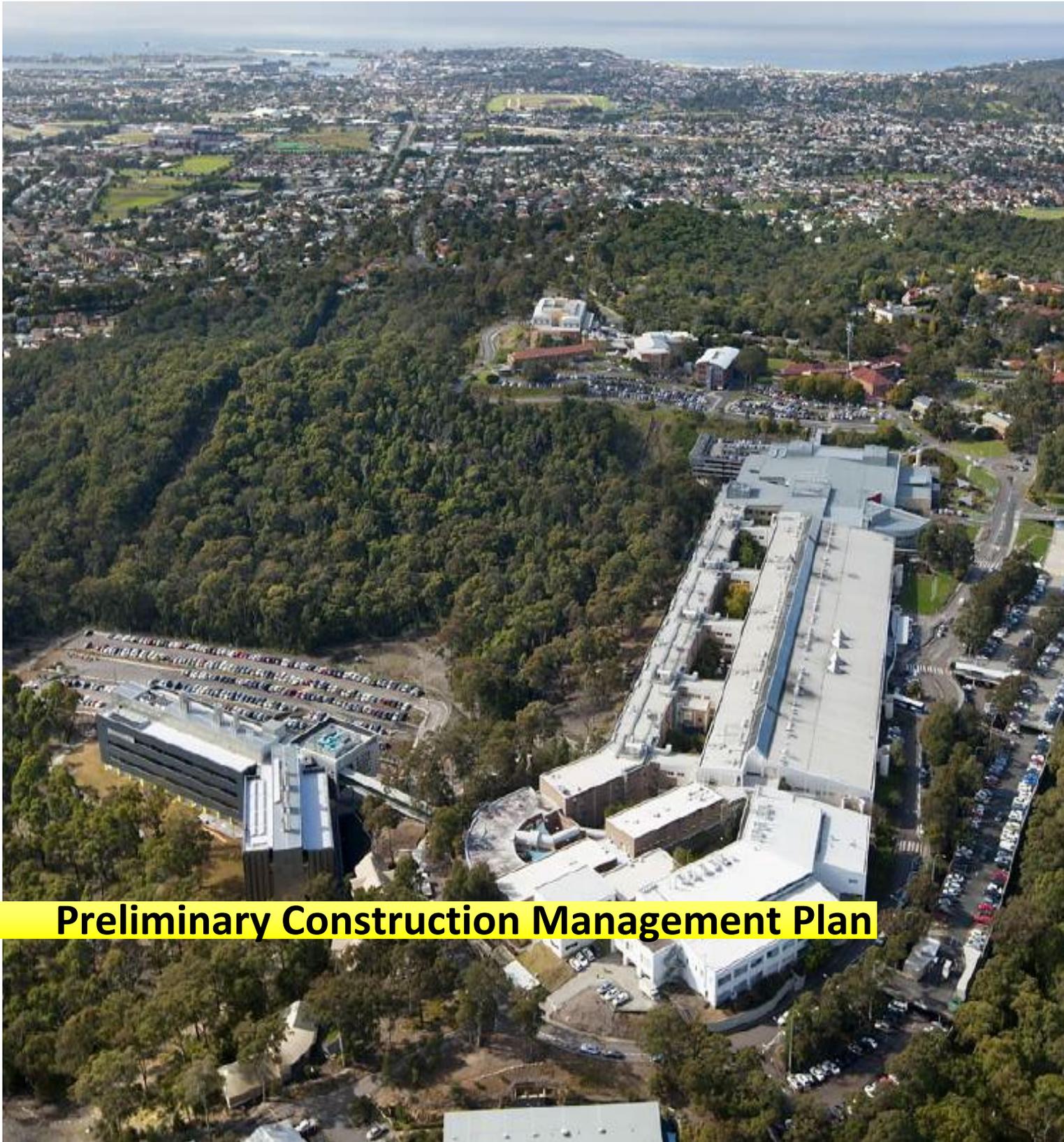




**John Hunter Health and Innovation Precinct (JHHIP)
State Significant Development (SSD) Application**



Preliminary Construction Management Plan

Document Administration

Version History

Version	Date	Issued to	Remarks
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Contents

1. Purpose	1
2. Introduction	1
3. Project Phasing and Key Milestones	4
4. Construction Management Plan	7
5. Environment and Amenity	12
6. Waste Management	14
7. Service Disconnections / Disruptions	14

Tables

Table 1: Sears requirement	3
Table 2: Program	6
Table 3: Construction Hours	9
Table 4: Extended Hours	9

Figures

Figure 1: Overview of Site	2
Figure 2: Project Phase 2	5
Figure 3: Project Phases 1A and 1B	5
Figure 5: Site Compound & Construction Access - Phases 1A and 1B	10
Figure 6: Site Compound & Construction Access - Phase 2	11

1. Purpose

This Preliminary Construction Management Plan has been prepared for Health Infrastructure for the John Hunter Health and Innovation Precinct (JHHIP) State Significant Development (SSD) application. The Preliminary Construction Management Plan will be replaced by the Contractor(s) Construction Management Plan once appointed.

2. Introduction

2.1 Overview

In June 2019, the NSW Government announced a significant expansion of the John Hunter and John Hunter Children's Hospitals with the \$780 million John Hunter Health and Innovation Precinct (JHHIP) project.

The JHHIP will transform healthcare services for Newcastle, the greater Hunter region and northern NSW communities. The infrastructure will provide additional inpatient capacity to the John Hunter and John Hunter Children's Hospitals and create further opportunities for partnerships with industry and higher education providers.

The JHHIP will deliver an innovative and integrated precinct with industry-leading facilities working in collaboration with health, education and research partners to meet the current and future needs of the Greater Newcastle, Hunter New England and Northern NSW regions.

The John Hunter Health and Innovation Precinct Project is being planned and designed with ongoing communication and engagement with clinical staff, operational staff, the community and other key stakeholders with a strong focus on the following:

- Patient-centered care
- Contemporary models of care
- Future economic, health and innovation development opportunities
- Environmental sustainability

2.2 Subject Site

The John Hunter Health Campus (JHHC) is located on Lookout Road, Lambton Heights, within the City of Newcastle Local Government Area (LGA), approximately 8km west of the Newcastle CBD. The hospital campus is located approximately 3.5km north of Kotara railway station.

The JHHC comprises the John Hunter Hospital (JHH), John Hunter Children's Hospital (JHCH), Royal Newcastle Centre (RNC), the Rankin Park Rehabilitation Unit and the Nexus Unit (Children & Adolescent Mental Health). JHHC is a Level 6 Principal Referral and tertiary Hospital, providing the clinical hub for medical, surgical, child and maternity services within the Hunter New England Local Health District (HNELHD) and across northern NSW through established referral networks. Other services at the campus include the Hunter Medical Research Institute (HMRI), Newcastle Private Hospital and the HNELHD Headquarters.



Figure 1: Overview of Site

2.3 SSSA Proposal

Approval is being sought for a new Acute Services Building and refurbishment of existing hospital facilities at John Hunter Hospital comprising:

- Construction and operation of a new seven-storey Acute Services Building (plus 4 semi-basement levels) to provide:
 - an expanded and enhanced Emergency Department;
 - expanded and enhanced medical imaging services;
 - expanded and enhanced intensive care services - Adult, Paediatric and Neonatal;
 - expanded and enhanced Operating Theatres including Interventional Suites;
 - an expanded Clinical Sterilising Department;
 - Women's Services including Birthing Unit, Day Assessment Unit and Inpatient Units;
 - integrated flexible education and teaching spaces;
 - expanded support services;
 - associated retail spaces;
 - new rooftop helipads;
 - new semi-basement car parking;
- Refurbishment of existing buildings to provide:
 - additional Inpatient Units; and
 - expanded support services;
- A new Hospital entry canopy and works to the existing drop off;
- Link bridge to the Hunter Medical Research Institute (HMRI);
- Campus wayfinding and signage;
- Landscape works;

- Site preparation including bulk earthworks, tree removal, environmental clearing, cut and fill;
- Mines grouting remediation works;
- Construction of internal roads network and construction access roads and works to existing at-grade carparking;
- Connection to the future Newcastle Inner City Bypass; and
- Inground building services works and utility adjustments.

2.4 SEARS Table and Requirements

Item	SEARS Requirement	Relevant Sections of Report
General Requirements	Details of construction and decommissioning including timing	3.1
6.0	Assess impacts of staging where it is proposed and detail how construction works, and operations would be managed to ensure public safety and amenity on and surrounding the site.	3.1 & 4.3
16.0	Details of existing and potential air quality and odour source impacts during both construction and operation identifying mitigation measures in line with relevant guidance/standards	5.2
22.0	Details the proposed construction hours and provide details of, and justification for, instances where it is expected that works would be carried out outside standard construction hours	4.4

Table 1: Sears requirement

3. Project Phasing and Key Milestones

3.1 Proposed Phasing

The JHHIP project is proposed to be undertaken in two key project phases. Phase 1 will be delivered across two detailed packages as listed below and will enable the project to meet timelines for the ASB to be operational and provide critical health services for the region. Phase 2 completes the campus wide infrastructure setting up the delivery of the future precinct vision.

Phase 1A: Enabling Works

- Construction access roads;
- Services diversion / reticulation;
- Civil infrastructure works, including but not limited to:
 - Site Clearing;
 - Bulk Earthworks; and
 - Detention and Sedimentation Basins & controls.
- Mine Seam Injection; and
- Shoring.

Phase 1B: Main Works

- Construction of new Acute Services Building including new link connections with the existing John Hunter Hospital;
- Refurbishment of existing facility;
- Civil infrastructure works, including but not limited to;
 - Construction of Internal road network; and;
 - Works to existing at-grade car parking.
- Landscape works;
- New Hospital Entry canopy; and
- Link bridge to the HMRI.

Phase 2: North Road – East

- Civil infrastructure works to construction eastern portion of North Road including:
 - Site Clearing;
 - Bulk Earthworks; and
 - Road network.

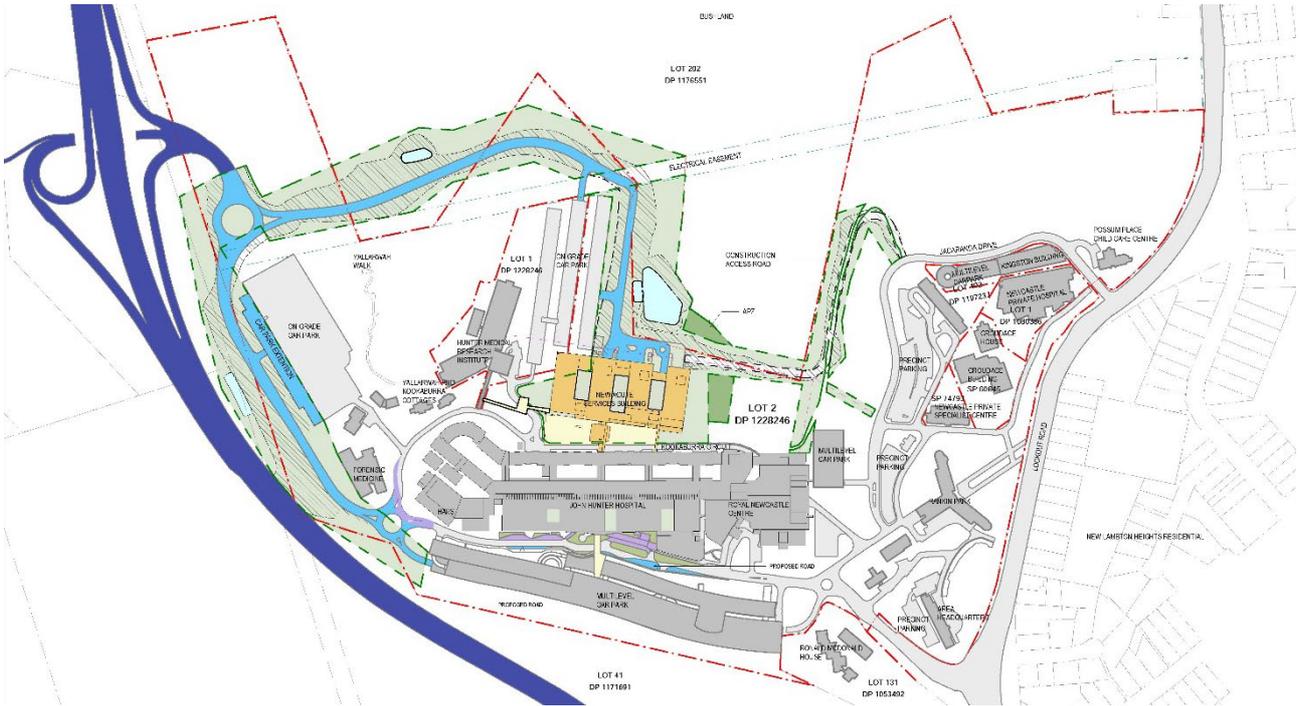


Figure 3: Project Phases 1A and 1B

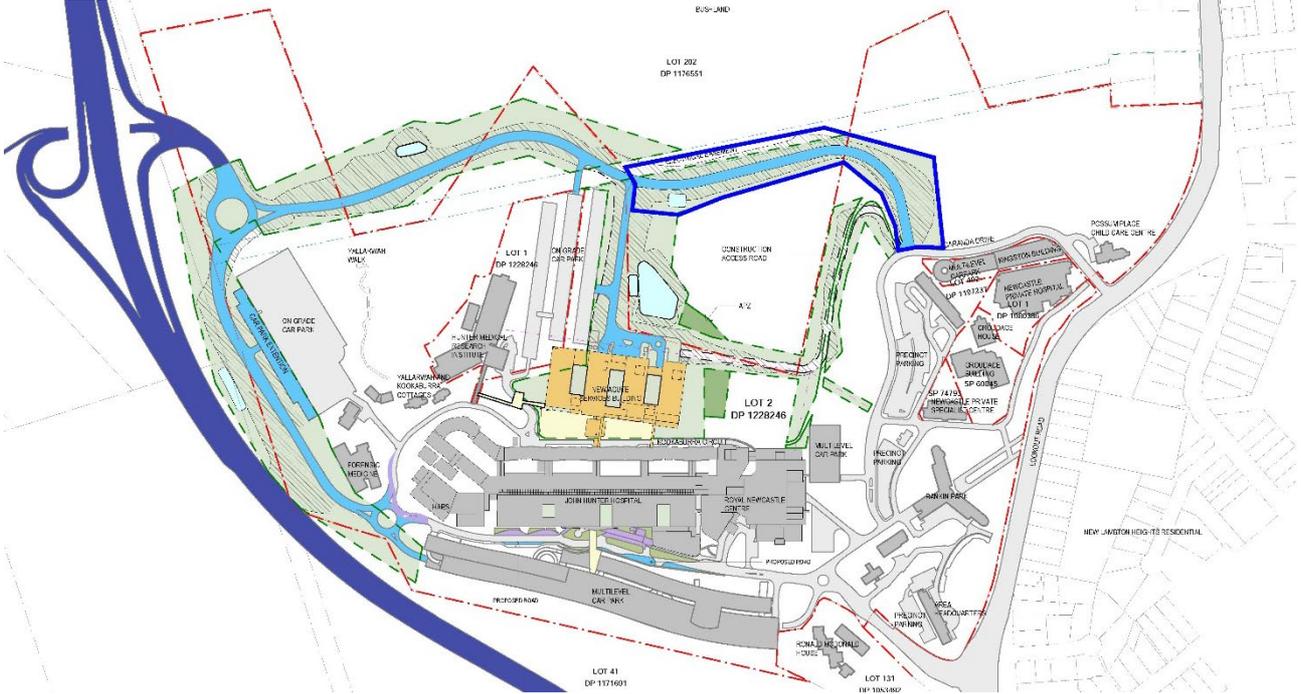


Figure 2: Project Phase 2

3.2 Key Milestones

Milestone	Indicative Commencement Date	Anticipated Completion Date
Phase 1A: Enabling Works	Q4 2021	Q3 2022
Phase 1B: Main Works	Q4 2022	Q3 2026
Phase 2: North Rd – East	TBC	TBC

Table 2: Program

4. Construction Management Plan

4.1 Identification and Management of Project Risks

Construction of the JHHIP presents several challenges that need to be delivered through a planned and structured approach. During the detailed design and pre-construction phase further analysis of the project documents will need to be undertaken including multiple site inspections to thoroughly understand and plan the project to mitigate the key risks.

An initial assessment has been carried out of such risks and include but are not limited to:

- Disruption to critical life services;
- Impact on hospital operations;
- Infection control;
- Environmental conditions; noise, dust, vibration;
- Identification of potentially hazardous materials;
- Damage to existing buildings and equipment;
- Continued compliance of existing fire zones and egress routes;
- Maintain the public's perception of a functional hospital;
- Disruption of the existing hospital car parking;
- Construction workers access and egress affecting daily hospital operations and the local road, cyclists and pedestrian network;
- Ensuring residents are well supported through appropriate management and notification of construction activities;
- Working around children;
- Unauthorised access to the construction site; and
- Additional construction traffic, construction works and associated vehicles on site.

The Contractor will be required to prepare a COVID-19 Management Plan outlining measures put in place and communication procedures to protect all members of the project team and the wider community.

The Contractor must prepare a detailed Risk Assessment during the pre-construction phase to inform the construction methodology, eliminate or manage risks appropriately and to ensure a smooth interface with the existing hospital campus.

4.2 Legislative Requirements

The Works will be undertaken in accordance with the following legislative requirements and any others that must be complied with in carrying out of the works as required:

- Protection of the Environment Operations Act and Regulations;
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA);
- Environmentally Hazardous Chemicals Act 1985;
- Environmentally Hazardous Chemicals Regulation 2017;
- Protection of the Environment Administration Act and Regulations;
- Work Health and Safety Act 2011;
- Occupational Health and Safety Regulation 2017 and relevant codes of practice and Standards;
- Australian Standard 2601-2001: Demolition of Structures;
- Code of Practice - How to Manage and Control Asbestos in the Workplace 2019;
- Code of Practice – How to Safely Remove Asbestos 2019;

- Code of Practice – How to Manage Work Health and Safety Risks 2019;
- Waste Avoidance and Resource Recovery Act 2001;
- Environmental Planning and Assessment Act 1979;
- Heritage Act 1997;
- Local Government Act 1993;
- Soil Conservation Act 1938;
- Australian Standard 4970-2009: Protection of Trees on Development Sites;
- NSW EPA, 2014 – Waste Classification Guidelines; and
- NSW EPA, 2014 – The Excavated Natural Material Order.

4.3 Operational Interface

An initial review of the construction interfaces has identified several areas requiring detailed construction methodologies to ensure business continuity is always maintained during the construction. These interfaces include:

- Augmentation of existing hospital services particularly medical gases, fire systems, Fire Hydrant etc;
- Fit out work & refurbishments within existing buildings;
- Maintaining access to critical operational facilities such as Fire Control Room, emergency departments, critical services.
- Relocation of the Main Entrance and Drop-off during construction of main entrance linkway;
- Staged handovers;
- Piling & construction works beside existing buildings in use;
- Impacts on major traffic & Pedestrian Areas;
- Impacts on parking and loading / drop-off zones; and
- Fire Egress points modified during construction.

The Contractor is to address these items within the project documentation for approval prior to commencement of the works.

4.4 Construction Interface with Newcastle Inner City Bypass

The Rankin Park to Jesmond section of the Newcastle Inner City Bypass is planned to be constructed adjacent to the JHHC by TfNSW and received approval in February 2019. It is anticipated that construction works will be undertaken in parallel with construction of the JHHIP.

Cumulative construction traffic impacts have been assessed within the Overview Construction Traffic Management Plan prepared by GTA. It is anticipated that construction activities will largely remain within the development footprint, the Contractor will be required to liaise with the TfNSW construction team to coordinate works packages and site activities adjacent to boundaries.

Working groups have been established involving representatives from HNELHD, HI and TfNSW to coordinate design and documentation of works that interface between the two sites. These groups will continue through delivery and during construction.

4.5 Construction Hours

The JHHIP working hours will be subject to SSD approval, however it is anticipated that the regular site working hours to be:

General Construction Hours	
Monday – Friday	0700 – 1800h
Saturday	0800 – 1300h
Sunday	No Works

Table 3: Construction Hours

In addition to regular working hours, the below extended hours are proposed during normal construction. Therefore, nominated extended working hours in addition to the general construction hours include the following:

Proposed Extended Construction Hours	
Monday – Friday	0600 – 0700h
Saturday	0700 – 0800h
Saturday	1300h – 1700h

Table 4: Extended Hours

The works are critical public infrastructure being delivered to provide essential health services to Greater Newcastle, Hunter New England and Northern NSW communities. Extended construction hours are needed in order to:

- Reduce the length of the project in order to meet the critical project delivery timeframes driven by:
 - The need to provide clinical services to meet the significant forecast population growth, ageing population and Socio-economic status of residents within the JHHIP’s tertiary catchment;
 - The need to replace current infrastructure to provide contemporary patient centred models of care in the delivery of Level 6 tertiary services;
 - Significant increased demand for acute, sub-acute and ambulatory health services.
- Construction vehicles to avoid peak road network times and shift changeover times to reduce the impact on the surrounding road network;
- Minimise the impact on hospital operations during core business hours such as planned surgery and outpatient clinics.

The impacts of the extended hours have been considered and justified within the Noise and Vibration Impact Assessment, which notes that given the remote location of the development and absence of residential areas immediately adjacent, there is minimal additional acoustic impact. These drivers strongly support the requirement for extended construction hours. All traffic impacts are further considered in the traffic reports and support the above working hours.

4.6 Worker Numbers, Transportation and Parking

The numbers of construction personnel onsite will fluctuate dependant on the stage of the works. At present the peak personnel per day is unknown. The Contractor will be required to undertake an analysis of the required workforce in accordance with the noise, traffic and physical distancing requirements at all stages of construction, this will be incorporated within the CMP. The Contractor will be encouraged to implement an off-site park and ride service

offering to minimise impacts on current parking and traffic movements around the campus.

Workers arriving to JHHIP site would also be encouraged to utilise public transport where possible.

Minimal and temporary car parking within the construction compound may be explored by the Contractor. Construction Workers are not to park within the JHHC site or associated road network.

4.7 Construction Site Access

One of the key requirements will be managing the flow of materials and equipment into and out of the construction site with as little impact on the existing hospital operations and minimising further congestion on the neighbouring roads. The Contractors planning is to consider:

- The maintenance of pedestrian and traffic flows on the surrounding roads and footpath's;
- The unimpeded continued use of existing vehicular and pedestrian entry and exit points as far as possible to the John Hunter Hospital campus; and
- 24-hour access to the ambulance drop off area.

An Overview Construction Traffic Management Plans has been developed by the Traffic and Transport Consultant, with a view that a detailed Traffic and Pedestrian Management Plan shall be prepared by the Contractor for each phase of the project during its start-up/ planning phase to ensure coordination between the sites and the Hospitals operations. The Contractor will be required to ensure the majority of construction deliveries will be outside peak times wherever possible to reduce impact on the surrounding road network.

Construction traffic access to the site is described in Figure 3 and Figure 4. During Phases 1A and 1B, it is intended for construction vehicle access to utilise Jacaranda Drive intersection for construction access during the works. An upgrade to the existing fire trail will be used as a dedicated access to the main site compound location of the ASB. An additional site compound access is also proposed to the south-west compound, utilising the existing fire trail to the south of the existing multi-deck carpark. During Phase 2, access to the site compound will also be provided via Jacaranda Drive, utilising the Lookout Rd intersection.

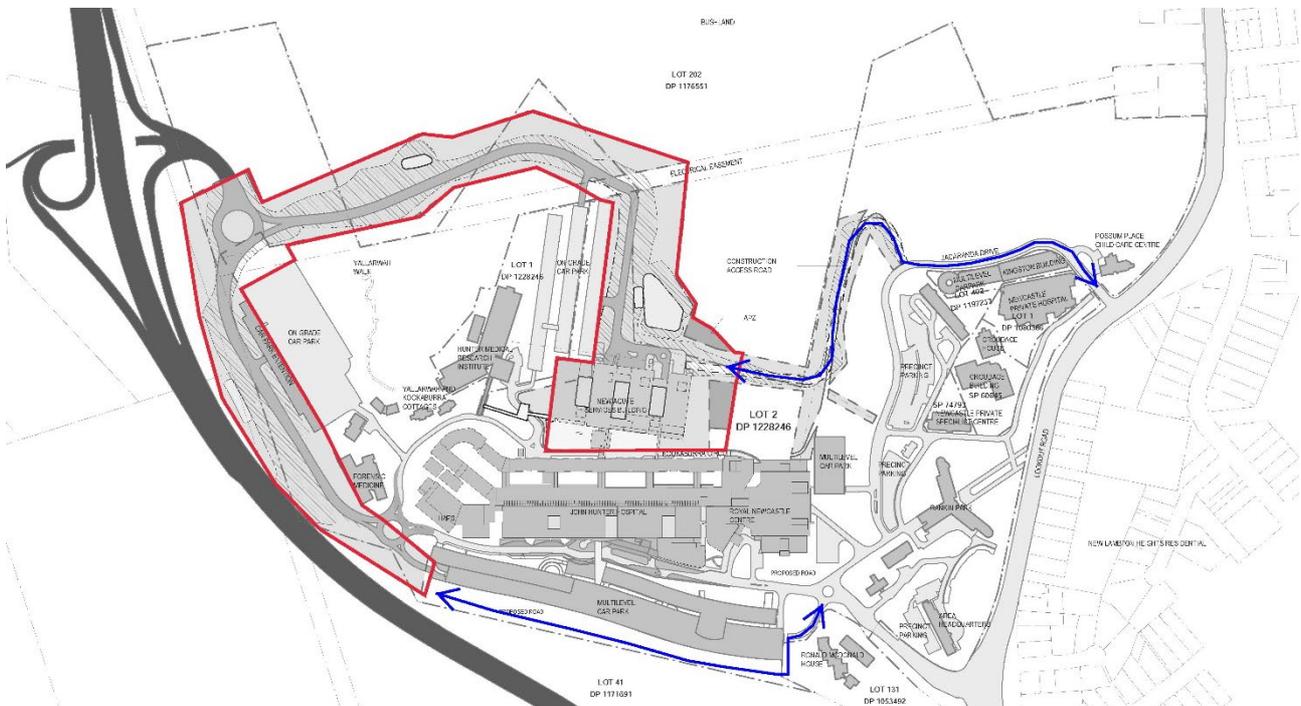


Figure 4: Site Compound & Construction Access - Phases 1A and 1B

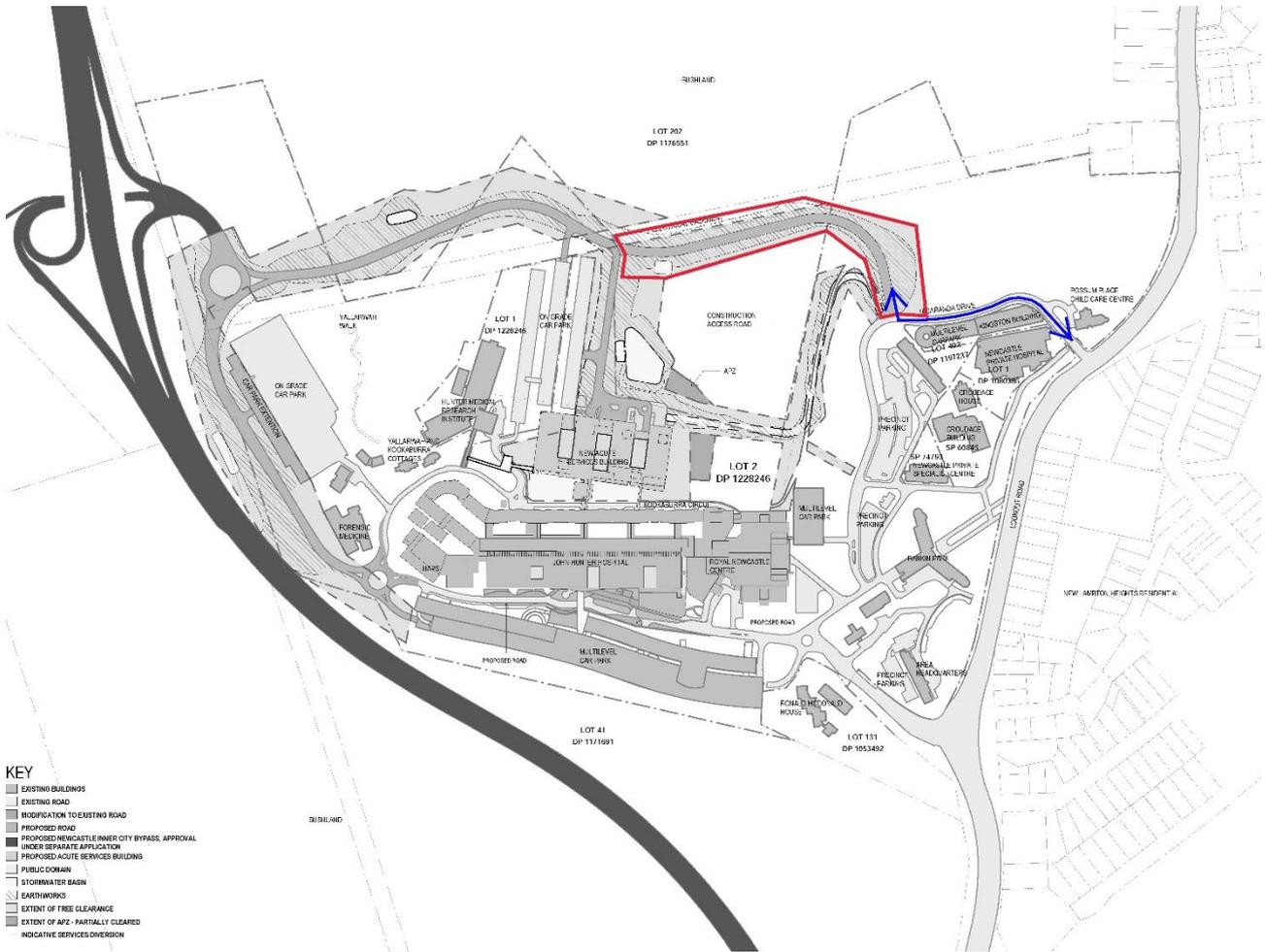


Figure 5: Site Compound & Construction Access - Phase 2

5. Environment and Amenity

A detailed Environmental Management Plan (EMP) must be prepared by the Contractor(s) in consultation with HI, HNELHD and any other stakeholders prior to commencing any packages of work on the project. The following Environmental factors are vital to the success of the project and accordingly preliminary strategies have been addressed in this PCMP:

- Noise and vibration;
- Air quality;
- Sediment control;
- Protection of trees; and
- Waste and recycling.

5.1 Noise and Vibration

A Preliminary Construction Noise and Vibration Assessment (PCNVA) has been undertaken by the Acoustic Consultant. The Contractor shall engage with an acoustic consultant prior to the construction works to provide detailed advice and practical methodologies in the form of a Construction Noise and Vibration Management Plan (CNVMP) in order to manage the potential noise and vibration issues with the adjacent sensitive receivers.

The CNVMP, will detail the criteria and protocols for vibration and noise protocols to the surrounding properties. The sensitive receivers identified in the PCNVA above ground in relation to noise and vibration are:

- John Hunter Hospital;
- Neighbouring business facilities;
- Neighbouring Private Hospital;
- Neighbouring residential properties; and
- Neighbouring day care facilities.

The plan shall look to introduce measures such as:

- The necessary vibration monitoring and back to base alarm monitoring to ensure the nominated accepted level stipulated by the HNELHD and associated buildings is not breached.
- Positioning major plant away from sensitive receiver boundaries as much as possible. Where possible concrete pumping zones, crange, and loading zones are to be positioned away from operational existing facilities. Where applicable treating plant with mufflers and noise mitigating filters.
- A management plan shall be developed for all noise generating activities, as outlined in the noise and vibration report, required to be undertaken close to existing buildings, particularly those housing sensitive equipment.

In addition to specific mitigation measures (where required) as detailed within the PCNVA such as:

- Scheduling of noisy activities to less sensitive times of the day;
- Including Respite Periods;
- Temporary screening for noisy equipment;
- Solid screening and hoarding;
- Modifications to methods of excavation and construction (where necessary).

In addition, vibration sensitive equipment must also be protected during the works, particularly where operating near operational facilities. The Contractor must identify noisy works, in particular those which directly interface with existing buildings where strategies will be implemented to minimise disturbance to sensitive receivers within the hospital.

5.2 Dust, Erosion and Sedimentation Control

One of the key objectives for the project will be to implement appropriate controls to suppress dust and other suspended particles in accordance with legislation and risk management requirements minimising the generation of dust on the site and potential emission issues relating to plant and equipment. Accordingly, an Air Quality Management Plan (AQMP) is to be prepared by the Contractor and included within the project EH&S Management Plan outlining a clear strategy for maintaining air quality. This AQMP should include as a minimum;

- Clear definition of trafficable and material storage areas to prevent unnecessary vehicle movement into other areas;
- Use of water carts to dampen work areas and exposed soils to prevent the emission of excessive dust;
- Installation of a wheel shaker grid and/or wash down facilities at the vehicle egress point;
- Ensuring trucks transporting materials to and from the site use covers to prevent windblown dust or spillage;
- Ensuring truck tailgate locking mechanisms are operational and in use;
- Periodic inspection of surrounding roads to ensure no construction contamination and initiation of road sweeping if required;
- Careful selection of materials for temporary road surfacing;
- Aspergillus control during construction works within existing buildings;
- Subcontractors to maintain equipment / machinery to ensure exhaust emissions comply with relevant legislation and guidelines;
- All waste material to be sorted, collected and removed from site (for recycling where possible);
- Air quality monitoring;
- Dust screens and airlocks to be utilised with interior works;
- Provide construction filters to air intake vents; and
- Use of temporary exhaust fans and filters to circulate construction zone air to the exterior of building.

Dust Management

The Contractor will be required to instigate Mitigation measures to minimise or reduce dust generation during site activities. The Contractor will abide by the Dust Management strategies detailed within the Civil and Structural Report. These include (but not limited to):

- Program works around periods of significant and adverse meteorological conditions.
- Install wind fences around stockpiles with a significant amount of fine particulates.
- Maintain vegetation across the site where possible, otherwise establish vegetation or seal disturbed site areas as soon as practical.

Provide water trucks or sprinkling devices during construction as required to suppress dust, specifically for site vehicular traffic or dumping and filling operations. The Contractors Environmental Management Plan shall address the progressive cleaning and final clean of the project prior to handover of the works. As a minimum the final clean strategy should reflect the following for clinical area of the building:

- The Contractor shall ensure that an initial builder's clean is undertaken progressively as areas are completed and locked off. This must be completed prior to testing of any mechanical duct work to avoid intrusion of dust into the Heating, Ventilation, and Air Conditioning (HVAC) system.
- The final defect rectifications will commence with the removal of all protection and general construction dirt and dust from the building;
- Then, shortly before handover and in parallel with final testing and commissioning of the building, a final clean shall commence and work progressively through the levels;
- External façades and roof area to be cleaned, and
- Common areas, entrances and construction worker thoroughfares being the final areas to be cleaned.

Soil and Water Management

The Contractors EMP shall detail the necessary erosion and sediment control measures that they propose for the respective package of the project. Upon commencement of the works the Contractor shall establish the necessary sediment and erosion controls for the respective package on the project and maintain these measures throughout the project. The Contractor will abide by the Soil and Water Management strategies detailed within the Civil and Structural Report. These include (but not limited to):

- Install sediment protection filters on all new and existing stormwater inlet pits
- All stormwater devices in the designated route of vehicular access shall be protected from damage and all damage to stormwater devices during the works shall be repaired or replaced immediately, or prior to the completion of works.
- Install a 'rumble strip' or 'shakedown' at all vehicle exit points
- Keep a detailed written record of all erosion and sediment controls on site during the construction period.
- Flocculate, settle and discharge stored water from the temporary sediment ponds.

5.3 Tree Protection

The Contractor will be required to develop a tree protection plan in accordance with the arboreal assessment. Specific tree protection measures will be required to be implemented when works are within Tree Protections Zones for the works.

5.4 Hazardous Materials and Dangerous Goods

Hazardous Materials and Dangerous goods will be stored in a lockable compound with ventilation in accordance with relevant codes of practice and standards. Material safety data sheets on all flammable and potentially harmful liquids will be maintained by the contractors.

6. Waste Management

The Contractors Waste Management Plan shall address waste management and recycling targets in accordance with the Preliminary Waste Management Plan that sets the framework for managing construction waste using the principles of Reduce, Reuse, Recycle, Treat and Dispose. The Contractor shall monitor and report monthly on the recycling outputs confirming whether the targets are being achieved.

The Contractor shall ensure that the supply chain is responsible and accountable for maintaining a clean, clear and safe working environment. Rubbish bins should be provided to all work areas and be regularly removed to the central skip bin location for collection and transport from site to a waste recycle facility.

Waste will be segregated on site where possible. Waste that cannot be recycled and/or reused will be disposed off-site at a licensed waste management centre. All vehicles transporting waste will have covered loads. Auditable records are to be kept of quantities of all materials both recycled and disposed as landfill. To ensure the JHHIP project meets its sustainability targets, waste management reports will show monthly and cumulative performance.

7. Service Disconnections / Disruptions

It is imperative that key building services be uninterrupted when constructing within an operational hospital environment. No services affecting the project are to be shut down without the prior written permission via a Disruptive Works Notice procedure. All services are to be treated with lock-out / tag-out procedures. For all services requiring modification as part of the Contractors scope of works, the Contractor shall ensure that approval is obtained

prior to commencement.

Any modifications affecting other sections of the live operating hospital must be agreed prior to the works to ensure the timing is acceptable. Services shutdowns and cutovers must be programmed to occur at appropriate times to address all risks associated with the activity.

The Contractor shall consider appointing a Permit Controller as part of their team who will be the central controller of all services related permits.

Best for Project

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hello@tsamgt.com | tsamgt.com

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