of risk between parties and the realisation (or otherwise) of such risks.

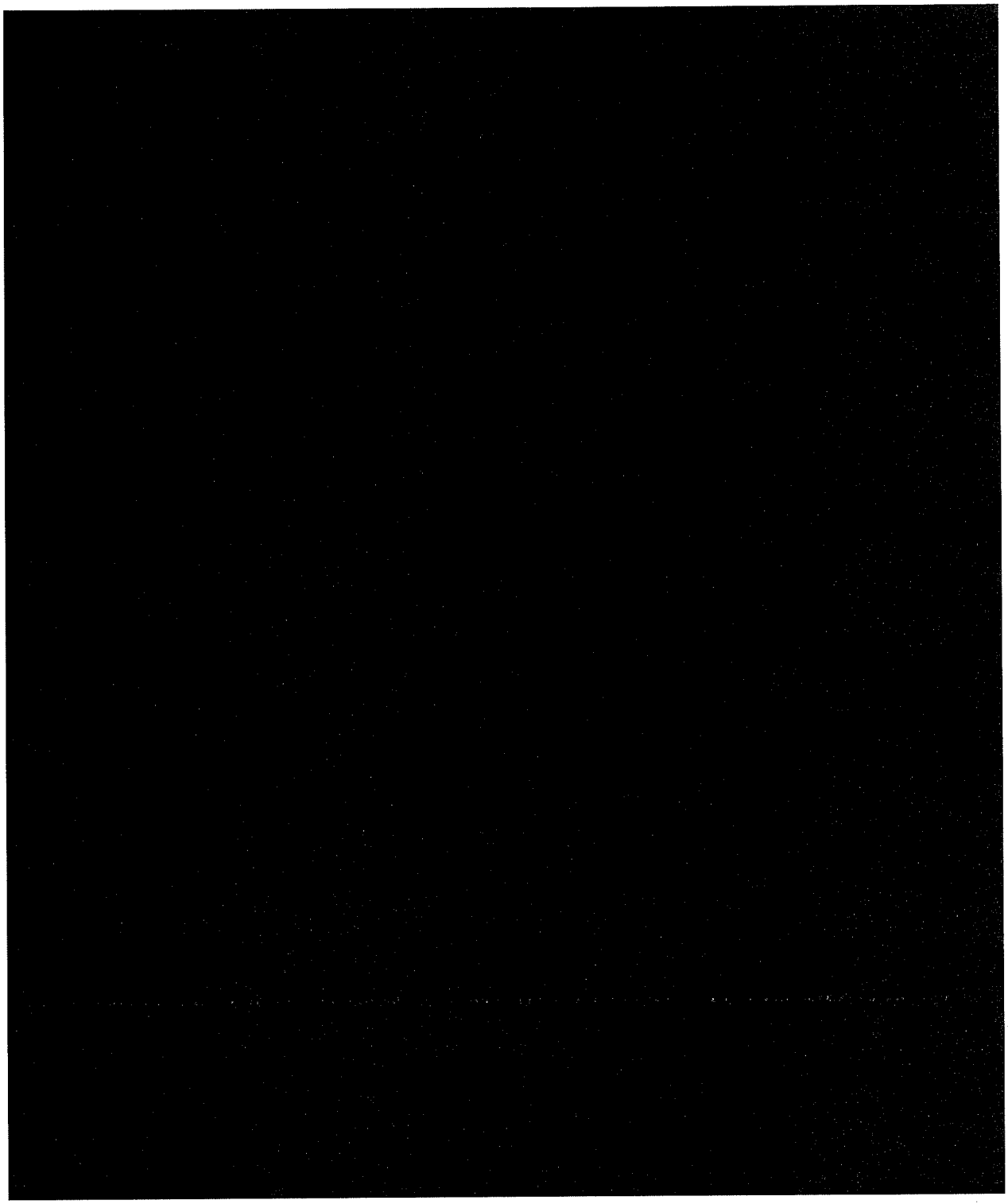
9.1 Estimated project capital cost

Methodology

The estimated Project Capital Cost in delivering the Project was calculated in two stages:

- **Indicative capital cost estimate:** A cost estimation firm with experience preparing cost estimates for health projects in the Territory and around Australia was engaged to calculate a capital cost estimate. The cost estimate was based upon:
    - Preliminary SOA's developed by ACT Health and the Territory's design and technical advisors;
- Discussion with project stakeholders, including ACT Health Directorate, Canberra Health Services (CHS), clinicians and iCBR); and
    - The cost estimators market knowledge regarding costs and appropriate benchmarking against similar facilities.
- **Risk (contingency):** A risk (contingency) figure was generated by ACT Health's commercial advisors following:
- Contingent risk identification and quantification workshops attended by ACT Health Directorate, CHS, misbrand their advisors;
    - Monte Carlo analysis conducted on contingent risk figures generated in a workshop setting; and
    - Consideration of inherent risk which has been embedded in the capital cost estimate prepared by the cost estimator to reflect the cost estimation risk on a P50 and P90 basis (i.e., inherent risk is included in the raw construction costs and not in the contingency figure presented in the Project Capital Cost).





Project Capital Cost Estimate

The total indicative Project Capital Cost for CHMPP2 under Cost Plan B comprises:

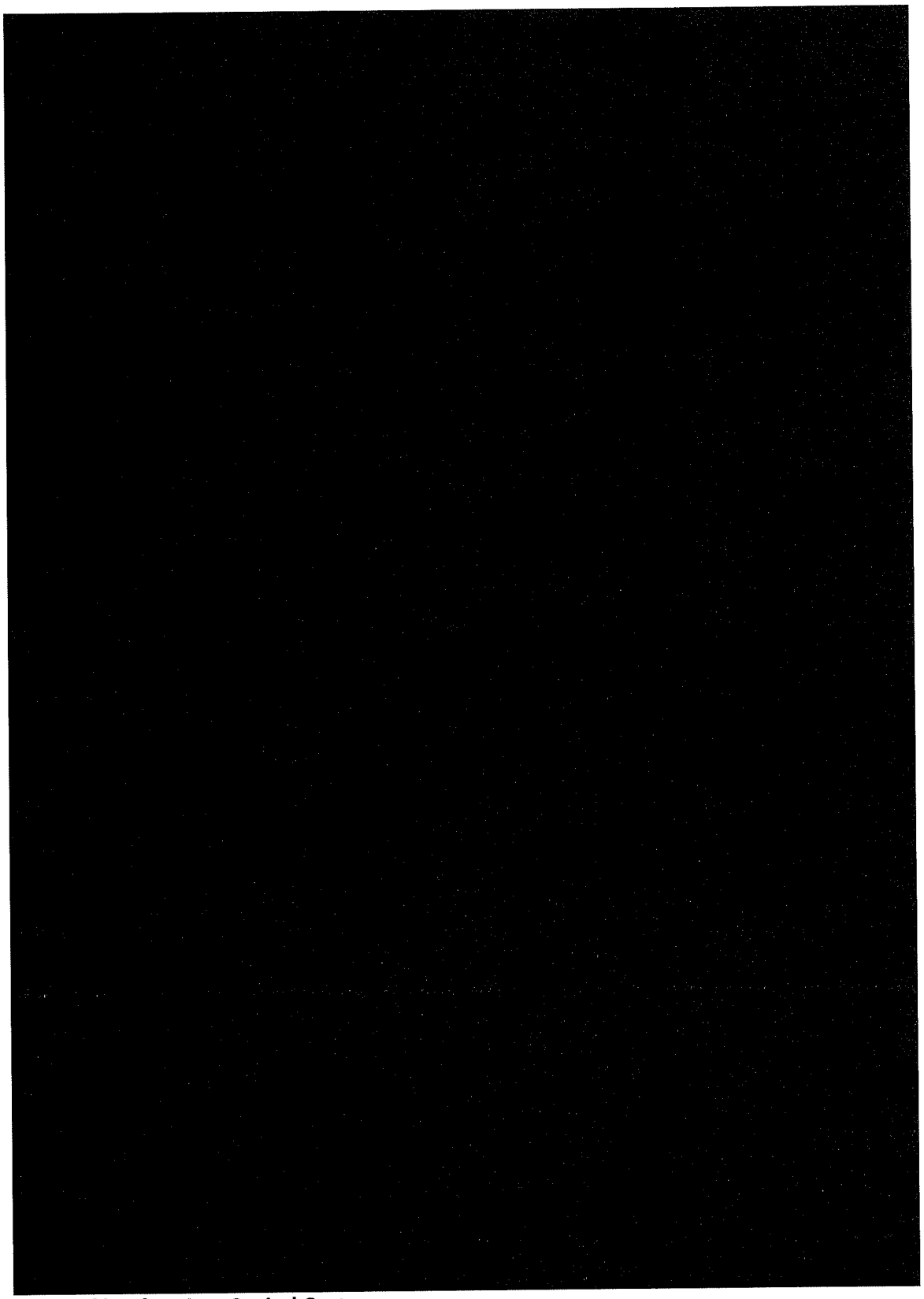
- Construction costs: the indicative estimated cost to construct the new PCS Building and the new Inpatient and Outpatient Building (under Cost Plan B), excluding contingency, agency, and other government costs;
- Escalation: based on the assumed project delivery timeline;
- Contingency: contingency at a P90 level; and

- Planning and Development Resources: the cost to recruit and operate a project team to manage and deliver the CHMPP2 project.

[redacted]

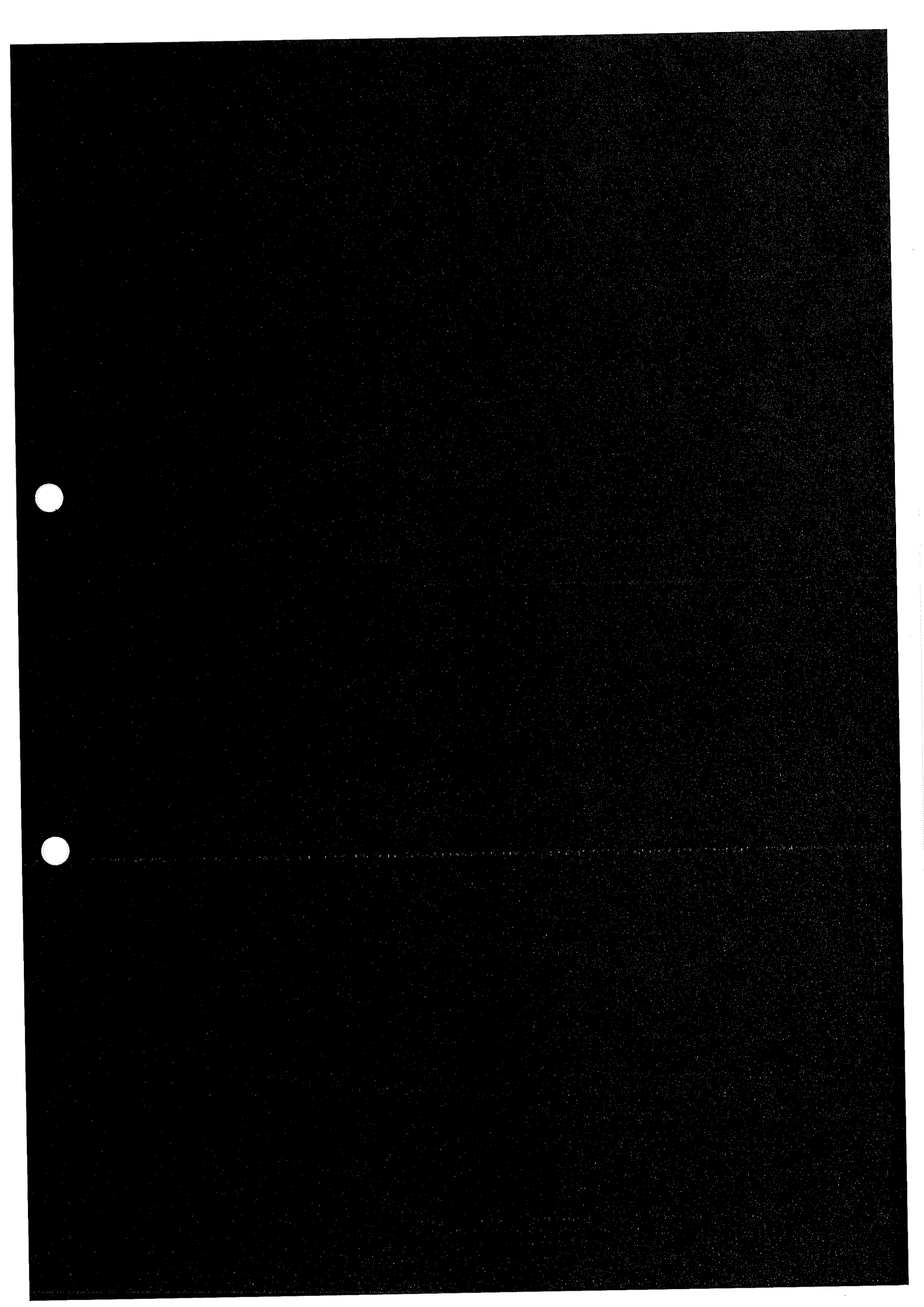
- [redacted]
- [redacted]
- [redacted]

A summary of the total project capital cost under each option is outlined in Table 3 below, while a summary of total project capital costs by phase for each option is outlined in below Table 4. A detailed breakdown of project capital cost by 'project' is outlined in Table 7, Table 12 and



Profile of Project Capital Cost

This section provides the annual breakdown of capital costs under each option. Assumed commencement and completion dates for each project as well as the indicative cost profile are in line with Cost Plan B.



Project Capital Costs – Other Costs

The ACT Government will incur project related costs which will not be included in the contracted amounts. These have been classified as 'other costs'.

In this regard, the ACT Government will incur costs during the procurement, construction and operational phases of the project which are not passed to third parties (for example costs associated with independently certifying construction works). Actual ACT Government costs will be:

- In part influenced by the commercial principles adopted during the procurement process and in accordance with the delivery approach.
- Subject to the realisation or otherwise of risk events during the procurement and delivery process.
- A function of ordinary budget discussions from year to year. The apportionment of costs as either capital or operating expenditure is subject to future assessment.
- Planning and Development Resources fee has been included comprising ACT Health and CHS resources to finalise the planning and commissioning of the new buildings. This is discussed in greater detail Section 9.4 – Funding Related Costs.
- [redacted]
- iCBR PAP Fee has been included to allow for contracts which are not already packaged with the Early Contractor Involvement.

Project Capital Cost Estimate Notes

The following is noted regarding the Project Capital Cost estimate:

- The table above does not represent a Project budget. It represents an estimate of capital based on the preliminary Schedule of Accommodation which is subject to further development and consultation with key project stakeholders, including clinicians. A Project budget will only be finalised following completion of the project's procurement process.
- The Project Capital Cost may be impacted by the Project's delivery model approach. For example, more collaborative approaches (such as an ECI), may include additional margins.
- There exist several risks and mitigation strategies associated with the project which may impact upon the ultimate project cost.
- The expected Project Capital Cost includes a P90 capital cost contingency.
- Any apparent errors in summation are due to rounding.
- All years in tables and charts are expressed in financial years.

Project Capital Cost Estimate Exclusions

The Project Capital Cost outlined in this chapter excludes the following costs:

- Night works;
- Land costs;
- Good and Services Tax GST;
- Finance Charges;
- Latent site conditions beyond allowances made;
- Escalation beyond identified completion date;

- Environmentally Sustainable Development (ESD) initiatives beyond existing allowances (e.g., solar infrastructure);
- Demolition beyond allowances made;
- Prolongation costs;
- Unforeseen archaeological and heritage discoveries; and
- Impacts on materials supply and price fluctuation due to delays of deliveries and material shortage.

9.2 Whole-of-life cashflows

Methodology

Estimated WoL costs are forecasted over a 20-year period commencing from construction completion and has completed for each new building. The periods vary by option due to the differences in expected construction completion. For the new PCS Building, the forecast appraisal is as follows:

- **Option 1 (Base Case/Do Minimum) – Staged:** November 2029 – October 2049
- **Option 2 – Full Shell + Staged Fit-out:** May 2030 – April 2050
- **Option 3 – Single Stage:** July 2030 – June 2050

For the new Inpatient and Outpatient Building, the forecast appraisal period is:

- **Option 1 (Base Case/Do Minimum) – Staged:** March 2035 – February 2055
- **Option 2 – Full Shell + Staged Fit-out:** September 2035 – August 2055
- **Option 3 – Single Stage:** November 2035 – October 2055

The figures presented in this section are incremental WoL costs, calculated as the difference between each option to the Base Case. The approach for estimating WoL costs was carried out in two stages.

- Operating cost estimate
    - A series of workshops and consultations were undertaken with ACT Health and CHS to understand data availability and the various components for inclusion in operating costs. Information requests were issued for key cost items to be utilised as inputs in a financial model constructed to forecast future costs. The cost estimate was based upon:
    - Historical OPEX and Full-time Equivalent (FTE) data provided by ACT Health for the existing pathology and inpatient and outpatient buildings (i.e., Buildings 10, 1 and 12).
    - Historical utility cost data for Canberra Hospital (all existing buildings 1 to 28).
    - Discussions with project stakeholders regarding costings and assumptions.
    - Research on WoL ACT Capital Framework and escalation rates.
- Escalation
    - Escalation has been embedded into individual cost items and incremental differences are shown at the cost item level.
    - The Consumer Price Index (CPI) has been used as escalation for all cost items except staff salaries, which were escalated by the Wage Price Index (WPI).

Assumptions

The below details the assumptions that were utilised in the quantification of WoL estimates for the new PCS Building and the new Inpatient and Outpatient Building.

Table 20: Whole of Life estimate assumptions

Assumption	Detail	Source
Staff salaries and other staff costs	• Options 1, 2 and 3: Costs assumed to increase in line with growth in POC.	Canberra Hospital Phase 2 Redevelopment Baseline OPEX data.
Non-staff costs	• Options 1, 2 and 3: Costs assumed to increase in line with growth in POC and GBA. • Sub-cost items that increase by POC: Medical & Surgical Supplies, Pharmaceuticals, Computer & Communication expenses, Other Supplies and Services, Grants & Purchased Services. • Sub cost items that increase by GBA: Domestic Services, Other Expenses.	Canberra Hospital Phase 2 Redevelopment Baseline OPEX data.

Utility costs	• Options 1, 2 and 3: Costs assumed to increase in line with growth in GBA and partially offset by net efficiency gains from electrification of buildings.
	  • Savings from efficiency gains were estimated as the dollar difference between the cost required to generate 1 kWH of a Natural Gas Fired Boiler and an Air Source Heat Pump. Overall, this represented a 49.5% savings in costs.
	  • Under option 2 and 3, it is assumed that there will be an increase in utility costs until Building 1 is demolished. Only then will the decrease in utility cost from the current conditions be evident.
		Utility cost data for CHS provided by ACT Health (pro rata by building floor area).
		
		Electrification cost estimates from LCI consultants.

Repairs and Maintenance	• Options 1, 2 and 3: Consistent with the ACT capital framework and CHS SAMP, Repairs and Maintenance costs are based on percentage of total projected capital costs under each respective option.
	  • 0% first year
	  • 1% second year
	  • 2% thereafter
	• Costs are first incurred in the year following construction is completed.
	  • PCS building: Jan-2030.
	  • Inpatient and Outpatients building: Mar-2033.
	• Existing building 6/7/23 assumed to have been demolished prior to start of forecast appraisal period.
	• Repair and maintenance of existing buildings has not been considered in incremental WoL cashflows. Since buildings are newly built estimated repairs and maintenance under each option is considered incremental to base case.
		ACT Capital framework – Financial Analysis
		
		The Canberra Hospital SAMP page 43.
		
		Cost Plan B from the cost estimation firm engaged to quantify capital costs.
		
		Canberra Hospital Phase 2 Redevelopment Baseline OPEX data.

Workforce efficiencies	• Workforce / operational efficiencies have not been included in costings. Modern, purpose-built facilities and labour technology enhancements may give rise to workforce efficiencies. However, there	-