

## Delivering Tasmania's state of the art health facility

### Welcome to the RHH Redevelopment project!

The final stage of the RHH Redevelopment is now guaranteed with the acceptance of the Guaranteed Construction Sum in December 2015.

The ten-storey inpatient precinct called K-Block is scheduled for completion by the end of 2018 and will provide better clinical facilities for Tasmanians.

*RHH Redevelopment Project News* provides information and updates on the project. You can also find information about the project by visiting the website:

[www.rhhredevelopment.tas.gov.au](http://www.rhhredevelopment.tas.gov.au)

Or email the project at:

[redemption.rhh@dhhs.tas.gov.au](mailto:redemption.rhh@dhhs.tas.gov.au)

### In this issue...

In this edition of the RHH Redevelopment Project News you'll find information on:

- demolition
- the Guaranteed Construction Sum
- service moves and
- a major feature on hyperbaric treatment and the facility.



# New Hyperbaric Facility for Tasmanians

Continued hyperbaric treatment of serious infections, radiation injury and decompression illness during the construction of K-Block is assured with an allocation of \$12 million to replace Tasmania's hyperbaric facility.

Tasmania has the highest number of resident recreational and professional divers per capita and aquaculture is a major export industry for the state. Recompression with hyperbaric oxygen is the first-line treatment for decompression sickness from diving.

Hyperbaric oxygen treatment (HBOT) is also used to treat medical conditions like diabetic wounds and gangrene, necrotizing infections and tissue injury following radiation treatment of cancer.

The new hyperbaric facility will be built on level 3 of K-Block. It will provide over 2 000 treatments each year and treat up to 10 people simultaneously.



*The new Royal Adelaide hospital chamber being hoisted into location.*

Its modern design will allow for the flexible scheduling of treatments for optimal use of the facility, and simultaneous treatment of scheduled and emergency cases. Larger patient and treatment areas will improve patient privacy and accommodate contemporary medical equipment that accompanies patients during HBOT.

While K-Block is being built, a temporary hyperbaric chamber will be leased.

It will be located on the Collins Street side of the current unit and away from the construction zone.

Last year's Rescue Taskforce recommended planning to replace the chamber. A business case has now approved its funding.



*Patients in the new hyperbaric chamber at the Fiona Stanley Hospital, Perth*

# Hyperbaric Facility

## Making a Difference

Dr David Smart and Corry Van den Broek are part of the multi-disciplinary team that operate the Royal Hobart Hospital's Department of Diving and Hyperbaric Medicine.

Under their leadership, the hyperbaric facility is making a difference in the lives of Tasmanians and enjoying international recognition for its work.

Hyperbaric oxygen treatment (HBOT) is most commonly known as a treatment for decompression sickness. David explains that HBOT helps treat decompression illness by squashing the bubbles which form in the blood and tissues after divers have been exposed to pressure underwater. Bubbles block the blood supply and distort and inflame the tissue. HBOT also helps put oxygen back into the tissue, helping it recover from being injured by the bubbles.



*Dr David Smart (left) and Corry Van den Broek (right).*

'If required for divers, the chamber can pressurise to six times the pressure that you're breathing at the moment,' he says.

HBOT can be used to treat many other conditions too.

'It's effective for selected medical indications. Patients receive a pharmacological dose of oxygen and the minimum dose to be clinically

effective is 100 per cent oxygen delivered at twice sea-level atmospheric pressure. This means patients receive at least 10 times the amount of oxygen you're breathing now,' David says.



*View of the critical care compartment, hyperbaric chamber, Prince of Wales Hospital.*

HBOT is also used in the treatment of diabetic problem wounds and radiation injury (which occasionally occurs following cancer treatment) for example, because it restores normal healing where healing has been delayed.

In these types of conditions there is not enough oxygen getting to the tissue because the microscopic blood vessels have been damaged. When patients breathe oxygen in the hyperbaric chamber the higher oxygen pressure can deliver oxygen where it needs to go and restore healing.

'It's akin to having a pressure tank on the sprinkler system on your lawn. A low pressure will spray out a short distance and not water much of your lawn,' David says.

'If you have a high pressure on the watering system it will go a greater distance and cover a much larger area of the lawn.'

It is obvious that both Corry and David are inspired by the impact HBOT has on the lives of patients.



'To see patients come out healed, who weren't being healed before is great. Some of our patients have been walking around with these wounds for many years. You can see the difference the treatment makes,' Corry says.

'One man we treated had wounds for 25 years and it brought tears to his eyes when they were healed because for the first time in 25 years he could go down to the beach and walk through the water,' David adds.

'Key members of the RHH hyperbaric team also include nursing staff who are specialists in wound care.'



*Interior view of the hyperbaric chamber, Fiona Stanley hospital, Perth.*

For diabetic patients, HBOT improves healing rates and reduces amputation rates and mortality. One recent Swedish study found patients who received HBOT had double the wound healing rates and 40 per cent less deaths in five years compared to those given placebo treatment.

The Department of Diving and Hyperbaric Medicine is an active participant in the international research community on hyperbaric medicine and staff have received numerous accolades.

By way of a few examples, Corry operates the Doppler technology used for detecting bubbles in divers and is an internationally recognised Doppler researcher.

He has made presentations to the Canadian, Swedish, Dutch and Norwegian navies. David has won an Excellence in Commercial Diving Award 2015 by the US based Undersea and Hyperbaric Medical Society and a similar award in 2013 from the Australian Diving Accreditation Scheme.

They have established international research links with navy and medical organisations. They are also involved in a number of clinical multi-centre randomised controlled trials, most recently they finished the Hyperbaric Oxygen lower limb trauma (HOLLT) trial where they enrolled around a fifth of the patients from around the world in the sample. Participation in the HOLLT trial was funded with the generous support of the Tasmanian MAIB foundation.

Their commitment to evidence and excellence also drives their continuous process of training and medical education with doctors and nurses at home too.

Referrals to the hyperbaric facility come from within the Royal Hobart Hospital, Wound Clinic, the High Risk Foot Clinic, other Specialists and General Practitioners.

### **About Corry and David**

Corry is the unit's Technical Facility Manager and started at the RHH in 1998 after spending 20 years with the Royal Australian Navy where he was a Clearance Diver. He and his technical team are responsible for the maintenance of the chamber. He also assesses and evaluates each piece of equipment that goes into the chamber because each piece changes the environment of the chamber.

David has been the Medical Co-Director of the facility since 1997. He started work with the original RHH hyperbaric facility in 1985, 31 years ago, as an intern. He has spent many years working as a specialist in emergency medicine in addition to diving and hyperbaric medicine. He's also a recreational diver.

## Guaranteed Build

The construction of K-Block is guaranteed with the approval of the Guaranteed Construction Sum (GCS) during December 2015.

The \$389 million K-Block is the single largest public construction project in the state and will create 300 direct jobs on the site and many more indirect jobs.

The GCS is the maximum price payable to the Managing Contractor to perform the agreed scope of work required in the Managing Contractor's Contract. It is within the \$392 million cost estimate agreed by the Rescue Taskforce during their investigation in 2014.

Under the GCS, the Managing Contractor is responsible for the finalisation of the design and documentation and sub-contracting and managing the trade packages.

The Tasmanian Government maintains responsibility for a range of other project requirements including delivering the furniture, fittings and equipment, and information communication technology necessary for the safe and efficient operation of this contemporary health facility.

The Managing Contractor for the RHH Redevelopment is the John Holland Fairbrother Joint Venture.

The Joint Venture has been a major contributor to local infrastructure over many years, including the recently completed Medical Sciences precinct and Institute for Marine and Antarctic Studies.

Construction will commence during 2016.

## Hospital Services on the Move

From Monday, 11 January 2016, the Transit Lounge of the Royal Hobart Hospital will be relocated to the lower ground floor, A-Block.

The telephone numbers have changed and are now 6166 6880 and 6166 6876.

From Tuesday, 12 January 2016, the Acute Rehabilitation Unit of the Royal Hobart Hospital will be located on level 2, Peacock Building, Repatriation Centre, 90 Davey Street, Hobart.



*Patient room, Acute Rehabilitation Unit, Repatriation Centre.*

The ward telephone number remains the same – 03 6166 7206.

These are temporary moves to support the RHH Redevelopment project.

# Dismantling Buildings

B-Block will be gradually dismantled to minimise dust, noise and vibration, rather than collapsing the building like some demolition projects in open areas. The approach will be finalised through a tender for a demolition sub-contractor.

Demolition and construction on constrained sites like the Royal Hobart Hospital are not common in Tasmania. Hobart's Parliament Square project shares a number of similarities with the Redevelopment.

*RHH Redevelopment News* spoke to Project Director, Allan Wood, about some of the issues they've faced and strategies they've implemented during construction and demolition.



*Project Director, Allan Wood, Parliament Square*

"Right from the onset a condition on the developer was that they produce a construction and demolition plan and we used an external consultant to review it, someone with experience in construction in a confined setting," Allan says.

In his view, a construction and demolition plan is critical for two reasons. It helps verify that the contractor's approach is the best practice available and it provides detailed information that can be shared with stakeholders so they know what to expect.

For the Redevelopment project, the Managing Contractor will develop construction and demolition plans with sub-contractors.

## Quick Comparison

Parliament Square project has 600-700 people who work adjacent to the construction site at Parliament House, 10 Murray, 12 and 34 Davey Street, weekdays.

The RHH has several hundred inpatients, outpatients and visitors, and around 3 000 staff on site 24/7.

The floor area of the three buildings demolished in the first stage of the Parliament Square project was about 6 500 m<sup>2</sup> across five storeys of a very heavy concrete structure. Demolition took around eight months.

B-Block has a floor area of around 9 000 m<sup>2</sup> across four storeys. Demolition is estimated to take approximately four months.

"We had a working group where we addressed the concerns of noise, dust, traffic, access and egress to and from buildings. Dust was a major concern during demolition. We used additional dust filtering recommended by our consultants. It was necessary to seal the windows of 10 Murray Street as a means of controlling dust into the building."

Allan believes that responding to stakeholders' needs is critical to the success of a project.

"We stopped works on the first day of major drilling because of the noise for example.



We needed to ensure that Parliament could continue their business and the noise had the potential to interrupt Government Business Enterprise (GBE) Scrutiny Committee hearings.

“Over two nights, the developer installed triple glazing to the committee rooms so the GBE hearings could continue uninterrupted during sitting days and the drilling works were then able to resume.”

Allan has a made career of construction and he knows that even with the best planning, unforeseen events occur and need to be managed.

“Initially we thought that demolition could be done by cutting and crushing rather than rock breaking which is a more constant noise. We ended up in more of a rock breaking situation because the developer found the jaws of their crusher were not big enough to get around the material that needed to be demolished. The print building was a fairly heavy structure to deal with.”

This meant that the project needed to work out other ways of managing the noise for occupants of the adjacent buildings.

“We had already put in place strict controls around Parliament sitting days but we put in place more respite periods throughout the day to give people closest to the work face a break.

“We still have 10 Murray Street to demolish. The developer is a construction expert but we

will ask them to test the market for the right approach in the Tasmanian setting.

“We need to ensure they source the right equipment and contractors to get the best outcome.”



*Parliament Square, artist impression, courtesy of Citta.*

The lessons learnt during the first stage of the Parliament Square project are informing their second stage and providing the RHH Redevelopment with further insight too.

Parliament Square project involves the redevelopment of 10 Murray Street, 12 Murray Street, 34 Davey Street, 34 West Davey Street, the Red Brick Building, 36 Davey Street, 2-4 Salamanca Place, 6 Salamanca Place and part of the Parliamentary Annex. It will provide updated office space for the Crown, activate public open space, and create a link between the city and the waterfront. It includes 16 000 m<sup>2</sup> of Crown office accommodation, retail space and a hotel.

The tender for the RHH Redevelopment B-Block demolition sub-contract that will be advertised soon.

## Behind the Scenes

Medical gases are an essential part of a hospital's operations. It includes the supply of oxygen for resuscitation and nitrous oxide ('laughing gas') as an anaesthetic and pain relief for example.

From 16 January 2016 for several weeks, the supply of medical gases will be connected to a new distribution area that will service K-Block.

Medical gases will be isolated area by area so the upgrade can happen safely.

The RHH Redevelopment team, the Managing Contractor and THS user groups, Facilities and Engineering, Safety and Quality, Security, and Supply are coordinating the works together.

Work will also occur on electrical services upgrades during this time.

## K-Block Fast Facts

- The size of K-Block is 39 000 m<sup>2</sup>.
- K-Block will have space for almost 250 inpatient beds.
- A new one-stop arrivals and departure area for patients will be provided in the Campbell Street entrance.
- 5 500 m<sup>2</sup> of earth will be excavated from the site to build K-Block.
- A typical floor plate is 3 000 m<sup>2</sup> with concrete poured in quadrants.
- 6 000 m<sup>2</sup> of precast panels will be used to create the K-Block façade.

Read more K-Block fast facts at  
[www.rhhredevelopment.tas.gov.au](http://www.rhhredevelopment.tas.gov.au)

## Meet the Team

Pamela Brooks is the Administrative Officer for the RHH Redevelopment team. Here are five things about Pamela.



**Number 1** – Pamela arrived in the team in June 2015 after twenty years working for a private sector training organisation.

**Number 2** – Pamela is an excellent asset to the Redevelopment team, unflappable, a problem solver and is quick to lend a hand when she sees a colleague needs help.

**Number 3** – Pamela is really pleased to work on the Redevelopment which is helping people and enjoys when we are able to do projects that involve patients like the recent kids drawing project, 'The new hospital and me'.

**Number 4** – As Administrative Officer one of the critical tasks she has is ensuring contract invoices are paid.

**Number 5** – She is mum to the really cute Dexter, who is four and a half years old.