

Department of Health



Royal Hobart Hospital (RHH) J-Block Refurbishment

SUBMISSION TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

November 2021

EXECUTIVE SUMMARY

The purpose of this document is to inform the Parliamentary Standing Committee on Public Works of the need for the proposed project and how the design of the works will address this need.

On the 19 March 2019 the then Premier announced the commitment to fund and commence Stage 2 of the Royal Hobart Hospital (RHH) Redevelopment, which included the refurbishment of J-Block, to accommodate the relocation of Cardiology/Cardiothoracic Inpatient Unit on Level 2, establishment of Sleep Study rooms on Level 2 and a general medicine/surgical decant ward on Level 3 to accommodate temporary relocations during the refurbishment of A-Block.

The RHH Masterplan 2020-2050 identified that Cardiology Services (currently occupying 2D, a clinical space nearing end of life and with near irremediable clinical risk issues) would require relocation.

There is currently no Sleep Medicine service provided in the private health sector and a suboptimal interim sleep service is being provided by the Department of Respiratory Medicine at the RHH without adequate diagnostics.

Through the extensive design process incorporating feedback from stakeholders the proposed design of J-Block will provide

- 37 Patient Beds including 1 N Class negative pressure isolation and 3 Sleep Medicine rooms on Level 2, J-Block
- 22 Patient Beds including 1 N Class negative pressure isolation rooms on Level 3, J-Block
- Electrical upgrades to meet cardiac protection requirements on Level 2, J-Block
- Installation of additional medical gases to service the needs of the wards.
- Additional Family / visitors spaces
- Additional Storage, charging and clinical support areas
- Significant upgrades are also proposed to the staff areas located in the centre of the space
- Individual temperature control for all rooms to cater to individual clinical needs (ie. burns patients)
- Access to natural light in all bed spaces.
- Upgraded plant and equipment to service the Unit.

The relocation of Cardiology services is strategically important to the RHH in enabling the refurbishment of areas of D-Block currently occupied by the Cardiology unit, therefore enabling the relocation of Paediatrics unit for the upgrade of A-Block to continue unhindered. Likewise, the establishment of a decant ward for temporary relocations is strategically important for the delivery of the full RHH Stage 2 scope, enabling the renovation of A-Block.

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DOCUMENT PURPOSE

The purpose of this document is to inform the Parliamentary Standing Committee on Public Works (PSCPW) of the need for this project and to explain the processes undertaken during the design phase to maximise the delivery of the desired outcomes.

The document includes the following:

- Confirmation that the proposed investment in infrastructure is the most appropriate means to support improved health services delivery.
- Confirmation that the project is consistent with the Royal Hobart Hospital Master Plan 2020-2050
- Evaluation of the suitability of the proposed Design.
- Discussion of 'value for money issues' relating to the design and construction of this project.

Approval by the Parliamentary Standing Committee - Public Works (PSCPW) is required prior to selection of a contractor enabling construction to commence.

PROJECT DEFINITION

Background

The Royal Hobart Hospital (RHH) is the tertiary referral centre for Cardiothoracic services in Tasmania. Adult patients with cardiac conditions, requiring emergency and elective cardiac and thoracic surgical intervention are admitted to the inpatient unit for specialised medical, nursing, allied health, and cardiac rehabilitation.

The RHH Masterplan 2020-2050 identified that Cardiology Services (currently occupying 2D, a clinical space nearing end of life and with near irremediable clinical risk issues) would require relocation. The relocation of the Cardiology inpatient unit from level 2-D Block to level 2 J-Block improves the service delivery, workflow and addresses environmental factors along with supporting future growth of the service.

In accordance with the Tasmanian Role Delineation Framework (2017) and the 2015 State Government One Health System White Paper, the RHH will commit to shifting Respiratory and Sleep Medicine Services from a Level Five service to Level Six capability.

The current demand for sleep medical services in Southern Tasmania is high. Future demand is expected to rise significantly based on the aging Tasmanian population, high levels of obesity in Tasmania and low socio-economic status compared to all other territories and states in Australia. There is also no current private sleep service in Southern Tasmania and limited access to private ambulatory sleep studies, together with the current interim sleep medicine Model of Care at the RHH not meeting the significant clinical need of the population justifying the requirement for the RHH commitment to increase capability.

Establishment of 22 bed general medical/surgical ward on Level 3, J-Block will enable the decant of inpatient units currently occupying spaces within A-Block, maintaining their service during the required staged renovations of A-Block as part of the RHH Stage Two scope.

Primary Objective

On the 19 March 2019 the then Premier announced the commitment to fund and commence Stage 2 of the RHH Redevelopment, which included the refurbishment of J-Block, to accommodate the relocation of Cardiology/Cardiothoracic Inpatient Unit on Level 2, establishment of Sleep Study rooms on Level 2 and a general medicine/surgical decant ward on Level 3 to accommodate temporary relocations during the refurbishment of A-Block.

The objective of RHH Stage 2 Project is to address patient care, refurbishment, design and expansion priorities identified through the RHH Masterplan 2020-2050:

- refurbishment of vacated wards and other maintenance works in A-Block
- expansion of the Emergency Department in its current location, subject to the identification

of suitable space for displaced services (e.g Paediatric Outpatients Service)

- refurbishment of J-Block to accommodate inpatient services, including investigation of appropriateness of Cardiology Services to occupy this space
- expansion of ICU capacity.

Location

The new Cardiology Services will occupy majority of the Level 2, J-Block. The new Sleep Studies Service will occupy the remainder of Level 2, occupying 3 beds and associated staff servicing rooms.

Additionally, the general medical/surgical decant ward will occupy approximately half of Level 3, J-Block, being the vacant space previously occupied by Mental Health who have relocated to K-Block. The remainder of Level 3 will remain occupied by the Mental Health Short Stay Unit as a separate secure ward.

RHH Site Directory is provided at Attachment A for familiarisation of J-Block within the RHH campus.

Program

This project will have a target date for completion of September 2022. This completion date is subject to finalisation of the tender process, which has been run in parallel with the PSCPW. Contract will not be awarded without the approval of the PSCPW.

A detailed construction program will also be provided by the successful construction tenderer once the tender process is complete.

DESIGN APPROACH

The design approach that has been adopted is based on meeting current and predicted service requirements.

The new wards will be based on the guidelines contained in the Australasian Health Facility Guidelines (AHFG) where they apply, and this has formed part of the architect's design brief.

NEED FOR THE PROJECT

The needs of a rapidly growing and ageing population as well as the impact of chronic disease and pockets of socio-economic disadvantaged, will drive demand for Cardiology and Sleep Medicine services for the Tasmanian population currently and into the future.

Distribution of Tasmanian population and the limitations of service provision in cardiology specialty to the south indicates a current delay in the provision of state-wide services

Tasmania experienced the largest increase in median age over the last 20 years, increasing by 6 years from 36 years in 1999 to 42 years in 2019 (*ABS 2019 Census data*).

Heart disease kills two Tasmanians a day. Tasmania has the highest age-standardised mortality rates for Acute Coronary Syndrome (ACS) when compared nationally (*Improving the Hearts of Tasmanians; State-wide State Service Plan 2017-2022, Heart Foundation 2017*).

Tasmania also has the highest prevalence of cardiovascular disease in Australia - in excess of 9.5% across all regions compared with the national average of 6.6% (*Improving the Hearts of Tasmanians; State-wide State Service Plan 2017-2022, Heart Foundation 2017*).

The burden of coronary heart disease is likely to increase with an increasing need for coronary revascularisation by percutaneous intervention (PCI), coronary artery bypass or valvular surgeries.

70.8 % of all Tasmanians aged over 18 years were overweight or obese-National average 67%. The excess prevalence of obesity directly results in higher than national average rates of sleep disorders including obstructive sleep apnoea and the associated cardiovascular complications. (ABS-National health Survey 2017-2018).

Tasmanian adults have a higher prevalence of lifestyle risk factors compared to the national

average, including;

- 36% are overweight, 34.8% are obese (National Av. 67%, 31.3%)
- 27.2% have high blood pressure (National Av. 22.8%)
- 16.4% daily smokers (National Av. 13.8%)
- 45.4% who exceeded the single occasion risk guideline (National Av. 42.1%)
- 6.1% % have high cholesterol nationally across all regions of Australia.
- Two thirds of Tasmanians have inadequate levels of activity
- *(ABS – National Health Survey: first results 2017-18).*

Cardiology and Sleep Medicine Models of Care were developed to inform the design for the redevelopment of J-Block.

CONSULTATION AND GOVERNANCE CONSULTATION

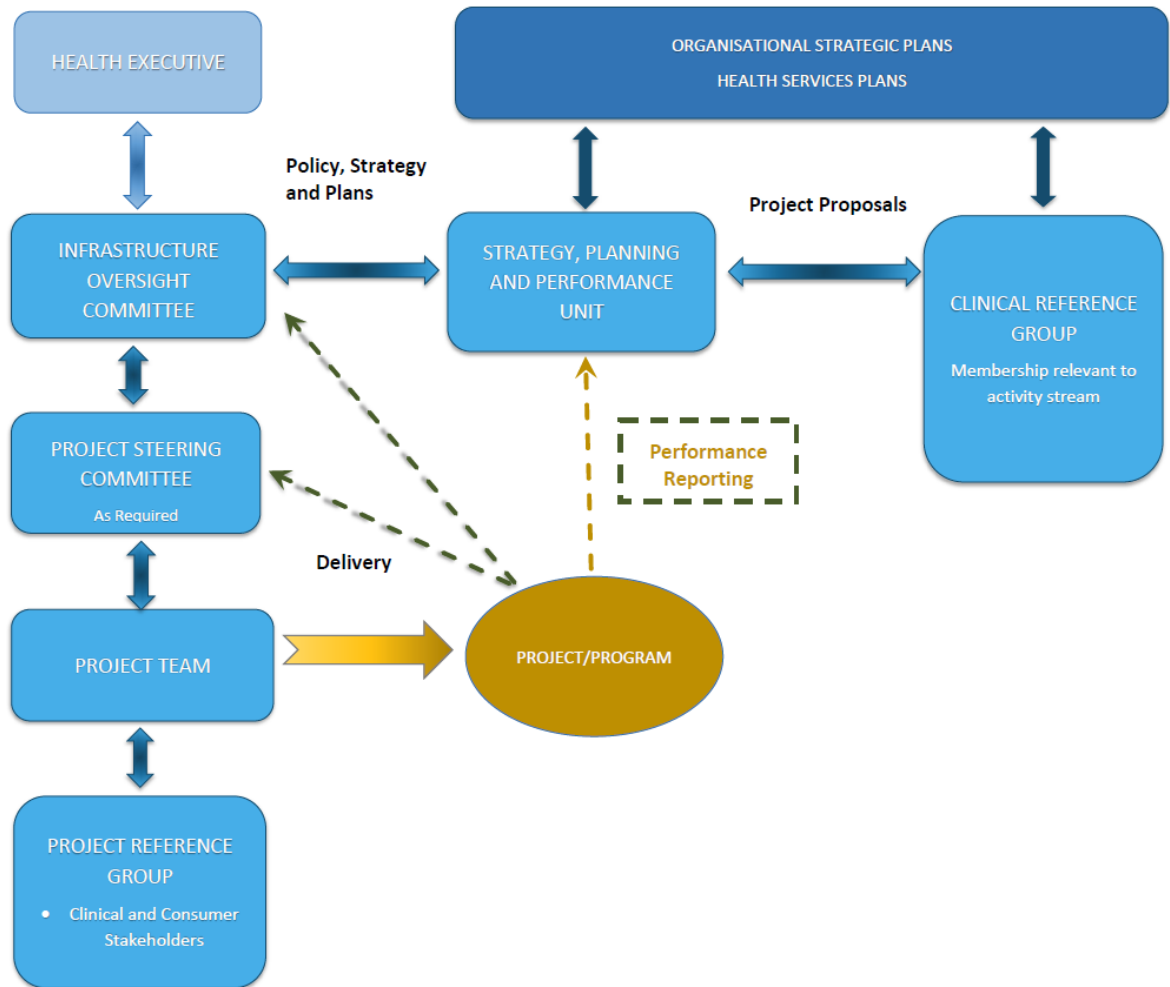
Consultation

As part of the design phase, input has been sought from both clinical, non-clinical staff, infection control, and internal service providers into the design. As plans have been developed, they have also been discussed with relevant ward staff to provide an opportunity for comment.

The proposed development was advertised in the Mercury newspaper on Saturday 13 November 2021, informing the public of the project and calling for submissions to the Parliamentary Standing Committee hearing.

Governance

The following diagram illustrates the Infrastructure Oversight Committee (IOC) Project Team and Project Reference Group relationships.



The Infrastructure Oversight Committee has approved the RHH Redevelopment Phase Stage 2 – Scope Definition Agreement.

Design Approval Process

The design process included:

- Initial stakeholder meetings to gain further understanding on clinical, infection control, health service planning and facilities and engineering requirements.
- Ongoing meetings where concept designs were presented to the project reference group, for agreement and development and sign off of schematic design.
- Infrastructure Oversight Committee at its April 2021 meeting endorsed the RHH Redevelopment Phase 2 Scope Definition and subsequently approved the scope of the J-Block Redevelopment.
- Schematic Design was presented to the Hospitals South Capital Works Steering Committee and Project Sponsor, Susan Gannon, Chief Executive Hospitals South, as the committee chair.
- During the project lifecycle monthly Project Status Reports for the Project Sponsor and Hospitals South Capital Works Steering Committee are provided.

The design of each functional space is based on AHFG, where applicable.

ADDRESSING THE NEED

The Site

The proposed project is to relocate the Royal Hobart Hospital's Cardiology Unit including the Critical Care Unit from outdated accommodation on Level 2 of D Block into more modern and contemporary accommodation on Level 2 of J Block. In addition, an upgrade will be undertaken to part of the space on Level 3 previously occupied by Mental Health to convert it into a 22 bed general medical inpatient unit to use as a decant ward allowing for the future redevelopment of A Block and other parts of the Hospital.

Design Philosophy

The design philosophy for the refurbishment of Level 2 and 3, J-Block is to best design practice enabling optimum clinical services including:

- Patient and Staff Focussed;
- Innovative planning that provides efficient and effective workflow;
- High quality work and patient environment;
- Responsive to the new models of care for nursing management
- In accordance with the Australasian Health Facility Guidelines (AHFG);
- To optimise energy efficiency and maximise environmental benefits of natural light, views and indoor air quality;
- Incorporates best practice Environmentally Sustainable Fit out Design.

Architecture & Interiors

Cardiology Unit – Level 2

Level 2 currently consists of the now vacant Open Mental Health Unit and a general inpatient unit. Both areas of the building are proposed to be upgraded to allow for the relocation of the existing Cardiology Unit from D Block. The new relocated unit will comprise a total of 22 general cardiology beds, 7 critical care unit beds, 5 cardiology day unit beds and 3 beds for the Sleep Studies Unit. This will also include one N Class negative pressure isolation room.

Works on the existing general inpatient unit have been limited to an upgrading of the electrical services to meet Cardiology requirements and ensure compliance AS3003:2018 with cardiac protection. The opportunity has also been taken to refresh the existing colours and finishes in the area to assist in patient treatment, comfort and well-being.

More substantial works are required in the area previously occupied by Mental Health so that the area becomes a contemporary cardiology treatment space. All the existing bedrooms have been upgraded to provide the correct lighting, electrical services upgraded to cardiac protection standard and medical gases installed. All the previous anti-ligature and self-harm fixtures are to be removed and replaced with modern hospital grade fixtures.

An additional 2 bed, room has been provided by converting previous lounge and dining spaces. Significant upgrades are also proposed to the staff areas located in the centre of the space to ensure that rooms provided are those necessary to support the specific needs of the unit.

Decant Ward – Level 3

Like parts of upgraded Cardiology on Level 2, the area on Level 3 of J Block comprises bedrooms and support areas previously occupied by Mental Health prior to their move to the completed K Block. To create the new Decant Ward, conversion of the bedrooms around the perimeter has been undertaken to upgrade them from simple bedrooms with minimal services to a fully compliant medical inpatient room. New support staff and treatment secondary treatment facilities have been provided in the core area. The new Decant Ward will comprise:

- 22 Additional Patient Beds including one N Class negative pressure isolation room
- Additional Family / visitors spaces
- Additional Storage, charging and clinical support areas

- Individual temperature control for all rooms to cater to individual clinical needs
- Access to natural light in all bed spaces.
- Upgraded plant and equipment to service the Unit.

Attention has been focused on the new patient treatment spaces to create interior design aesthetics that have a holistic and considered approach for the well-being of users and staff offering direct relationships with nature. Natural elements have been referenced using timber look and colours extracted from nearby natural views. Materials selections have been carefully considered for the use of the space. Design approach addresses the aesthetic while balancing the considerations of the Staff requirements, Infection control, way-finding, statutory requirements, ergonomics, DDA, maintenance and quality of stay. Interior colour and material selections are proposed as a basic neutral palette with a few colour highlights.

Where possible, the minimum standards recommended by the Australasian Health Facility Guidelines (AHFG) have been achieved with regards to floor area. Consideration in the design was always given patient treatment spaces as the priority for spatial importance.

The treatment spaces have been located around the perimeter of the building in the existing bedrooms so that each room has direct access to natural light and affords the patient the ability to discern time of day through transition of daylight in the room. All the patient rooms have been provided with a glazed door that allows for direct access into the room which can then be closed if required to provide temperature control or acoustic and visual privacy through the use of interstitial venetian blinds.

Staff support areas have been located in the centre of “racetrack” which is surrounded by the patient rooms on the perimeter of the building. This allows staff to have easy access to the patients and maintains high visibility of these areas.

Environmentally Sustainable Design

The environmentally sustainable development features include:

- Energy efficient light systems through type/wattage and sensors.
- Material selections (where suitable) for the project will be selected based upon the criteria of low off-gassing characteristic (low VOC), low embodied energy and suitability for recycling.
- Local materials, where possible, have been used, however, given the specialist nature of the finishes required, the majority of materials and finishes that have been selected are only available from mainland suppliers. All installation works will be undertaken by local suppliers and subcontractors.

Building Services

Mechanical Services

Level 2 works include the provision of positive pressurisation for the new sterile room store, with new supply air fan and HEPA filtration. Other works on this level are limited to minor alterations to ductwork and registers, and smoke damper arrangements to suit the revised layouts in the central utilities area in Level 2 east.

On Level 3, the new isolation room is served by a dedicated air handling unit with full fresh air supply, and duplex fan extraction system ducted to the roof of the building.

A new positive room pressurisation system is provided for the sterile store, similar to that for Level 2. There are other minor ductwork alterations to suit layout changes.

Medical Gases

Medical gas supply pipework to the building will be upgraded to meet the additional demands of the redeveloped levels.

New pipework (medical oxygen, air, suction) will be routed from the D Block plant room, from existing connect takeoff points, via C Block and J Block Level 2. Pipework is then routed via corridors and altered areas on each level to connect to medical service panel locations in the upgraded patient

rooms.

Electrical Services

All patient rooms on Level 2 are being upgraded to cardiac protection compliance to AS/NZS 3003:2018, and on Level 3 east rooms will be upgraded to body protection standard. Switchboard circuit alterations, re-wiring of power circuits and additional earthing are required to achieve this degree of electrical protection.

Other general power outlet provisions are altered to suit room layout and room functionality requirements.

Existing outdated compact fluorescent lighting will be replaced throughout both levels, with current technology LED panels, excepting the Level 3 mental health area where there are no works. Lighting layouts have been altered to suit new room layouts and functionality, and examination lights, night lights added for patient rooms.

Communications

Additional data outlets will be installed as required to suit the altered room layouts and room functionality. In particular, the sleep studies room will be heavily serviced with data communications requirements. New outlets will be wired from the existing data rack in the Level 3 Comms Room.

Nurse call points have been added on both levels to suit patient area requirements, to be connected to the existing Hills nurse call system.

Security

The existing access card-controlled doors will predominantly be disabled. New card readers will be installed for secure rooms, and corridor doorways as required.

Existing CCTV surveillance cameras will be retained and re-used as appropriate, and additional cameras installed as necessary.

Fire Protection

The building is currently served by a mix of conventional smoke detection, and aspirated smoke detection (VESDA) in mental health patient rooms. The redeveloped Level 2 and Level 3 patient rooms will have VESDA points replaced with smoke detectors, to be connected to the existing C Block fire panel via existing circuits. Existing smoke detectors will be retained.

The C Block and K Block central computer graphics will be updated to reflect the fire detection system alterations.

Hydraulics

Hydraulics works include alterations to existing hot/cold water and drainage pipework to connect new ensuites, and other fixture locations. Where necessary TMV wall boxes are relocated to suit room layout changes. Additional tundishes are provided for dialysis rooms on Level 2.

A hose reel on Level 2 will be relocated to suit room layout alterations.

PROJECT SCHEDULE & BUDGET

Project Schedule

A Summary of the Project Timeline is as follows:

| Description | Date |
|---|---------------|
| Completion of design development | August 2021 |
| Development Application | Exempt |
| Completion of Construction Tender Documentation | November 2021 |
| Construction Tender Commencement | November 2021 |

| | |
|--|----------------|
| Construction Tender (closing and assessment) | December 2021 |
| Construction Start (subject to approval) | March 2022 |
| Practical Completion of Construction | September 2022 |

Project Cost

The approved funding for the project is \$12,331,000. The cost of the development is currently broken down as follows:

| Description | Estimated Cost |
|---|----------------------|
| Construction Costs | \$ 9,300,000 |
| Post Occupancy Allowance | \$ 150,000 |
| Professional Fees and associated costs | \$ 560,000 |
| Statutory Fees | \$ 15,000 |
| Information and Communication Technology Infrastructure | \$ 500,000 |
| Furniture and Equipment | \$ 500,000 |
| Other client costs | \$ 105,000 |
| Tasmanian Art Scheme | \$ 80,000 |
| Sub Total | \$ 11,210,000 |
| Contingency (10%) | \$ 1,121,000 |
| PROJECT TOTAL | \$ 12,331,000 |

The estimated construction costs have been provided by the project's Quantity Surveyor and are based on reasonable allowances for the project's location, current market conditions, and tender documentation issued to market.

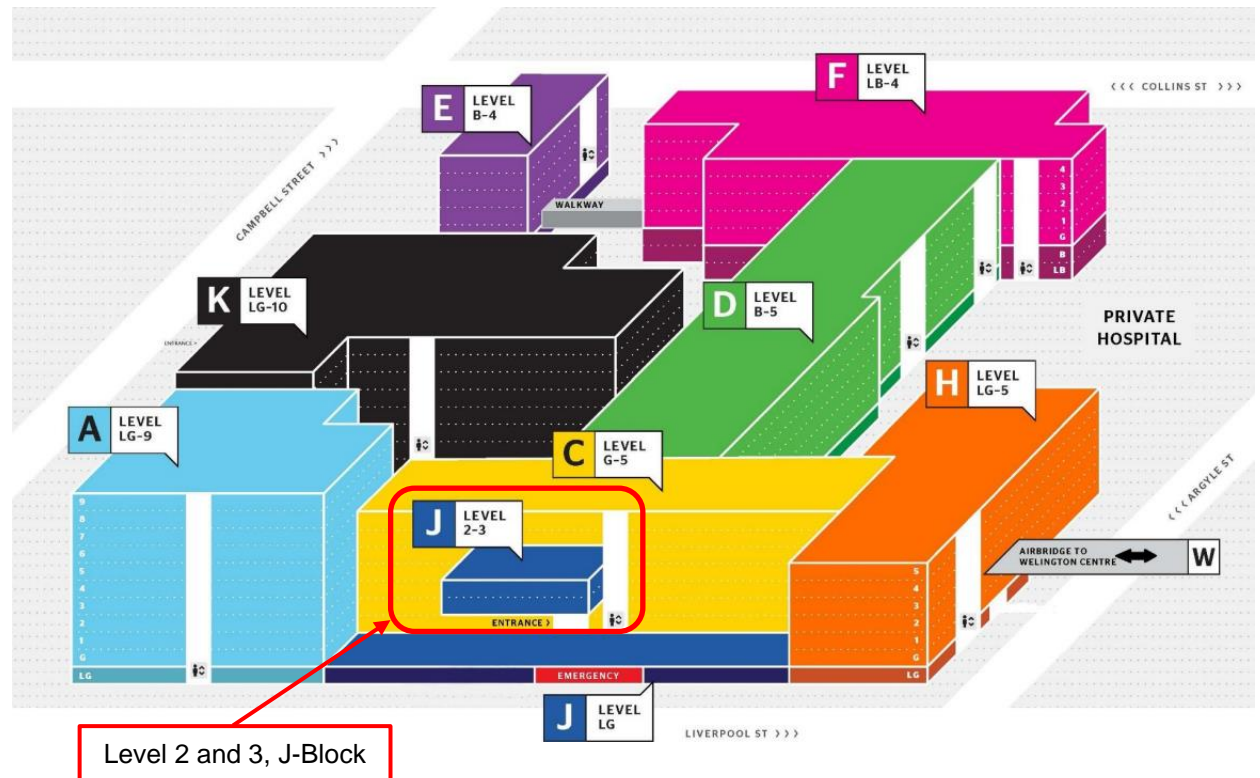
RECOMMENDATIONS

The Project Team have carefully assessed and explored the options and solutions available and have determined the designs provided at Attachment B meet the required project objectives. In addition, the design is consistent with the recommendations of the RHH Masterplan 2020-2050.

It is recommended that this submission be viewed favorably given the benefits it will provide to Tasmanian community with the provision of:

- Relocated cardiology service from outdated ward on Level 2, D- Block to a more modern and contemporary accommodation on Level 2, J-Block enabling refurbishment of Level 2 and 3 D-Block.
- 3 bed Sleep Medicine Service on Level 2, J-Block to meet the current and future clinical need
- General medical/surgical inpatient decant ward on Level 3, J-Block for the temporary relocation of services to enable the effective refurbishment of A-Block and the completion of the full RHH Stage 2 scope.

ATTACHMENT A – ROYAL HOBART HOSPITAL SITE DIRECTORY



ATTACHMENT B – PROPOSED DESIGNS

Refer to attached Architectural Plans