RANDWICK CAMPUS REDEVELOPMENT

CONSTRUCTION MANAGEMENT PLAN

INTEGRATED ASB ADDITION

AUGUST 2019

NSW GOVERNMENT Health Infrastructure

Randwick City Council
a sense of community

lendlease

CONSTRUCTION MANAGEMENT PLAN

INTEGRATED ASB ADDITION

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1.0 INTRODUCTION

The Randwick Campus Redevelopment Acute Service Building (RCR-ASB) is a highly complex project with critical early milestone components that must be delivered on time. The objective of this Construction Management Plan (CMP) is to ensure that the IASB Addition (the Project) is safely delivered using a robust set of methodologies and zero unplanned disruption to hospital services.

The IASB Addition includes the lowering of Hospital Road, and construction of the UNSW Eastern Extension (Base Building only) and associated Link bridges. These works will occur concurrently to the ASB construction.

The Lendlease construction management processes will provide:

- Seamless performance and accountability from a single responsible entity;
- The works will be managed by a single proven responsible entity; and
- a mechanism to reduce risks during project delivery.

Lendlease has produced this CMP as the contractor responsible for the delivery of the project. It is envisaged that this CMP will evolve during the course of the Project as the design develops in conjunction with the design consultant team, project stakeholders, Health Infrastructure (HI) South East Sydney Local Health District (SESLHD) and Pricewaterhouse Coopers (PWC).

In the following sections, we have set out how we intend on managing the Project and activities associated with the RCR.

The CMP also defines the impacts of the proposed construction activities on areas within the RCR site and hospital campus the Prince of Wales (POW) Hospitals Campus (Campus). This plan will outline the proposed mitigation strategies to be implemented during the relevant construction activities and outlines contingency measures that will be enacted to minimise any potential risk to HI, SESLHD, its community partners and stakeholders.

Our proactive and collaborative approach to our client NSW Health Infrastructure is underpinned by the following overriding and non-negotiable objectives:

- Maintain business continuity of the campus and adjoining facilities and properties;
- To deliver a world class facility for our client on time to the highest safety and quality standards;
- Safe and timely delivery of the Integrated ASB Addition, enabling construction of the RCR;
- Communicate in a timely fashion with all relevant stakeholders what, when and how we are planning to undertake interface works;
- Present a positive public perception of the project during the construction works;
- Use experienced and qualified subcontractors with appropriate resources to deliver their works in the manner we prescribe; and
- Hands on control of subcontractors from experienced Lendlease site supervision.

HI will have four key outcomes from the Lendlease CMP:

CERTAINTY

- Robust management processes across all areas of the business
- Demonstrated and strong delivery experience

PARTNERSHIP

- Transparency of management processes
- Shared responsibilities applied to the project team
- Collaboration with Client and contractor market

CAPABILITY

- Extensive industry experience of the project leadership in delivery

COMPLIANCE

- Processes that meet Health Infrastructure, industry and company certification requirements
- Superior QA performance

2.0 STAGING AND BUSINESS CONTINUITY

2.1 RANDWICK HOSPITALS' CAMPUS HEALTH SERVICE CONTINUITY

Proposed methodology for working within an operational hospital environment and maintaining pedestrian traffic and vehicular traffic to entries;

2.1.1 Working within the operational hospital environment

The Lendlease project team understands the challenging nature of the RCR and the constraints of managing major construction works adjacent and within an operational hospital environment and the non-negotiable requirement of no disruptions to hospital 'business continuity'.

Works areas

The first strategic approach from the site team in addressing live environment works is elimination. This means isolating work areas from operational hospital areas prior to any works being commenced and eliminating a works/hospital operations interface.

This will be the case for the major works to the following areas:

- The identified demolition area will be enclosed by A Class hoardings and will be secured to ensure no unauthorised access. The A Class hoarding will be maintained for the construction of the new ASB; and
- During the Project works to ensure overhead protection for pedestrians is maintained a class "B" hoarding will be installed along sections of Hospital Road.

When elimination is not feasible, the second approach is to fully isolate the work area through secure hoardings prior to commencing any works and to provide controlled work access through the operational environment. This will be applicable to:

- Services connections to existing infrastructure that are required.

Along with significant works interfaces noted above there will also be planned investigative works, access to plant rooms, minor temporary works and installation of protective measures which will require process and controls to ensure full visibility of all subcontractors for these types of activities. Lendlease will impose a strict regime of consultation on all works outside the site perimeters, regardless of the nature of the intended works.

The Disruption Works Notice process will be followed here. This includes all workers to firstly complete the required hospital worker induction and secondly, Lendlease will institute a 'Permit to Work' process for all works outside of the secured site areas.

The permit system puts hold-points in place, which have to be signed-off prior to permit issue. If workers are found to be working without permits, they will be removed from the Project. The hold points for the 'Permit to Work in the Hospital Area' will be the same as those for the Disruption Works Notice, to ensure a consistent level of compliance from the subcontractors.

Lendlease have identified a 4 step process that we will undertake to ensure that the design and construction methodology mitigates the construction risks inherent in conducting site works within a live Health Campus (refer Figure 1). The planning for health service continuity and risk management 4 step process will underpin all stages of the RCR-ASB project and will be used as the guiding principle for how construction will be undertaken around the campus.

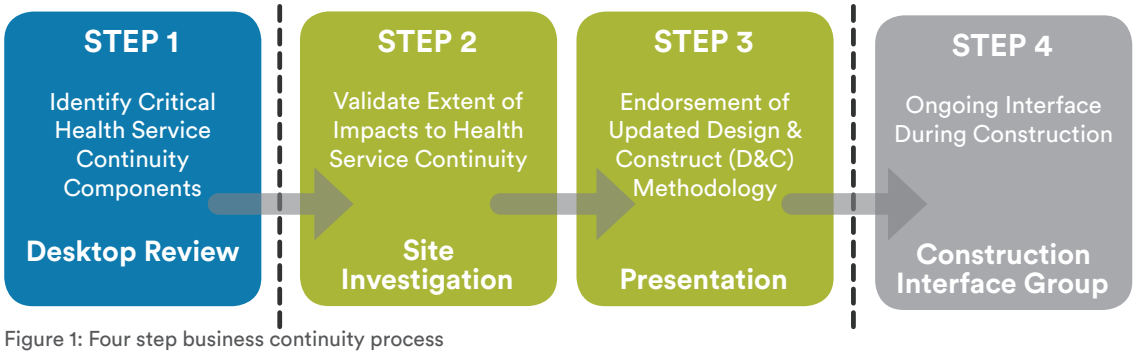


Figure 1: Four step business continuity process

Step 1 has been undertaken during the planning phase by Lendlease and will heavily influence initial construction methodology planning. Examples include but not limited to the following:

Program and staging:

- Analysis of disruptive works staging in the most efficient manner to minimise disruption to the Campus stakeholders; and
- Sequencing construction to ensure handover of completed spaces to the RCR at the best and earliest opportunity.

Site establishment:

- Efficient use of existing redundant facilities and space available for site establishment to minimise space taken by the construction site;
- Off Campus solutions to construction car parking to ensure no disruption to car parking within the precinct; and
- Planning for construction access in controlled zones.

Construction interfaces:

- Strictly controlling where construction will interface with the Hospital nearby residential dwellings or public;
- Implementing airtight, acoustically treated hoardings for all existing building connections to minimise Infection Control risks and reduce construction noise impacts to nearby existing buildings;
- Ensuring sight lines from the construction site are managed so that patient and residential privacy in adjacent buildings are maintained;
- Developing a web based Disruptive Works Notice (LiveOps) system to identify, document and communicate disruptions to stakeholders in a timely, interactive and transparent manner;
- Separation of the construction workers from staff, public and patients by providing discrete site accommodation and amenities within the construction boundaries; and
- Using low impact construction methods to ensure noise and vibration doesn't impact the daily operations of the Hospital and nearby residential properties.

Lendlease will follow steps 2 and 3 to validate these assumptions and further develop them ready for the construction phase.

Step 4 implements ongoing risk assessment, mitigations and controls that have been established through Steps 1-3 and the continual monitoring of changing conditions that may affect our design and construction methodology. Strategies to support Randwick business continuity include but not limited to:

- Regular construction risk assessment using the Interface Strategy principles to identify areas of and manage potential interface risks that may affect the Campus business continuity;
- Utilising the Disruptive Works Notification (LiveOps) process to identify, manage, communicate and collaborate on works that affect the existing Hospital facility in a clear and transparent way;
- Undertake a holistic integrated system testing and commissioning process;
- Undertaking an efficient, transparent Completion and Validation processes in collaboration with the SESLHD and principal representatives to ensure that the completed product is seamlessly transitioned into a live hospital environment; and
- Community notices / updates.

3.0 RISK AND HAZARD MANAGEMENT

3.1 IDENTIFICATION AND MANAGEMENT OF KEY PROJECT RISKS

Identify the key issues and risks for the Project and provide your proposed approach to management and mitigation of these issues and risks

The RCR presents a number of challenges that need to be delivered through a planned and structured approach.

Prior to commencing construction activities an extensive analysis of the project documents will be undertaken including multiple site inspections to thoroughly understand and plan the Project based on our awareness of the key risks. Within this section an initial assessment of such risks and the proven construction delivery techniques adopted for the project are outlined/ described/ documented.

The key objective is to cause "zero unplanned disruptions" during delivery of the works.

To achieve this objective Lendlease propose using a risk identification strategy built around the key interface points between the construction and the operational Health Precinct. This Interface Strategy will be critical in risk identification and will be used to influence design decisions and dictate construction methodology.

The following provides an initial assessment of the key interface risks and mitigations associated with the Lowering of Hospital Road and UNSW Eastern Extension (Base Building only) associated with the RCR. These will be developed in meticulous detail during the planning phase to inform the design and construction methodology, eliminate or manage risks appropriately and to ensure a smooth interface with the existing Campus.

Approach to Risk Management			
Risk, major issues and interface type	**Details**	**Mitigation**	**Benefit**
Maintain the public's perception of 'business as usual' for the Randwick Hospitals' Campus	Understand the implications of construction staging on the hospital's operational drivers and the potential impacts.	Review the construction staging with the hospital to ensure the full understanding and acceptance of the proposals: timing/duration, construction impacts, power tools, noise, temporary partitions and access routes etc. All workers will be made aware of their responsibilities towards understanding what constitutes disruptive works and to understand the time frames associated with preparing to carry out any such works.	Minimise impacts of disruption to the hospital's daily activities wherever possible. Separation of construction and Hospital/public. Workers to be constantly reminded of the consider rephrasing -eg special considerations of patients and other hospital users.

Approach to Risk Management			
Risk, major issues and interface type	**Details**	**Mitigation**	**Benefit**
Working adjacent Royal Hospital for Women (RHW)	Construction works will take place adjacent to existing RHW facilities with potential disruption to services.	Privacy screens will be erected to remove direct sightlines from the RHW into the site. Workers will be made aware of patient privacy within the RHW bedrooms. No unauthorised removal of privacy screens erected on scaffold to prevent direct sightline within wards from the site. Where there are potential disruptions, extensive planning and consultation will be undertaken prior to commencement of disruptive works.	Increased patient privacy to improve wellbeing. Separation of staff and patients from construction. Workers are cognisant of patient/user privacy and safety.
Construction Workers access and egress affecting daily Hospital operations	Construction works should cause the least amount of disruption possible for staff and patients.	Access to and from site will be defined and out of bounds areas clarified for workers. The induction will focus on the amenities planned for within the construction site boundary which include lunch facilities with a selection of food outlets designed to offer choices to workers to limit their need to exit site at meal times.	Reduced congestion of public areas through separate access routes and social areas. Workers are cognisant of patient/user privacy and safety.
Working around children	With construction in close proximity to the existing Children's Hospital, workers will need to be aware of working around children.	All workers will be made aware of their responsibilities towards working adjacent to facilities with children. Any workers involved with direct works inside identified areas will be required to undergo a 'working with children check'.	Children, their carers, and the staff in the Sydney Children's Hospital are reassured that the increased activity will not have negative impacts on young patients, and that workers are sensitive to their responsibilities around children. Separation of staff and patients from construction. Workers are cognisant of patient/user privacy and safety.
Disruption to critical life services	Disruption to critical life services for tie-in's between new and existing.	Clear identification of critical building services. Any construction works which could impact these services only to proceed once full work plans and contingency plans are in place and signed off by all parties.	Zero unplanned disruptions to existing facility and critical services.
Disruption to Light Rail Operations	Work in close proximity to energised wires and adjacent work zones.	Clear communication and planing protocols to be set-up and managed to ensure a successful project outcome.	Nil disruption to Light Rail external operations and the demolition phase can stay on program.

Approach to Risk Management			
Risk, major issues and interface type	**Details**	**Mitigation**	**Benefit**
Disruption of the existing hospital pedestrian and vehicle access	Lendlease will provide a controlled intersection with mechanical traffic lights at the top and base of delivery drive. Lendlease will have attendance on site to ensure that the delivery drive is kept open and safe. When the delivery drive is closed to perform high risk works the Lendlease site attendance will ensure the delivery drive is safe.	The Project works will be programmed with a full temporary traffic management system to be established and coordinated with the hospital stakeholders prior to the commencement of construction. Traffic controller management of the entry and exit to existing Hospital Loading Dock. Traffic flow will be assisted and priority given to ambulance services and key hospital deliveries. In consultation with the Principal and Randwick City Council, identify proposed construction vehicular traffic movements and routes. Prepare and agree a detailed traffic management plan that will be implemented on the Project.	Pedestrian safety with logical wayfinding routes Controlled traffic management Minimises interface between construction and the Health precinct.
Vehicle parking	The commencement of the construction works for the early and main works contracts will see an influx of subcontractor workforce to the Precinct.	We will actively encourage the construction workers to use public transport to commute to and from the site, we do expect that some additional vehicles will be attempting to park near site. We will review opportunity for supplementary offsite parking to alleviate existing parking pressures onsite.	Minimises interface between construction and the Health precinct. Maintains existing carpark numbers for staff, patients and public
Impact on hospital operations	Minimising loss of amenity for patients and staff during construction, in particular the interface works at the existing facades and refurbishment works adjacent to occupied areas.	Throughout the interface works we expect there will be a need for impact drilling for structural connections and the like. Lendlease will plan and sequence these works to occur at specific agreed times to allow as much respite time as possible, in addition the utilisation of low frequency low impact tools and equipment will be implemented where possible. Core drilling will be utilised as an alternative where practical.	Continuation of regular hospital activities with minimal disruption to staff and patients. Minimises noise, dust and vibration effect on the operational Hospital.
Disruption to nearby residential and business properties	Minimising loss of amenity for nearby residential and business properties during construction, in particular the interface works at the existing facades and refurbishment works adjacent to occupied areas.	Noise, dust and vibration monitoring proactive notification of disruptive works selection of low impact equipment where possible maintenance of public safety.	Minimise noise, dust and vibration impacts on nearby dwellings.

Approach to Risk Management			
Risk, major issues and interface type	**Details**	**Mitigation**	**Benefit**
Infection control	A major issue whilst undertaking construction work on an operational campus.	Provision of acoustic and dust proof hoardings providing construction containment, the provision of localised dust monitoring, maintenance of negative pressure areas plus the use of air pressure sampling to ensure our construction containment regimes are working. The project specific Infection Control Plan is developed prior to commencing the construction works. In preparing this plan Lendlease will make reference to the 'Infection Control Principles for the Management of Construction, Renovation, Repairs and Maintenance within Healthcare Facilities. The plan will identify the different types and locations of works planned on the RCR and specify the level of infection control required for each type of activity. Identification of existing hospital air intakes and review to determine if additional filtration is required.	Elimination of negative impacts on staff and patients' health and wellbeing. Preventing dust from entering a clean Hospital environment with ongoing monitoring to ensure adherence to this policy. Minimises noise and vibration effect on the operational Hospital
Environmental Conditions	The site area will require careful management of site run-off.	Early Works Perimeter protections to be investigated during the ECI Planning period.	Minimises negative impact of construction to surrounding precinct and green zones.
Removal of potentially hazardous materials	Removal and disposal of potentially hazardous or contaminated materials and substances.	Clearly communicate our methodologies to the hospital and liaise with all stakeholders to ensure visibility and understanding of the processes.	Containment of potentially hazardous materials in a controlled manner.
Continued compliance of existing fire zones	Fire zones and egress paths are to be maintained.	Maintain all required egress paths in coordination with the authorities. Maintain smoke extraction and relief air supply through the main entry doors. Undertake works in consultation with the Fire Engineer, Principal Certifying Authority and HI NSW.	Clear communication of emergency egress for public and Hospital users.
Unauthorised access to the Construction Site	Prevent unauthorised access.	A solid 2.4m "A" class hoarding wall to be installed. Where applicable a Class "B" hoarding will need to be installed.	Provision of a safe site environment

A detailed risk analysis and refinement of the associated mitigation strategies will be further progressed during the design phase.

3.2 MANAGING RISKS WITHIN AN OPERATIONAL HOSPITAL ENVIRONMENT

Proposed methodology for managing risks within a live hospital environment

Lendlease is aware of the challenging nature of the Project works being located in close proximity to the existing Campus. The project has critical construction and services interfaces and non-negotiable stakeholder requirements to ensure operational continuity is maintained.

During the design stage Lendlease will work in a collaborative manner with PWC to develop our stakeholder communication structure and to address all stakeholder requirements and concerns.

Through this open partnership collaboration process we will develop solutions that have stakeholder buy-in and document an agreed plan to manage construction delivery through to the completion of the works.

The activities below have the potential to significantly impact on the operation of the hospital, the wider Precinct and adjoining business and residences, if not managed effectively and communicated proactively with stakeholders:

- Access and traffic management;
- Planning and management of any major shutdowns;
- Minimising and controlling disruptions;
- Protection of existing hospital assets;
- Maintenance of existing patient and staff privacy and security;
- Emergency after-hours call-out;
- Hazardous material identification and removal;
- Noise, dust and vibration control; and
- Out of hours work.

Lendlease will prepare the following Management Plans to develop clear and concise communication channels for each area of interface works and support the ongoing operation of the hospital:

- Stakeholder Management Plan;
- Risk Management Plan;
- Helicopter Management Plan;
- Disruptive Works Notification Procedure; and
- Environmental, Health and Safety (EH&S) Management Plan.

Our integrated Environmental, Health and Safety Management Plan will identify all EH&S risks associated with stakeholders including and not limited to members of the public, Campus staff, patients, and workers on site. The sub plans below will be developed in collaboration with the relevant stakeholders during the pre-construction phase:

- Traffic and Pedestrian Management Plan;
- Noise and Vibration Management Plan;
- Dust Management Plan;
- Stormwater Management Plan;
- Waste Management Plan;
- Incident Management Plan;
- Emergency Response Plan;
- Crisis Management Plan;
- Hazardous Materials Management Plan; and
- Workplace Relations Management Plan.

3.3 KEY RANDWICK CAMPUS REDEVELOPMENT CONSTRUCTION INTERFACE OVERVIEW

Lendlease has reviewed the construction interfaces and have identified several requiring a detailed construction methodology to ensure Randwick Hospital business continuity is maintained at all times during the construction of the below areas:

3.3.1 Hazardous material

Proposed methodology for removal of hazardous materials (if encountered)

When developing a general approach to managing hazardous and unexpected finds, the starting point for Lendlease will be the existing Report on Detailed Site Contamination (Douglas Partners – February 2019).

Ongoing investigations will inform Lendlease's executive safety team and the Remediation Action Plan (RAP) (Douglas Partners) will be implemented throughout construction/delivery of the RCR.

The primary areas and types of hazardous materials likely to be encountered include but are not limited to:

- ACM (Asbestos Containing Material) material encountered in the demolition of the existing road and in-ground services (insulation);
- Contaminated fill material within early and enabling works foot print;
- Lead paint that may have been used on some of the residential buildings which previously existed on the site residential buildings; and
- Potential biological hazards to the sewers and drainage of the existing buildings which have housed clinical service departments presently or historically (e.g pathology).

Lendlease is well equipped to co-ordinate and manage the safe removal of hazardous materials and understand how to appropriately manage risk associated with transporting hazardous materials within a live operational hospital campus and adjacent residential properties. Accordingly, Lendlease has developed a site-specific methodology for removal of hazardous waste to ensure that waste is disposed of correctly and efficiently including:

- Review and revision of the Asbestos Management Plan and Register, the Remedial Work Plan (RWP) and continual validation of the material data that has been captured to date;
- Ensure the Asbestos Remediation Contractor is appropriately licensed and the chain of custody is documented with the landfill facility to ensure the asbestos is appropriately and lawfully disposed of;
- Review all site occupational and environmental management and monitoring programmes;
- Review and revision of communications and Industrial Relations strategies; and
- RAP Validation process to be implemented throughout the works.

Of major importance in managing the removal of hazardous materials is communicating the works activity to the stakeholders.

This is compounded for projects located adjacent public health facilities due to perceived potential public health risks. To this end appropriate and responsive communication protocols will be addressed in the Stakeholder Communication Plan which will be activated immediately upon any unexpected finds are encountered.

Lendlease has allowed additional provisions to provide transparency to stakeholders and additional assurance for the successful implementation of the methodology above during the process of removing contaminated waste. Remediation progress, health and environmental monitoring results are components of the stakeholder manager's communication updates to site workers and stakeholders.

4.0 DESIGN FINALISATION AND SUBCONTRACTOR ENGAGEMENT

4.1 SUBCONTRACTOR PROCUREMENT AND ENGAGEMENT

Proposed methodology for the staged engagement of subcontractors.

The technical complexity, construction challenges and quality requirements of the RCR project dictate that the selection of the appropriate subcontractors will be critical in meeting the demands of the Project. Lendlease will ensure that there is a flexibility and redundancy in the supply chain procurement in the way in which the work activity packages are established from an overarching scope of works and risk management perspective.

Lendlease will recommend subcontractors and supply chain partners that have a proven track record on complex healthcare projects and highly complex interface projects.

Our procurement strategy and associated program is derived from lead times determined from the overall construction program.

4.1.1 Subcontractor inductions and pre-commencement meetings

Lendlease will hold multiple meetings and briefings with the supply chain for both consultants and subcontractors. This will aid in the selection of the most appropriate preferred tenderers to carry out the works. The nature of the meetings is to ensure that each contractor understands the environment in which the construction works will be carried out and the responsibilities that comes with undertaking such works.

Following award, we will carry out formal pre-commencement meetings prior to executing subcontracts. These meetings will finalise discussions on:

- Working within the live Randwick health precinct;
- Working adjacent to residential and business properties;
- Delivery certainty;
- Subcontractor executive required involvement;
- Infection control;
- Site access and delivery requirements;
- Aboriginal participation and training targets:
- Trade specific interface and coordination issues from day one; and
- Worker car parking, site access and induction detail.

4.2 INDUCTIONS

The Lendlease induction will be specifically tailored to inform workers of their obligations working within a live health environment for the RCR. The content of the induction will be reviewed with HI, SESLHD and PWC teams to ensure the strategies imposed by Lendlease are aligned with the requirements of the Campus.

The project induction will train new workers on project specific safety and emergency procedures, however, the key focus will include interface controls, including:

- **Working in a live environment:** The construction methodology has been designed around maintaining business continuity for the Campus. This is key to a successful project and will be the underlying theme of the induction procedure for every worker on site;
- **Infection control:** Content within the induction will focus on the importance of infection control and the risk to the existing Hospital from construction works. It will also focus on work methodologies and quality procedures to ensure the end product delivered to the client has been constructed in accordance with the documentation and without risk of infection to end users;

- **Access within Existing Hospital:** We will provide clarity regarding no access into existing Hospital areas. There will be clear 'no-go' zones identified including the travel path for all emergency vehicles to and from the Hospital;
- **Separation of Construction Works from Hospital Operations:** Access to and from site will be defined and out of bounds areas clarified for workers. The induction will focus on the amenities planned for within the construction site boundary which include lunch facilities with a selection of food outlets designed to offer choices to workers to limit their need to exit site at meal times;
- **Disruptive Works Procedure:** All workers will be made aware of their responsibilities towards understanding what constitutes disruptive works and understand the time frames associated with preparing to carry out any such works; and
- **Working around Children:** All workers will be made aware of their responsibilities towards working adjacent facilities with children particularly the interface with the Sydney Children's Hospital.

We will also focus on the unique requirements of each stakeholder within the campus to ensure that the information in the induction is up to date and relevant to the specific work areas on site. An example of the specific requirements and locations are:

- **Working Adjacent to the Existing Clinical spaces:** All workers will be made aware of the need to ensure patient privacy within the facility. No unauthorised removal of privacy screens erected on scaffold to prevent direct sightline into wards will be permitted; and
- **Working Adjacent to Local Residential and Business Properties:** All workers will be made aware of the need to enure positive contractor behavior at the approach and on site, including minimising disruptions to local parking and access.

4.3 CONTRACTORS DOCUMENTS

Proposed methodology for managing the future design interface and build ability through the design process;

4.3.1 Approvals and design changes

The design will be submitted to the principal at the 80% and 100% Contractor Documentation milestones. A Design Change register will also accompany any further Contractor Documentation submissions to the Principal during the delivery phase. These are envisaged to occur in monthly intervals or as required.

Any changes that constitute a deviation from the project Brief must go through an approval process with Lendlease and the Principal. Proposed changes will be submitted to the Principal prior to implementation and will identify the following:

- The item;
- Area/location;
- Reference of all documents affected by the change;
- The nature of the change;
- The reason for the change (which includes pre-obtained approval by Lendlease and the Principal for all items affecting the project Brief); and
- The implications, which are to be assessed as a minimum for impact on:
    1. Site health and safety management;
    2. Cost and construction time;
    3. Durability, functionality, aesthetics, maintenance; and
    4. Impact on other elements of the works.

Lendlease will add to the register any details of when proposals/implemented changes have been submitted to the Principal, when a response has been received and status of design documentation updates and/ or other implications.

The key streams of documentation approval required during this phase are detailed in the below sections.

5.0 OPERATIONS AND SITE MANAGEMENT

5.1 OVERVIEW

The RCR project will require precise site establishment, staging and operation, to ensure safety, appropriate security, interface management and productivity are achieved. Lendlease's nominated delivery team has developed this detailed plan, which is integral to program and construction methodology.

Close attention to detail and the quality of the finished product are paramount, particularly on this multifaceted Healthcare Project. Lendlease believes this focus on quality must be promoted and fostered amongst the workforce on the project. This begins with an efficient site establishment strategy, and clean amenities which will set the standard for a high-quality outcome.

The planning and methodology assessment for the project has identified a number of key stages in the general configuration of the site during construction. This section provides an overview of the overall approach adopted with detail description of these stages provided below.

5.2 DILAPIDATION SURVEYS AND MONITORING

Prior to commencing works Lendlease will complete an extensive dilapidation survey of existing infrastructure covering roads, footpaths, external and internal areas of the existing buildings adjacent and interfacing with the construction site. Coordinated access to internal hospital areas will be arranged through the Principal. The resulting report will be provided to the Principal as a pre-commencement record of the existing built works on the precinct adjacent to the construction areas.

Our team also propose to inspect existing plant and equipment conditions in the initial periods of the ECI to determine the capacity of any plant and equipment that the new works interface with. This is critical to inform design scope and establish key opportunities and risks for consideration during interface planning.

Considering the above, we carry out the following works:

- Lendlease has allowed to engage an acoustic consultant during the course of the construction works to provide detailed advice and practical methodologies in the form of a Construction Noise and Vibration Management Plan in order to manage the potential noise issues with the adjacent sensitive receivers. Lendlease has extensive experience in managing these issues on similar health projects and will look to introduce the following measures on this project such as:
  - Adopt and modify the protection strategy for any heritage or significant buildings located on the site;
- The necessary vibration monitoring and back to base alarm monitoring to ensure the nominated accepted level stipulated by the SESLHD and associated buildings is not breached;
- Positioning major plant away from sensitive receiver boundaries where possible concrete pumping zones, cranage, and loading zones have been positioned away from operational existing facilities. Where applicable treating plant with mufflers and noise mitigating filters;
- The Construction Noise and Vibration Management Plan mentioned previously, will detail the criteria and protocols for vibration and noise protocols to the surrounding properties. This report details a number of sensitive receivers above ground in relation to vibration being:
  - Children's Hospital;
  - Existing "Core" Facilities; and
  - University of New South Wales.

5.3 SITE ESTABLISHMENT

Proposed methodology for site establishment, including crane location and swing radius

5.3.1 Hours of work

For the purposes of construction planning we anticipate the working hours to be the following;

General Construction hours		
		Respite periods
Monday – Friday	7:00am to 6:00pm	6:00pm to 7:00am = 11 hours
Saturday	8:00am to 5:00pm	5:00pm to 7:00am (Mon) = 38 hours
Sunday	No work	n/a

Special Construction Hours required on select weekends* to maintain operation of Hospital loading dock		
		Respite periods
Friday	6:00pm to 10:00pm (limited to site establishment activities in preparation for weekend works)	10:00pm to 7:00am = 9 hours
Saturday	7:00am to 10:00pm (general construction activi-ties excluding excavation, sawing of rock, jack hammers, pile drivers, vibratory roll-ers/ compactors of the like)	10:00pm to 7:00am = 9 hours
Sunday	7:00am to 10:00pm (general construction activities excluding excavation, sawing of rock, jack hammers, pile drivers, vibratory rollers/ compactors of the like)	10:00pm to 7.00am = 9 hours
*Required for a total of 29 weekends plus 11 reserve/ contingent weekends (total project duration of 130 weekends).		

In addition to regular working hours, there will be occasional extended periods (Weekend closures) when out of hours works are required. These out of hours works will be necessary to conduct the following activities:

- Site establishment and periodic changes to suit staging of works;
- Piling;
- Jump steel installation;
- Essential services, relocations and cutovers;
- Excavation; and
- Key deliveries.

Lendlease will agree the process with HI, LHD, TMC, TfNSW, SCO and Randwick City Council

to address the approvals and additional measures required prior to scheduling any out of hour's works. The nature of these works would typically include erection of hoardings, works to footpaths, services connections and other works that interface with the surrounding operational hospital.

With the Weekend hours proposed above, sufficient 'respite periods' are provided to the neighbouring residents. A minimum of 9 hours is provided as respite even when a Weekend closure is underway.

Weekend closures have been indicatively scheduled in accordance with the below time motion chart. These weekend dates will vary. Lendlease will provide sufficient notification to the stakeholders of upcoming weekend closures to ensure all stakeholders are aware. Approximately 29 weekend closures are anticipated between November 2019 to February 2022, with 11 reserve/ contingent weekends.

Throughout the duration of these works, Lendlease will ensure compliance with the approved hours. However certain construction activities on a given day may require additional time to complete to ensure the safety of the workers or neighbours. These high risk scenarios will be identified and approval sought from the relevant Authorities.

Through consultation with HI and LHD, loading dock closures on a weekday may be sought to facilitate the weekend works schedule. A Friday or Monday shutdown of the loading dock will facilitate high risk works such as mobilisation of cranes, steelwork and other construction materials.

5.3.2 Proposed site plan

During the course of RCR the Lowering of Hospital Road and UNSW Eastern Extension, see below proposed site establishment to be completed in the following stages:

- Stage 1 – Integrated ASB Addition.

This plan highlights the location of the site accommodation, project office inclusive of clients office, this plan also demonstrates how the site will be accessed by delivery drivers and couriers on a day by day basis.

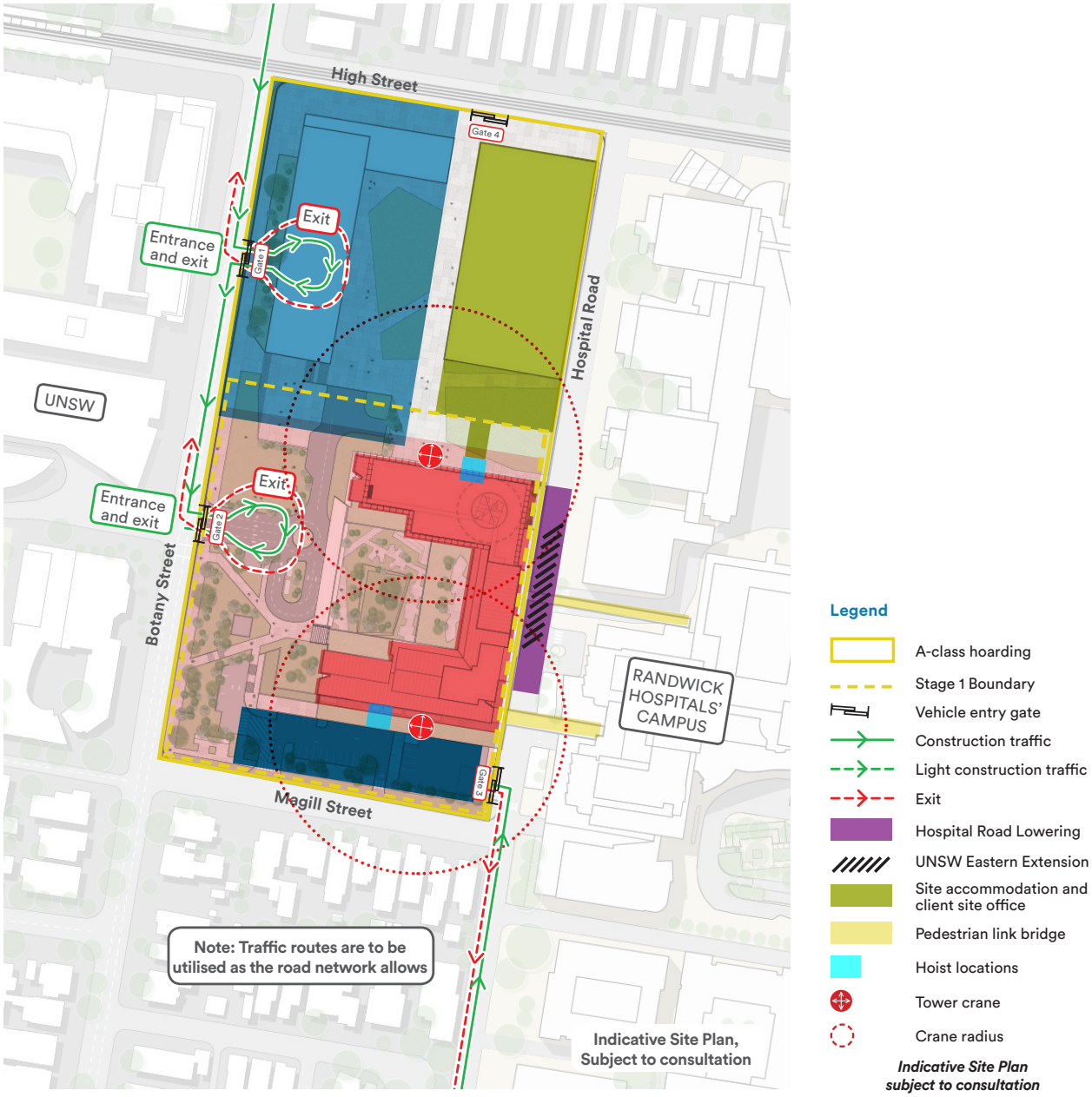


Figure 2 –Lowering of hospital road and UNSW Extension

5.3.3 Site establishment schedule

To meet the site possession date of January 2020, a well-planned site mobilisation strategy will be finalised during the Planning Phase.

The Lendlease delivery team will continue to finalise the construction methodology plan through subcontractor procurement, on-site detailed investigations and validation.

5.3.4 Site considerations

Lendlease has carefully planned and considered the staging requirements for the Integrated ASB Addition. These established strategies are to best manage logistics of the project within a live hospital campus. In doing so we have identified the following key considerations for management of the site:

- Site establishment schedule;
- Worker transport and parking;
- Pedestrian access and circulation routes;
- Site evacuation / major incident response;
- Site compound and amenities;
- Temporary services;
- Site temporary services;
- Fencing and hoarding for site segregation;
- Site access points, construction traffic and deliveries;
- Materials storage and handling;
- Working adjacent to residential and business properties;
- Site management controls;
- Business continuity of Randwick Health Campus, Sydney Children's Hospital, and the University of New South Wales, Royal Hospital for Women;
- Risk management;
- Construction methodology; and
- Project completion.

5.3.5 Site access points, construction traffic and Deliveries

Lendlease understand that one of the keys to the successful delivery of the Integrated ASB Addition will be the flow of materials and equipment into and out of the construction site. We believe it is imperative that our planning considers and successfully manages:

- The maintenance of pedestrian and traffic flows to the surrounding roads
- The unimpeded continued use of existing vehicular and pedestrian entry and exit points to the Campus; and
- 24-hour access to the ambulance drop off area for Prince of Wales Hospital and Sydney Children's Hospital Network.

To achieve this, an extensive Traffic and Pedestrian Management Plan will be developed giving specific focus to:

- Carpark entry and egress: Carpark operations will be maintained at all times, including all car park services and emergency egress. Particular focus will be on peak flow access and egress during hospital shift change overs and strategies will be employed to ensure flows are maintained;
- Supplementary offsite parking: LendLease have identified supplementary parking for hospital staff, visitors, contractors, and consultants which could potentially alleviate current parking pressures over the 3 year life of the redevelopment. Lendlease will continue to work with HI, SESLHD and Randwick City Council to explore and realise any supplementary offsite parking opportunities during the ECI stage. (Please Refer to Section 8 Traffic Management);
- Disabled pedestrian access and paths of travel: Throughout all activities, disabled pedestrian access will be maintained with details of alternate routes and distances of paths of travel;
- All swept paths to be updated through the design phase with our coordination with the TfNSW;
- Lendlease will consult with all suppliers to ensure the correct size and weight vehicles are allocated to the project and are cognisant of carriage weight constraints;
- Ambulance entry: No works or vehicle

movements will be allowed to affect the access of ambulance entry and parking area; and

- Construction Vehicles: Mitigating impact to the Hospital precinct and surrounding roads will be considered along with a detailed analysis of delivery frequency in conjunction with the program and access routes to the site from the various approaches. Procedures for timely delivery notification will be developed (e.g. call prior to arrival and also advise on aborted deliveries).

5.3.6 Fencing and hoarding for site segregation and safety

Lendlease understand the critical importance of maintaining a secure and safe perimeter hoarding line to protect the public and staff from construction activities and prevent unauthorised access into the construction site 24 hours a day. Segregation of the site accommodation compound from the main site is equally important for worker safety.

Site security is paramount for public safety and we will implement security turnstiles on the entry to the site to prevent unauthorised access. Vehicle management will be managed by Traffic Controllers and security guards will be utilised out of working hours during the later stages of the works.

Any “A Class” plywood hoarding and any sections of permanent chain wire fencing will be covered with RCR shadecloth and will be updated and maintained throughout the project in line with the project requirements.

5.3.7 Site security and gates

The site perimeter will be secure at all times with no unauthorised access permitted. As detailed above the perimeter of the site will be secure with full height plywood A Class hoardings.

Out of hours security patrols will be utilised during the shutdown periods, Christmas and Easter will also be monitored by external security services.

CCTV with active motion sensors will be used to track any unauthorised access to site, worker and materials hoists or site accommodation.

Construction worker access to the site will be strictly controlled through our secured gate system. Individuals will require a personalised identity swipe card to gain access to site. This also creates a live record of who is on site at any given time in order to provide check list if the site is ever evacuated in case of emergency.

5.3.8 Site compound and amenities

Lendlease places emphasis on the quality and amenity of the project and accommodation facilities. Quality facilities set a standard and a level of expectation that we expect our staff and subcontractors to take with them to the workface on site.

Accommodation and amenities for the construction workforce will be provided in demountable site sheds adjacent to the ASB construction.

These site sheds will be erected, relocated and disestablished throughout the redevelopment to cater for fluctuating workforce demand and moving work areas.

All site accommodation will be joined by covered walkways to ensure the workforce and office staff can move around the area and stay dry from any inclement weather.

5.3.9 Pedestrian access and circulation routes

Lendlease have identified that the existing hospital access is to be maintained throughout each construction stage of the RCR. See Figure 6 for proposed pedestrian and vehicular circulation routes.

Lendlease note that all boundaries are still accessible by pedestrians, and a local diversion that will be in place exists at the eastern end of Magill Street which will direct pedestrians across the road to ensure their safety and welfare at all times.

Interface with Light Rail along High Street

Lendlease understand through consultation with TfNSW (Transport for New South Wales), TMC (Transport Management Centre) and the light rail contractor the sensitivities around the High Street interchange. Lendlease propose to utilise the following traffic flow to enter the construction site Clara Street then turn right onto High Street then left into Eurimbla Avenue access path for the first 8 weeks to ensure a safe and successful site establishment and demolition sequence. In this period Lendlease will ensure that correctly sized vehicles are mobilised to site to ensure no disruption to essential light rail operations.

Lendlease will continue to work with the above authorities and contractors to ensure constant and open communication whilst to initial demolition and site remediation works along High Street civil and over infrastructure works are undertaken.

Key considerations for traffic and material movements

- The light rail project (CSELR) is now is the testing and commissioning phase. Lendlease are working pro-actively with the light rail contractor and will continue to have co-ordination meeting to ensure all works are timely managed and co-ordinated.

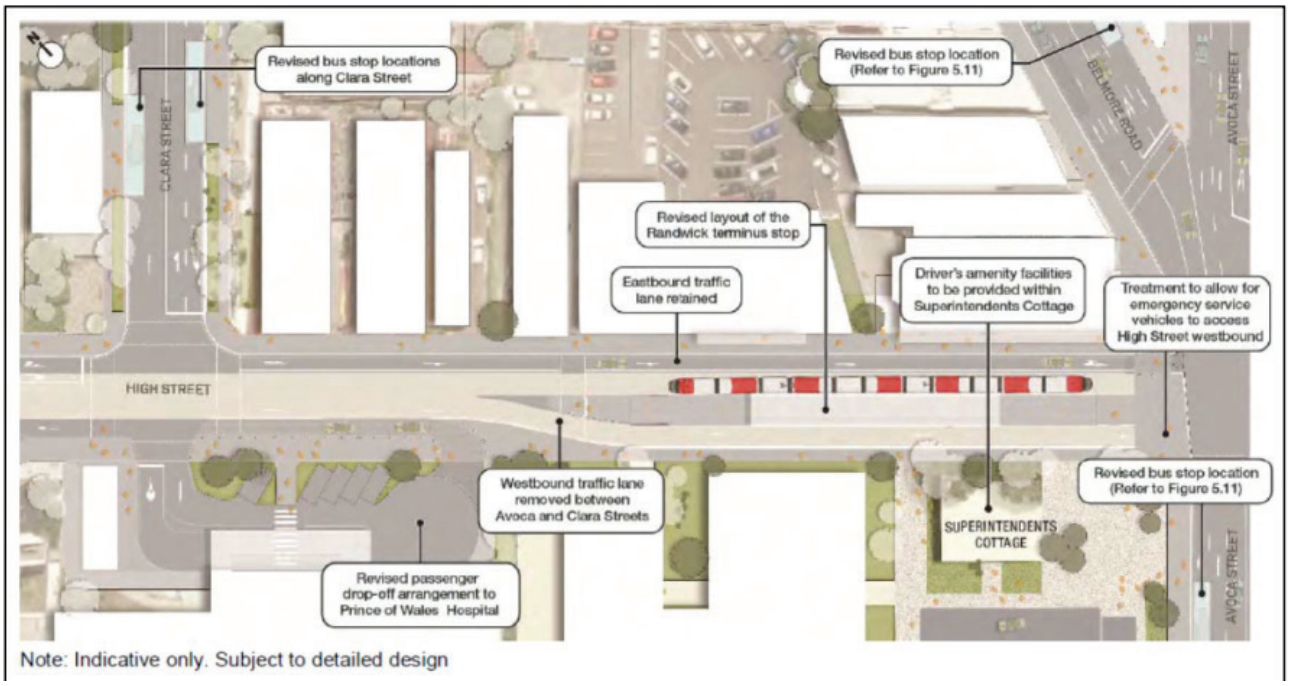


Figure 3 – Finished state of The Light Rail Infrastructure Along High Street

5.3.10 Construction worker support

Lendlease see that the health and wellbeing of our construction workers is paramount and provide our construction workforce on site with a more comfortable environment, and support healthier minds in the workplace. Initiatives Lendlease provide onsite include:

- Quit smoking support;
- Bupa Healthy Options;
- Healthy living courses; and
- Mates in Construction (MIC) – mental health support.

5.3.11 Temporary services

Lendlease have developed a series of preliminary Temporary Services Plans for each Stage of the Redevelopment. These plans will be further developed following detailed site investigations.

5.3.12 Waste management

Lendlease will ensure our supply chain is responsible and accountable for maintaining a clean, clear and safe working environment. Rubbish bins will be provided to all work areas and will be regularly removed to the central skip bin location by the subcontractors for collection and transport from site to the waste recycle facility.

Bins will be moved via the person and materials hoists or by the crane, dependant on the where they are being loaded from and the waste material that is being removed from site. Crane lifted steel bins will be used to service the top floors where structure trades are working, and large Otto bins will service the lower levels where fitout and service trades are working.

Percentage Waste Recycled to date =	2686.03 Tonnes / 2707.35 Tonnes	99.21%

Waste Fraction	Total Quantity Generated		Total Recycled		Total Disposed off		Recovery Rate
Heavy	411.11	Tonnes	411.11	Tonnes	0.00	Tonnes	100.00%
Light	29.67	Tonnes	28.19	Tonnes	1.49	Tonnes	94.99%
TOTAL	440.78	Tonnes	439.29	Tonnes	1.49	Tonnes	99.66%

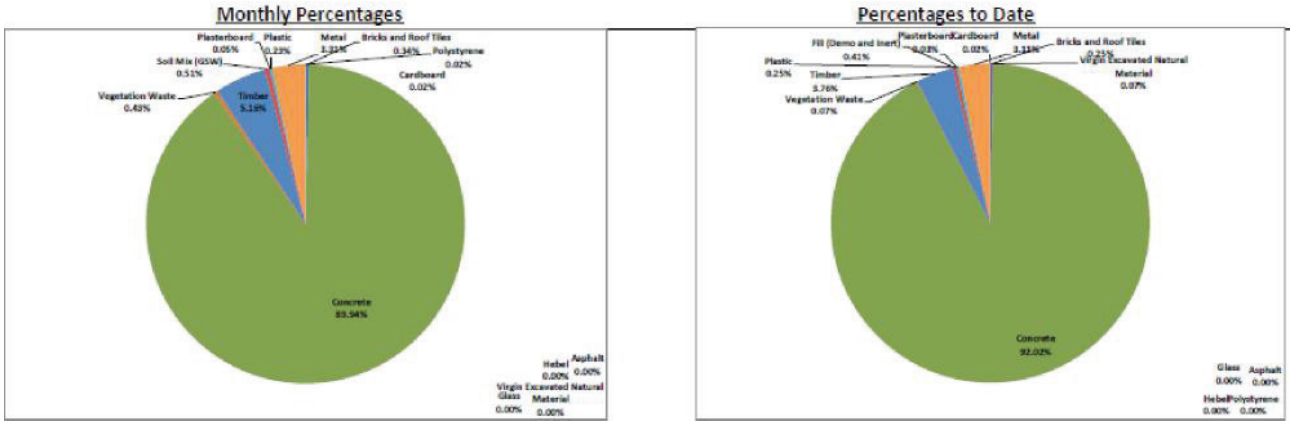


Figure 4

The site skips will be centrally located at Ground Level to ensure an easier pick up from our bin contractor.

Waste will be separated at the approved waste management centre. Auditable records will be kept of quantities of all materials both recycled and disposed landfill. Records will be monitored to ensure Lendlease internal recycling targets are achieved or exceeded. This information will be collected and reported in compliance with our Environmental Management Plan and its Waste Management and Recycling Sub-Plan over the duration of the project. A sample summary is graphically and statistically referenced on the following pages.

To ensure the RCR project meets its sustainability targets, waste management reports will show monthly and cumulative performance.

5.3.13 Temporary works

At various stages of the construction life cycle protection decks, proprietary B - Class Hoardings or bespoke engineered items and other temporary works such as shoring, retaining walls etc will be required. These items will be carefully planned and scrutinised. Lendlease experience shows such temporary works are usually associated with high risk activities and will need to be fully engineered, certified and Environmental Health and Safety (EH&S) compliant.

The temporary works that will be required to be undertaken during the course of the early and enabling works include:

1. Establishing temporary construction zones and localised traffic diversions.

5.4 CRANES AND MATERIALS HANDLING

Proposed methodology for cranage and establishing a Helicopter Management Plan.

5.4.1 Crane selection and materials handling

During the course of the works scope the existing tower cranes will be used.

The specific layout of the tower cranes have been specifically adjusted to suit the new construction of the lowering of hospital road and the UNSW Eastern Extension (Base Building only) this is to allow the critical path trades a tower crane that can effectively service the new site area.

The current tower cranes will be compliant with all CASA and SACL requirements and Lendlease will ensure that our aviation consultant reviews and checks the proposed locations to ensure compliance at all levels.

5.5 ENVIRONMENTAL PROTECTION

Proposed methodology for environment protection, including noise, dust, vibration & visual.

The site area will require careful management of site run-off. Perimeter protections installed during the works will be reviewed on site during the Planning Phase period. Lendlease will carry out daily site inspections and ad hoc inspections in response to changes in environmental conditions. These inspections will focus on protective measures for all site boundaries, access roads and stormwater pits.

These daily inspections will enable any issues to be identified and corrected immediately, resulting in no impact on the environment, local community and public ways.

The primary areas requiring specific environmental controls will be:

- Inspection of remediation capping layer for uncontrolled breaches;
- Managing site surface water run-off;
- Disposal of any retained stormwater;
- Protective measures during removal of hazardous materials;
- Monitoring and mitigation of dust, vibration and noise;
- Managed storage of hazardous construction materials;
- Dedicated wash down facilities; and
- Monitoring water table during groundworks.

5.5.1 Noise and vibration

Monitoring for noise emissions, vibration and air quality during the redevelopment works is necessary to maintain the health and well-being of people who are involved in the works and of those within the existing hospital buildings.

During the works, there will be some noise and vibration. To manage the impact on the community, demolition activities will predominantly be carried out during the day. The proposed equipment for demolition activities include: excavator 30t with hydraulic rock hammer and ripper, skidsteer loaders/bobcats, trucks and trailers and other tools/machinery such as cement mixers, angle grinders, concrete saws, chainsaws, mulchers, drills and hammers. Lendlease will implement a CNVMP outlining the controls to be implemented on site. The CNVMP will confirm strategies that will be implemented to minimise disturbance to sensitive receivers in accordance with regulatory requirements.

In addition to the above any vibration sensitive equipment will be reviewed during the planning stages to advise if the works will have any impact of those pieces of equipment or hospital services.

Lendlease have identified particular 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.

Generally, the following controls will be implemented to ensure that noise and vibration related issues are controlled, addressed and resolved in accordance with regulatory requirements:

- Employees will receive training which will enable them to recognise areas where noise levels are likely to exceed 75dBA;
- Additional noise assessment of the site will be undertaken prior to or at the commencement of works on site with ongoing monitoring in strategic locations determined through consultation with HI during the construction period;
- As the work environment changes, additional assessments may be conducted, the timing of which will be determined in consultation between the site management, Site Safety Committee and the Principal;
- In conjunction with HI NSW, developing acceptable periods when specific “noisy works” can occur;
- Managing works within the approved site working hours;
- Planning and notification of noisy works via the Disruptive Works Notice procedure and in general consultation with HI;
- Warning signs shall be erected in areas where 75dBA is exceeded; and
- Where additional personnel protection equipment is required, the areas shall be identified by signage. The appropriate noise protection devices are to be issued to the effected personnel.

Noise emissions will be managed in accordance with the regulatory requirements and Lendlease management procedures, complying with the following:

- National Code of Practice for Noise
- Management and Protection of Hearing at Work [NOHSC:2009];
- AS/NZS 1269.0:2005: Occupational noise management – Series of several Standards;
- AS 2012.2: Acoustics - Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors - Stationary test condition - Operator's position;
- AS 2436: Guide to noise control on construction, maintenance and demolition sites;
- AS 2221.1: Methods for measurements of airborne sound emitted by compressor units including prime movers and by pneumatic tools and machines; and
- AS 3781: Acoustics – Noise labelling of machinery and equipment.

5.5.2 Air quality management

Objectives for the project are 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.

The AQM Plan is included within the project EH&S Plan and our strategy for air quality management would include:

- Clear definition of trafficable and material storage areas to prevent unnecessary vehicle movement into other areas;
- Use of water cart 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 wind blown 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 exterior of building.

6.0 CONSTRUCTION PROGRAM METHODOLOGY

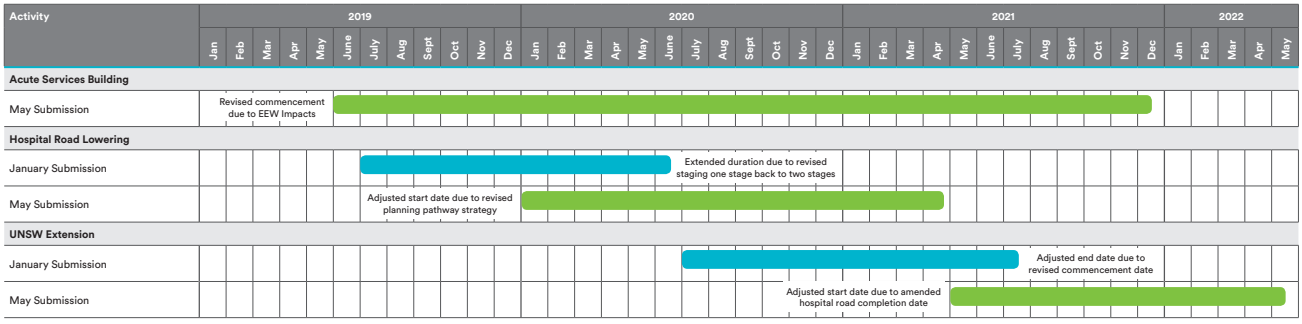
6.1 SUMMARY PROGRAM OF WORKS

KEY MILESTONES

	Lendlease Program	
	Start Date	Finish Date
Lowering of Hospital Road	13 January 2020	25 June 2021
UNSW Eastern Extension (Base Building only)	16 April 2021	25 May 2022

The below program highlights the lowering of hospital road keys durations and overall program for the UNSW Eastern Extension (Base Building only), a more detailed program can be found at the back of this document.

RANDWICK CAMPUS REDEVELOPMENT – INDICATIVE PROGRAM



6.2 CONSTRUCTION STAGING

Proposed methodology for managing staged handovers in a timely and efficient manner.

6.2.1 Construction staging overview

The Lendlease project team fully appreciate the disruption and change the construction works will bring to hospital operations and understand the challenges the HI, SESLHD and Randwick Hospital Precinct management will have in communicating the staging sequences and the program of the works to the staff and public. The better hospital staff and public understand the timing and reasoning of the staging of the works, the more comfortable they will be with the temporary inconveniences.

We have completed and initial review of our construction program and methodology and documented a draft set of staging plans covering the works phases, these will provide the basis for a full set of staging control plans, which will be developed in conjunction with detailed design development during the Planning Phase in consultation with HI, SESLHD and Randwick Hospital Precinct Management.

The staging plans will be developed to include:

- All site establishment items;
- Changed or modified egress paths;
- Pedestrian and vehicle circulation route changes;
- Temporary signage requirements; and
- Upcoming changes to works areas including approximated program dates.

6.2.2 Construction sequencing

The lowering of Hospital Road is a critical piece of construction that requires highly developed sequence and methodology. Over the course of the design phase Lendlease will continue to develop our construction sequence to ensure safety of all workers and the public, zero unplanned disruptions, and sequence works to ensure Hospital and Dock continuity. A number of small, planned isolated shutdowns are proposed to facilitate the integration works to existing buildings and carry out high risk construction activities.

Some of the major construction sequencing that is being planned in detail include:

- Existing hospital loading dock temporary closures;
- Retention piles installed;
- Install capping beams and progressively adjust sheet piles on the ASB side of the site;
- Bulk excavation;
- Progressively lay new stormwater and sewer pipework to enable a revised connection;
- Install pit and conduit system for new HV;
- FRP ground slab;
- Install permanent piles for UNSW Eastern Extension (Base Building only) and link bridge;
- Undertake “jump steel” construction for the Level 01 slab; and
- Install the new hospital connection link bridge.

Stage 1 of 5 – New High Voltage Feeds for Existing Substation 134 & 1087

During this stage of the project new incoming High Voltage feeds will be installed in Hospital road south of the loading dock and reticulate into both existing substations.

Construction works will be carried out under traffic control. Light construction vehicles will access from Barker street into Hospital road. Vehicles will be sporadic for this type of trench and conduit installation works. Vehicle movements are indicated in the time motion chart below. Access to the Loading dock and Carpark will be maintained during this work. Some weekend closures of the loading dock will be required to facilitate trench and conduit works within the loading dock area. Fleet and SCHN parking is not proposed to be disturbed during these works.

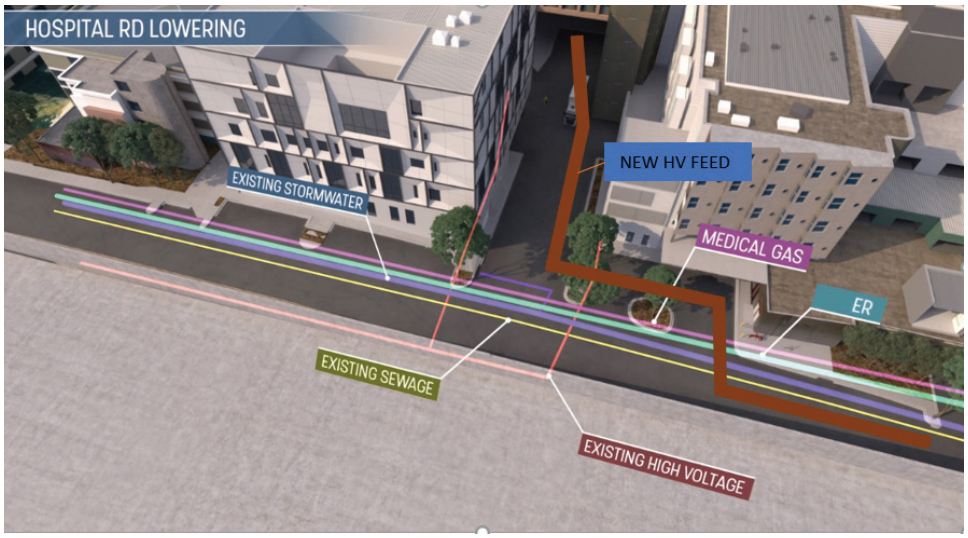


Figure 5 – High voltage install - stage 1 of 5

Stage 2 of 5 – services diversion – north side:

During this stage of the project the northern side of Hospital Road will be occupied by a large 30t excavator to dig down and install the new sewer and stormwater pipe using a shoring box down to the middle of delivery drive.

Construction vehicles will enter and exit the secure compound from High Street. 12m long vehicles are proposed for these works. Vehicles will be sporadic due to the trenching methodology required and depth of services trench. 3-5 tip trucks / day removing spoil from the trench is expected. With the installation of the perimeter hoarding, no through access to public vehicles is possible along Hospital road.

Pedestrian and emergency access / egress arrangements will be maintained via temporary diversion strategies and agreed with relevant stakeholders and authorities.

SCHN parking will be retained in its current location. The 8 carspaces opposite Ainsworth building will be removed to facilitate these works from this time. Lendlease suggests that the 1/4hr parking be modified to long stay carparks for Hospital authorities. Approximately 12 carspaces can be achieved along the north of hospital road. Some minor modifications to existing kerbs and soft landscape will be carried out to provide a turning circle for these vehicles.

Figure 6 – North stage – services diversion – stage 2 of 5

Stage 3 of 5 – services diversion / lowering of Hospital Road – south side

During this stage of the works the trench box will continue along the southern side of Hospital Road and the final connection will be made to "liven" up the sewer and stormwater works. The retention piles and new integration building piles will be installed to enable the bulk excavation to commence.

As the spoil is removed the localised pressure services will be diverted lower than the new level of hospital road these services include, water, gas, fire hydrant, Low Voltage power and medical gas. Once the services have been adjusted to the correct level the area will be backfilled and asphalted over to complete this section and activate this side of the road for delivery drivers.

A similar amount of construction vehicle movements are estimated during these works. This is indicated in the time motion chart. Vehicles will approach Hospital road from Barker road. Due to the minimal volume of construction vehicles per day, there will be negligible impact on the Hospital carpark entry & exit points. Loading dock access will be from Hospital road north off High street. Intermittent weekend closures of the loading dock will be required to facilitate hoarding movements, piling and bulk excavation activities. Pedestrian and emergency access / egress arrangements will be maintained via temporary diversion strategies and agreed with relevant stakeholders and authorities.

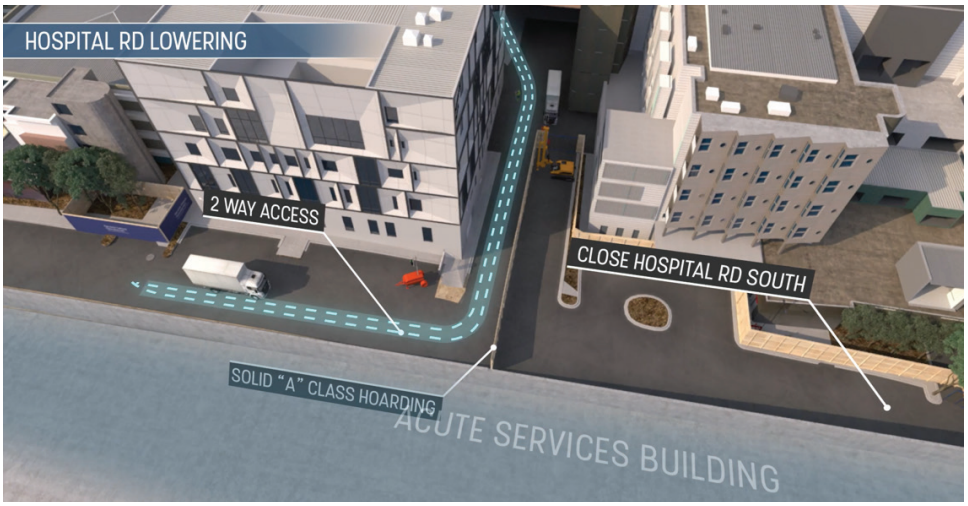


Figure 7 – South stage – services diversion – stage 3 of 5

Figure 8 – South stage – bulk excavation – stage 3 of 5

Stage 4 of 5 - lowering of Hospital Road – north side

During this stage the retention piles and new integration building piles will be installed to enable the bulk excavation to commence. As the spoil is removed the localised pressure services will be diverted lower than the new level of hospital road these services include, water, gas, fire hydrant, Low Voltage power and medical gas.

Once the services have been adjusted to the correct level the area will be backfilled and asphalted over to complete this section and this will then complete the lowering of hospital road.

Pedestrian and emergency access / egress arrangements will be maintained via temporary diversion strategies and agreed with relevant stakeholders and authorities.

A slightly increased volume of construction vehicle movements are estimated during these works. This is indicated in the time motion chart. Vehicles will approach Hospital road from HIgh street in order to excavate the existing road to new lower level. Intermittent weekend closures of the loading dock will be required to facilitate hoarding movements, piling and bulk excavation activities.

Figure 9 – North stage – retention piling – stage 4 of 5

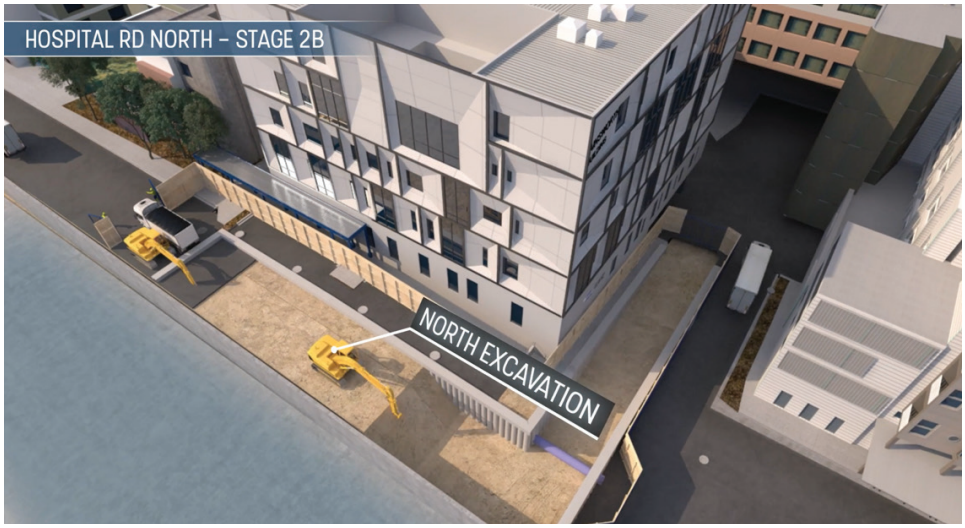


Figure 10 – South stage – north stage – bulk excavation – Stage 4 of 5

Stage 5 of 5 - Construction UNSW Eastern Extension (Base Building only) and Link bridges

The IASB Addition construction critical path runs through the structural work packages being structural steel, formwork, reinforcement and concrete placement. To ensure the critical path is achieved Lendlease will be utilising “jumpsteel” to effectively and simply support the Level 01 slab over the lowered hospital road. This technique of fast tracking structural works will be utilised on other Lendlease projects such as Sydney Metro Martin Place. Pedestrian and emergency access / egress arrangements will be maintained via temporary diversion strategies and agreed with relevant stakeholders and authorities.

The structural steel elements of the jump steel will be coordinated with the structural steel for the link bridge which is being constructed from the existing hospital out to meet the new façade line. A 3D image of that is also provided below.

The tower cranes for the ASB have been selected to provide lifting coverage for the UNSW Eastern Extension (Base Building only) structural works. This allows the delivery of jump steel and associated building elements to be delivered through Gate 1 or 2 off Botany street. The delivery vehicles will be unloaded on the north/west side of the ASB and lifted across to Hospital road. This will significantly reduce construction vehicles on Hospital road during the construction of the structure. At times there will be planned heavy lifts of prefabricated elements such as the bridges and facade components which will require large mobile cranes positioned in Hospital road. Weekend loading dock closures will be required to facilitate these works. These vehicles will approach off Barker road into Hospital road. Construction vehicle volumes on Hospital road are identified in the time motion chart (Figure 13).

Figure 11 – Structural Steel elements supported above Hospital Road

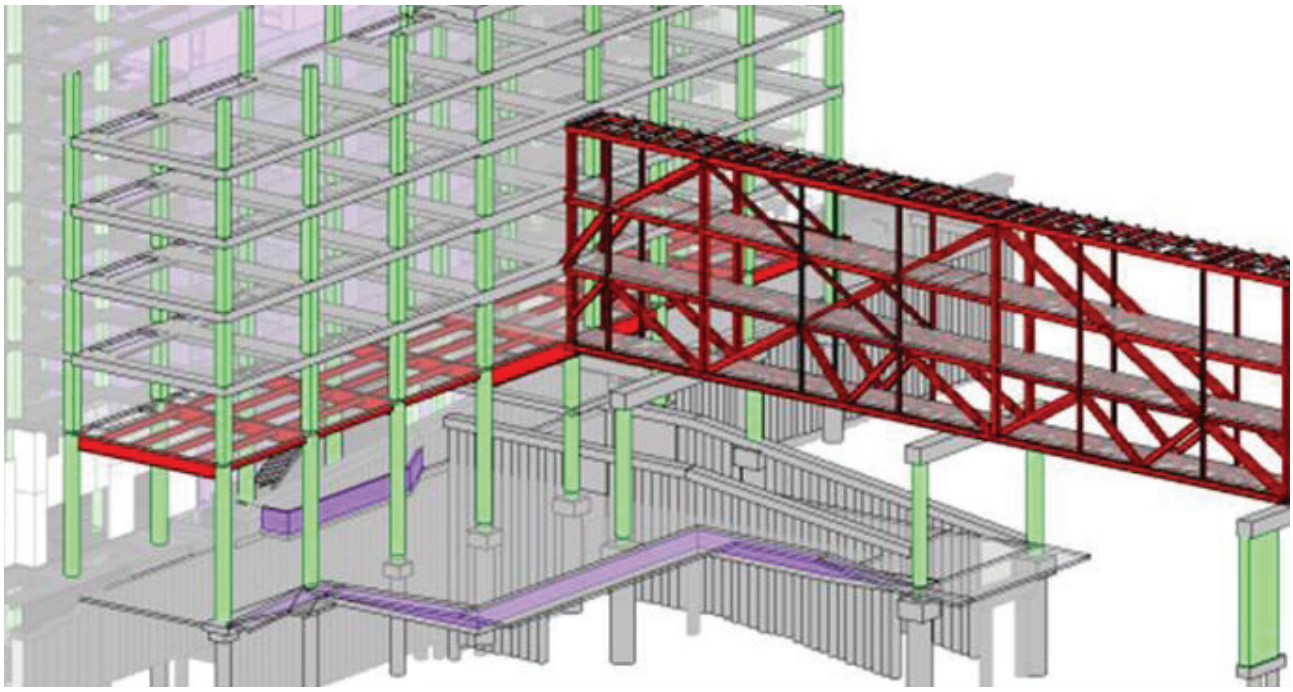


Figure 12 – Patient link bridge and jumpsteel integration

6.2.3 Lowering Hospital road impact on ASB works

The construction vehicle requirements for the Lowering of Hospital road works will have negligible impact on the Main ASB construction works and usage of Gate 3. This is due to the sporadic requirement of deliveries for services diversion, trenching, piling and excavation works. The time motion chart indicates construction traffic volumes for the Hospital road works. Access will alternate from High and Barker street depending on the stages of these works, with volumes of construction traffic generally from 3-6 vehicles per day.

6.2.4 Construction vehicles study

Lendlease has prepared a time motion chart for the proposed stages of construction to lower Hospital road and construct the UNSW Eastern Extension (Base Building only) building and associated link bridges.

This study considers the key stages of construction, the works, and construction vehicle requirements to facilitate activities such as trenching, building materials, excavation and piling. Working in and around live services requires a very considered and controlled speed of construction. The duration of these works extends over a 30 month period which is indicative of the complex nature of construction required to successfully complete these works.

Please see the figure on the following page.

The five key stages currently identified, will be further developed to sub stages. This will be necessary to enable sequencing with existing services, building access and egress provisions, fire strategy provisions and other constraints. Lendlease has mobilised a delivery team to commence this next level of construction planning to ensure these works are carried out with minimal impact on the operations of the Hospital.

LOWERING HOSPITAL ROAD AND CONSTRUCTION OF UNSW EASTERN EXTENSION (BASE BUILDING ONLY) AND LINK BRIDGES

Activity	2019			2020											2021												2022		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Stage 1 – HV incoming feed	40	40	40																											
Stage 2 – Services Trenching/diversion North zone				60	60	60	60																							
Stage 3 – Services diversion South zone and part bulk								60	60	60	60	60	60	60																
Stage 4 – Shoring and Bulk excavation Hospital Road North															72	72	72	72	72											
Stage 5 – Construction UNSW Eastern Extension (Base Building only) and Link																		40	40	90	100	100	100	100	100	100	50	40	40	40
Indicative Weekend Closures of Loading Dock																														
Piling																														
Bulk																														
										South zone					North zone															

Figure 13 – Time motion chart

Green is a place holder weekend that will be utilised only if required.

Civil works

Building construction works

Piling activities

Bulk excavation

Loading dock weekend closures

Figure 13 identifies the anticipated number of vehicle movements each month for the proposed stages of construction. Indicative weekend closures are identified which may shift according to construction programming and sequencing. Piling and bulk excavation activities have been identified separately on this chart to show indicative duration of these works.

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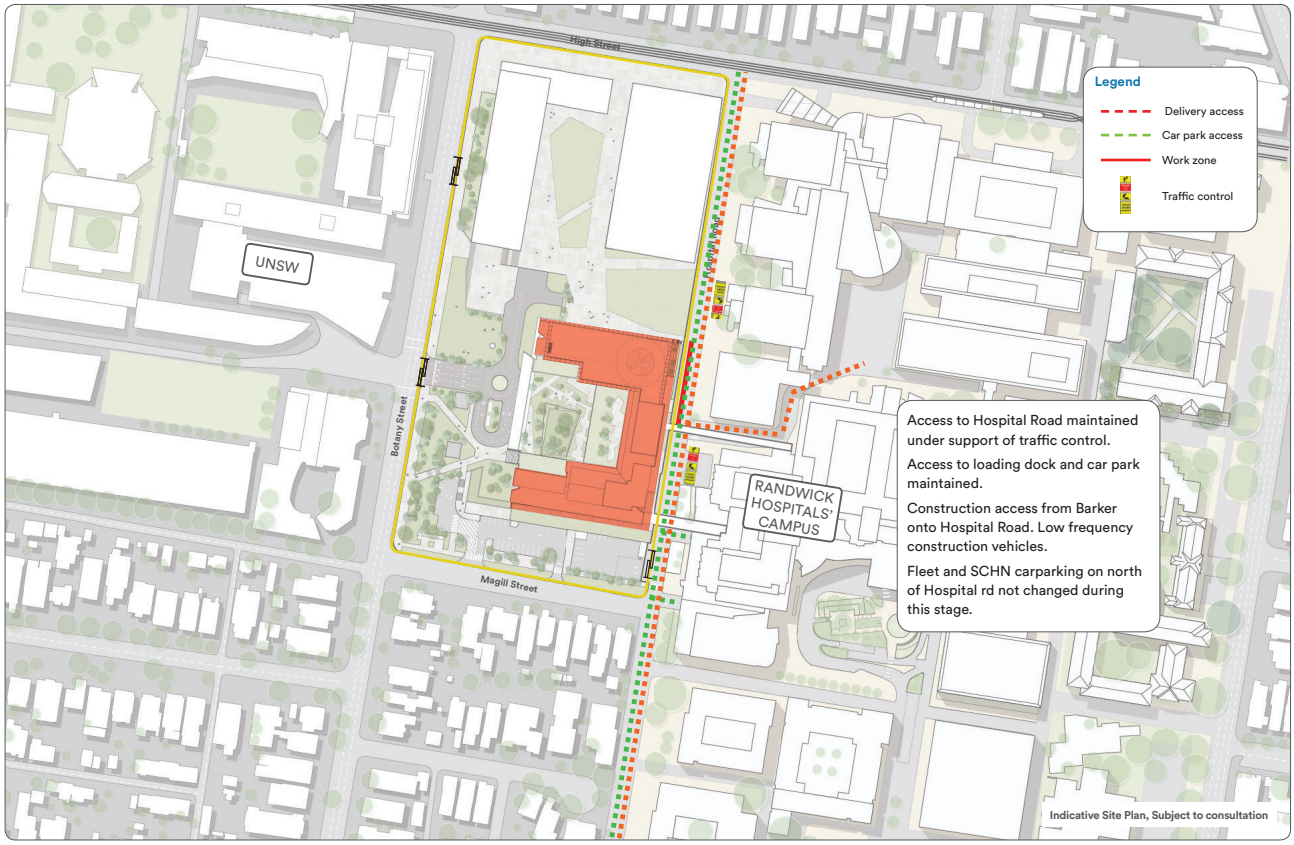
6.2.5 Hospital Road Traffic Management Plans

The construction staging identified in this section of the plan for the Lowering of Hospital road is indicated on the following Staged diagrams.

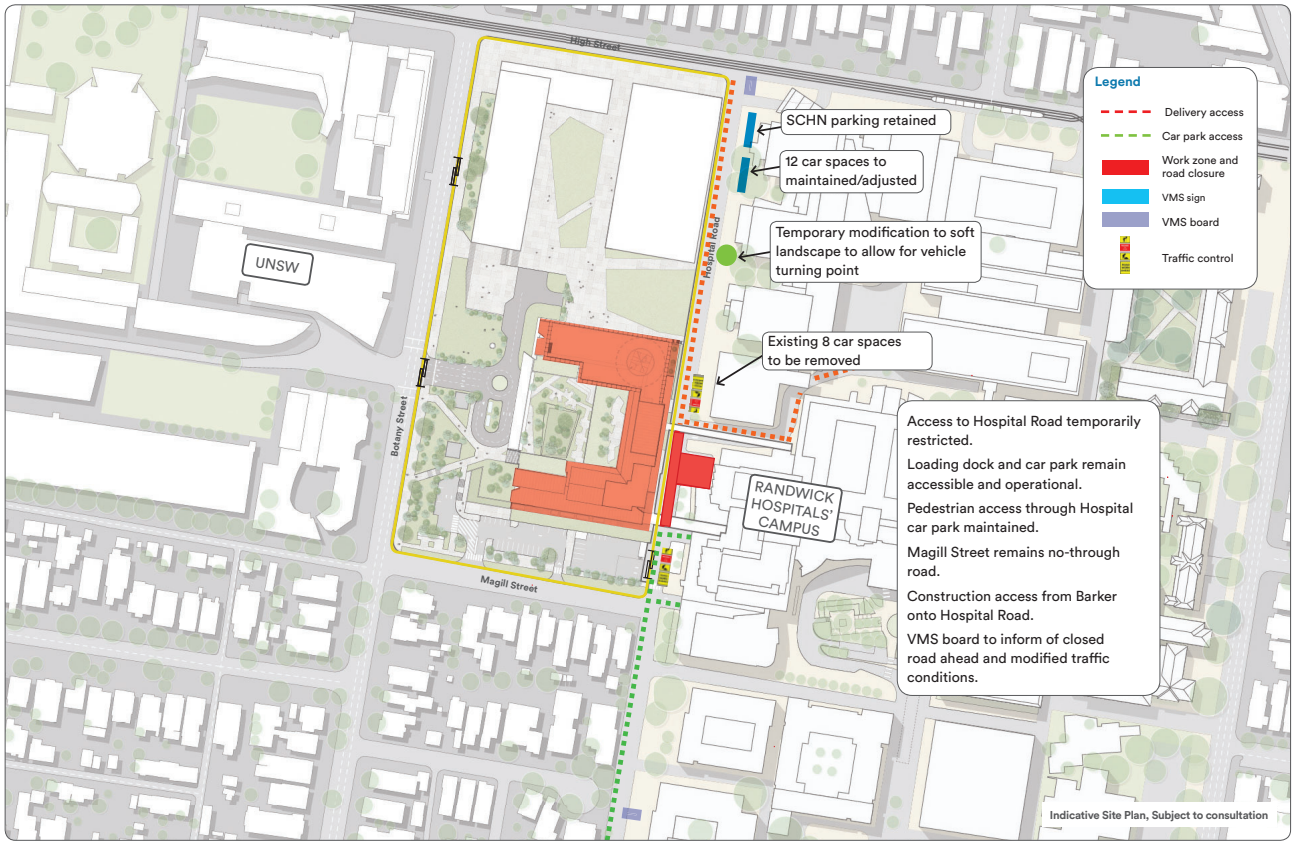
In developing these staging diagrams consideration has been provided for vehicle entry and exit points off Barker and High street, impacts on existing parking on Hospital road and access/egress of the existing Hospital campus carpark.

With construction vehicles for requiring use of Barker street to access Hospital road from the south, it is proposed to minimise construction vehicles operations during the afternoon school hours peak. Lendlease is cognisant of the Randwick precinct and traffic management issues, and will consult with all stakeholders to ensure impact is minimised.

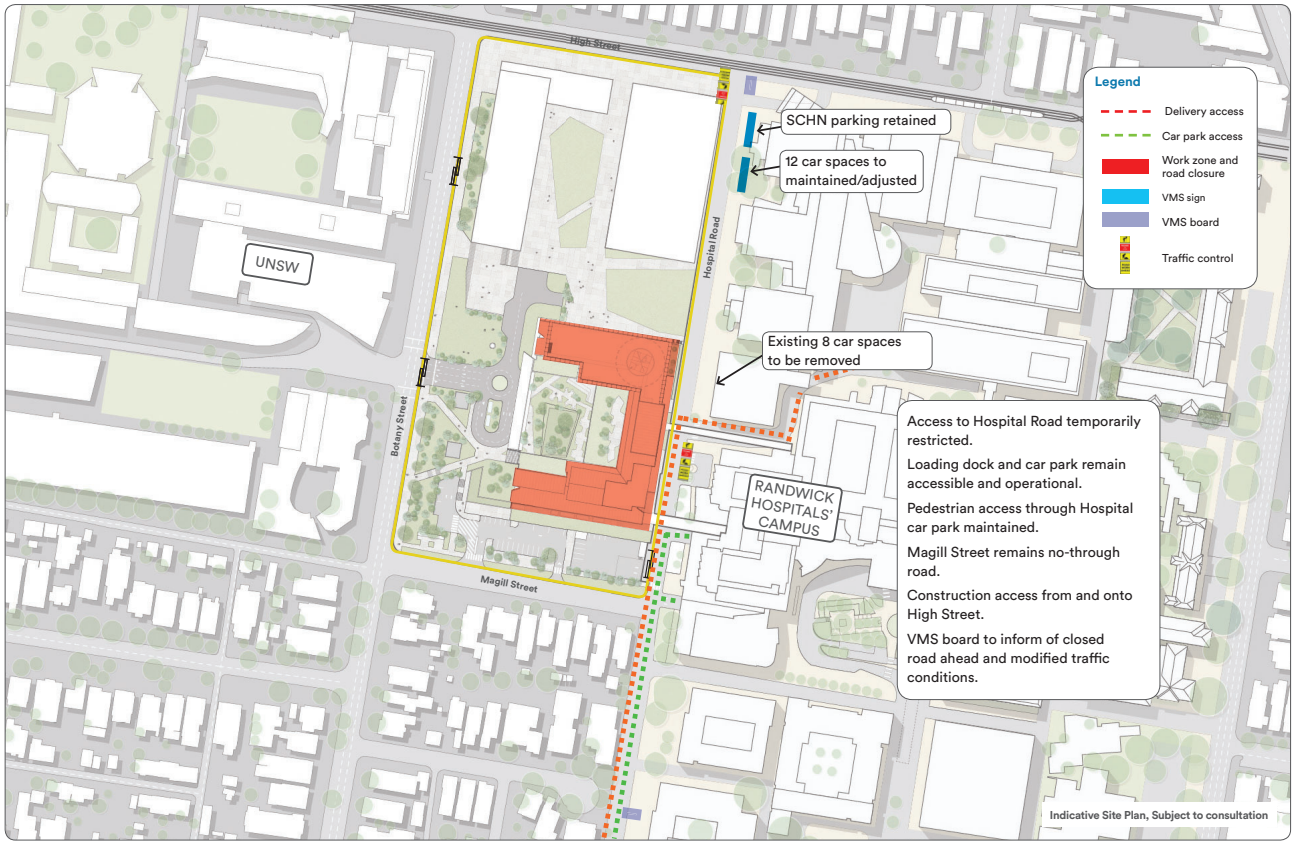
PROPOSED HOSPITAL ROAD LOWERING - STAGE 1 – OCT 19 - JAN 20 (INDICATIVE)



PROPOSED HOSPITAL ROAD STAGE 3 – PROPOSED HOSPITAL ROAD STAGE 3 – MAY 20 – DEC 20 (INDICATIVE)



PROPOSED HOSPITAL ROAD STAGE 2 AND 4 – STAGE 2 - JAN 20 - APR 20 (INDICATIVE) / STAGE 4 - DEC 20 - MAY 21 (INDICATIVE)



7.0 COMBINED TRAFFIC AND PEDESTRIAN MANAGEMENT

7.1 TRAFFIC MANAGEMENT AND CONTROL

Proposed methodology for traffic management

Lendlease understand one of the keys to the successful delivery of the RCR project will be managing the flow of materials and equipment into and out of the construction site whilst maintaining a continuity of business for an operational Campus. We also understand existing parking operation agreements are in place and the importance of maintaining currently parking numbers throughout the redevelopment works.

We believe it is imperative that our planning considers and successfully manages the maintenance of pedestrian, traffic flow and parking to the surrounding buildings and roads.

To do this Lendlease will be adopting a number of key traffic management strategies to minimise and mitigate RCR project's effects on the operational health campus:

- Engagement of Traffic Management Consultant to compile an overall Traffic Management Plan, specific Traffic Control Plans detailing each management of pedestrian, vehicular construction and operational traffic at each stage of works;
- Understanding existing parking provision, demand currently onsite, identifying temporary hospital and construction parking replacement options on and offsite to mitigate potential parking shortfalls during the redevelopment;
- Adopting an online materials booking system called the virtual superintendent to facilitate efficient just in time delivery of construction materials, alleviating traffic congestion; and
- Encouraging staff, consultants and Subcontractors to adopt a Green Travel Plan for this project with use of public transport to and from site – in particular bus services proximity to the site.

Traffic management and control will be established across all major roads and interfaces across the project. Traffic control will ensure that materials and deliveries will not block off roadways and will streamline the truck movements in and off the project site. Pedestrian and emergency access / egress arrangements will be maintained via temporary diversion strategies and agreed with relevant stakeholders and authorities.

7.2 CONSTRUCTION PEDESTRIAN ACCESS AND CIRCULATION ROUTES

Proposed methodology for traffic management;

Proposed methodology for working within an operational hospital environment and maintaining pedestrian traffic and vehicular traffic to the main entry.

The following marked up street overlays shows the various ways delivery drivers will be accessing the RCR. Careful consideration has been given to all these options to ensure there are no impacts to the daily Hospital Operations, and the surrounding businesses and residents.

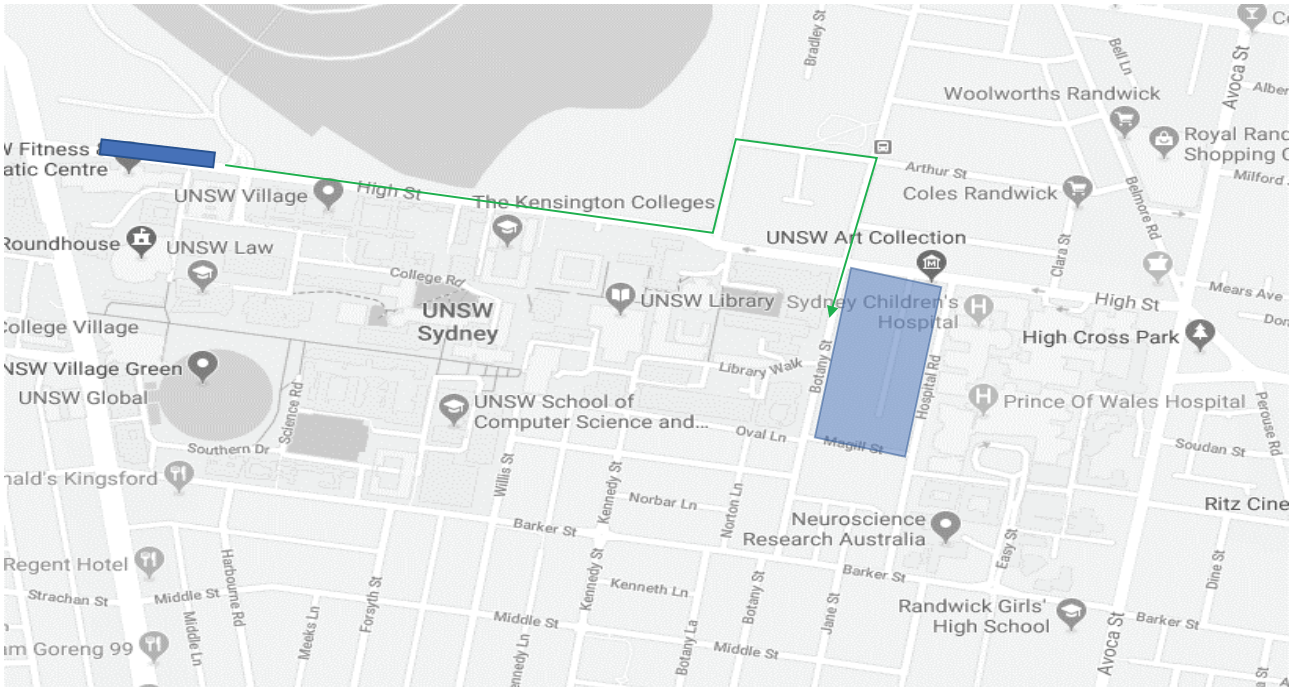


Figure 14 - Marshalling area and truck routes

Lendlease has been investigating options for a construction delivery marshalling area in the event where there is a back log of vehicles caused by weather conditions, or on occasions where large concrete pours coincide with key deliveries. The most viable option is to utilise High street opposite the Roundhouse/ Sport complex. Construction delivery vehicles will be held in this location then continue up High street, left into Wansey road, right into Arthur street, then right onto Botany street.

Further consultation is underway with RCC and UNSW on this location. Construction vehicle signage will be installed in this zone. There will be two way active communication between the delivery drivers and site by by the way of two-way radios

7.3 EXISTING PARKING PROVISION

Lendlease have completed a preliminary investigation of existing parking provision, demand and proposed supplementary parking opportunities' on and offsite.

The traffic and parking impact assessment report produced by Arup provides detailed information regarding the existing parking provision on campus, the allocation of spaces among users and the occupancy throughout the day.

Existing parking provisions along Hospital road will need to be modified to facilitate the lowering of the road and construction of the UNSW Eastern Extension (Base Building only) and associated link bridges.

SCHN parking will be retained. Ainsworth parking will be removed along with other parking spaces on Hospital road. 12 car spaces can be provided along the northern section of Hospital Road which can be used for Hospital authorities.

Refer to the satellite image below of the proposed modified parking to the north of Hospital Road.

No impact on the entry and exit of the Hospital Carpark is proposed. No impact on the motorcycle parking provisions to the south of hospital road will require location during stage 3 works. It is proposed to move these further south.

At the commencement of the Stage 2 works, VMS signs will be positioned at the corner of High St and Hospital road, warning public vehicles of no through access. The SCHN drop off will be retained and vehicles directed to merge back onto High street. A modified turning circle arrangement will be constructed to allow vehicles parking on the north of Hospital road to 'U' turn and exit Hospital road onto High street. This will require removal of soft landscape and modification to kerbs. See the below photo of the proposed changes. View looking south along Hospital Road.

7.4 VIRTUAL SUPERINTENDENT

In an effort to reduce and minimise impact of construction traffic within operational Randwick Hospital, Lendlease propose to adopt an online materials booking system called the virtual superintendent on the project. This system allows the external supply chain to book in a delivery to the project through an online portal which can be live streamed to the Site Managers computer or field device. This system facilitates an efficient just in time delivery of construction materials, alleviating further traffic congestion onsite.

This daily information can then be printed out or sent electronically to the team, RMS, Randwick City Council as required to ensure that effective just in time deliveries occur on-site and traffic congestion around construction loading zones are avoided.

Lendlease has used this system at Barangaroo and at the North Connex projects with great success, and will adopt it on this project given the operational hospitals logistical constraints.

8.0 CONSTRUCTION WORKER TRANSPORTATION STRATEGY

8.1 INTRODUCTION

The Construction Worker Transportation Strategy (CWPS) has been prepared in response to development consent for State Significant Development Application (SSDA) number SSD 9113. Specifically, the CWPS demonstrates compliance with Condition B42. Condition B42 provides for the following.

B42. The Applicant shall prepare a Construction Worker Transportation Strategy (CWTS) in consultation with the Sydney Coordination Office within TfNSW and Roads and Maritime Services. The Applicant shall submit a copy of the final place to the Coordinator General, Transport Coordination for endorsement prior to the commencement of any work on site. The Plan needs to specify, but not limited to, the following:

a. Initiatives that would discourage construction workers driving to the precinct and parking;

b. Provision of secure storage areas for construction worker tools and equipment on site;

c. Measures to encourage the use of ample public and active transport available within the vicinity of site; and

d. Details of the operation of off-site construction worker parking location/s, including how workers would be shuttled to the development site.

The Randwick Campus Redevelopment Acute Service Building (RCR-ASB) is a highly complex project with critical early milestone components that must be delivered on time. The management of construction impacts within this context are a key focus of project planning and delivery.

The objective of the CWPS is to set out the initiatives and actions of Lendlease that will effectively manage the workforce influx and associated transportation and parking demands.

Through the implementation of this strategy Lendlease intends to ensure that minimal impact is had on parking availability for the local Randwick community inclusive of UNSW, the Randwick Health Campus, local businesses and their respective stakeholders.

The CWPS will provide:

- Management of construction worker transportation and parking;
- Continued availability of in-demand parking spaces and facilities in the Randwick precinct;
- Dedicated worker parking facilities and associated shuttle services; and
- Positive public perception of the project's workforce management.

The success of this strategy will be monitored and revised as the project progresses.

8.2 TRAFFIC MANAGEMENT AND CONTROL

Lendlease understand one of the keys to the successful delivery of the project will be managing the flow of construction vehicles into and out of the project site whilst maintaining a continuity of business for an operational Hospital. We also understand the importance of maintaining currently parking numbers throughout the redevelopment works.

We believe it is imperative that our planning considers and successfully manages the maintenance of pedestrian, traffic flow and parking to the surrounding buildings and roads. To do this Lendlease will adopt a number of key traffic management strategies to minimise and mitigate Randwick Campus Hospital Redevelopment project's effects on the operational hospital:

- Lendlease along with Arup will detail a specific Traffic Control Plans which will detail the management of pedestrian, vehicular construction and operational traffic at each stage of works;
- Understanding existing parking provision, demand currently onsite, identifying temporary hospital and construction parking replacement options on and offsite to mitigate potential parking shortfalls during the Redevelopment;

- Adopting an online materials booking system called the virtual superintendent to facilitate efficient just in time delivery of construction materials, alleviating traffic congestion; and
- Encouraging staff, consultants and subcontractors to adopt a Green Travel Plan for this project with use of public transport to and from site.

8.3 CONSTRUCTION WORKFORCE

At the peak of the IASB Addition construction the workforce is anticipated to reach 274 workers during the structure and fitout phase. This is expected Mid 2021. All workers will undergo mandatory inductions to understand their responsibilities when working on the RCR project site and in close proximity to a live Hospital environment. This is inclusive of parking restrictions, dedicated parking facilities, transportation options and available on site storage facilities.

Planning for construction workforce transportation and parking management will be aligned with projected workforce counts and associated parking demands.

2019												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
										18	24	24

2020												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
66	72	74	74	82	96	96	136	140	146	176	216	

2021												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
256	266	264	264	264	274	266	236	228	200	150	144	

2020			
Jan	Feb	Mar	Apr
120	102	66	40

Figure 15 – RCR IASB Addition projected workforce numbers

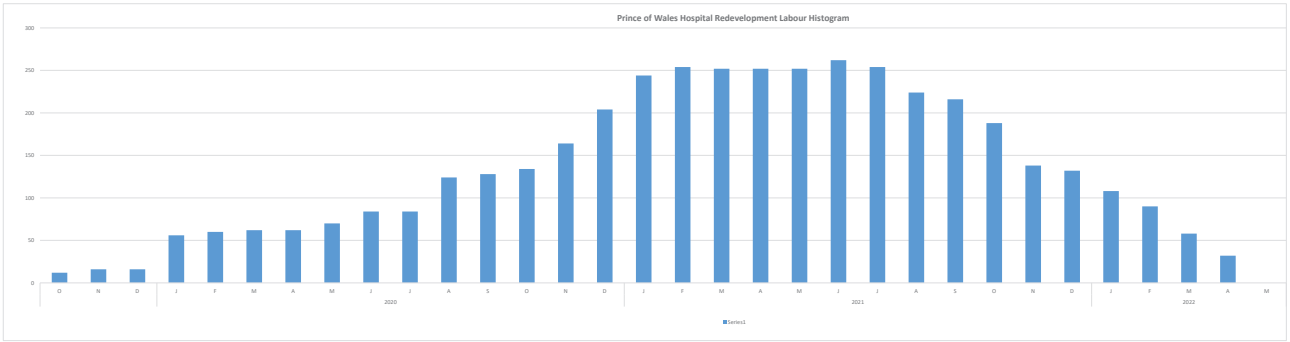


Figure 16 - Randwick Campus redevelopment IASB Addition works labour histogram

It is understood that a portion of the site worker population will elect to travel to site using private vehicles. Construction workers driving to sites in constrained parking environments, similar to the RCR, typically carpool reducing traffic impacts on the local road network.

The project site is well serviced by public transport providing site workers with alternative travel options.

8.4 EXISTING PARKING SUPPLY AND UTILISATION

Assessments have been undertaken to understand existing parking opportunities in proximity to the project site. The following existing parking facilities have been identified:

1. The UNSW directly to the West of the site provides metered parking spaces around campus. The Barker Street and Botany Street Carparks provide all day meter parking on upper floors. There are a number of 2P parking spaces around campus with 200 parking bays in the Western Campus Carpark and a number of parking bays in the University Terraces, International House and the Kensington Colleges;
2. The Royal Randwick Shopping Centre is 0.4km to the North-East of the site and provides 530 undercover parking bays charged as casual rates per entry;
3. The Spot Wilson Carpark is 0.6km East of the site and provides undercover parking charging casual rates per entry;
4. The Silver Street Carpark 0.6km North of the site provides parking charging at casual rates per entry;
5. The Royal Randwick Racecourse is 1.4km North-West of the site and provides around 300 metered parking spaces; and
6. There is also 2P metered parking on all streets surrounding the area of the site.

Construction workers will be prohibited from parking within the Hospital Car Park and streets immediately surrounding the project site.

Whilst a number of localised parking options are available within the Randwick community Lendlease has determined that alternative and dedicated site worker parking is required to accommodate the projects workforce.

8.5 MANAGEMENT OF WORKER PARKING AND TRANSPORT

Lendlease will provide monitoring of the transportation and parking behaviours of the project workforce to minimise impacts on local roads and existing parking availability. Management of worker parking and transport will occur via:

- Ensuring site workers are encouraged to use a variety of transport methods to commute to and from the project site;
- Making available information on modes of public transport, time tabling information and locations of public transport stations in proximity to the project site;
- Encouraging ride sharing and car pooling;
- Provision of bicycle storage and change facilities on site;
- Continual reinforcement of parking requirements and restrictions at part of mandatory site inductions, weekly sub-contractor meetings and prestart meetings; and
- Implementation of warning and enforcement systems for workers demonstrating noncompliance with transport and parking requirements.

8.6 WORKER TRANSPORTATION AND PARKING

First and foremost, Lendlease will encourage workers that are coming to site would be to use public transport to reduce the volume of light vehicles on the road and to ease congestion around the Randwick Precinct.

The following transport and parking options will be promoted to the project site workforce:

Public transport

Bus

Due to existing heavy traffic flows in the area from UNSW, the Randwick Campus Redevelopment and other surrounding construction works, site workers will be encouraged to take public transport to and from site while on-site parking is not available.

With the site in close proximity to UNSW and the existing Randwick Hospital, there are a number of bus lines which run from main stations in the Sydney city region to around the site.

- 891 – Central Station to High Street;
- 339 – Central Station on Foveaux Street just East of Elizabeth Street;
- 372 – Central Station to Belmore Road;
- 373 – Museum Station to Belmore Road;
- 37 – Central Station to Alison Road;
- 376 – Museum Station to Belmore Road;
- 377 – Museum Station;
- 304 – Central Station to Barker Street;
- Metrobus 10 (M10) – Leichhardt to Maroubra;
- Junction via Anzac Parade;
- Metrobus 50 (M50) – Drummoyne to Coogee via the City, Anzac Parade and High Street;
- 370 - Leichardt to Coogee via Anzac Parade and High Street; and
- 400 - Burwood to Bondi Junction via High Street.

Light Rail (Future)

The eastern end of High Street, which forms the northern boundary of the Randwick Health Campus site, will feature the terminus for the CSELR Randwick line which is currently under construction. Light rail services will terminate at a stop on High Street, immediately west of the Belmore Road and Avoca Street intersection.

Light rail services will travel from High Street towards the CBD every eight minutes between 7am and 7pm on weekdays, starting in 2019. The introduction of Light Rail in late 2019 will align with peaks in project workforce numbers providing additional transportation options for site workers.

8.7 DEDICATED PARKING FACILITY – 'PARK AND RIDE' INITIATIVE

Off-site parking will be made available to all project workers. This facility will be located within grounds of the Australia Turf Club's (ATC) Randwick Racecourse located under 2km from the project site. The ATC car park is an underutilised resource that will make available 300 spaces to the Randwick Campus Redevelopment project site.

Through this arrangement workers will have access to unrestricted all-day parking at a rate competitive with local paid parking facilities.

A to-site shuttle service will be made available to transport workers to and from the project site. Bus timetabling will reflect peak worker start and finish times with additional off-peak services operated throughout the course of the day.

Shuttle services will be monitored and revised to ensure timetabling remains reflective of demand. Peak shuttle services will include:

- 6:00am – 7:00am Monday – Friday;
- 2:00pm – 5:00pm Monday – Friday;
- 7:00am – 8:00am Saturday; and
- 12:00pm – 3:00pm Saturday.

A dedicated bus stop will be established within the ATC boundary providing a coordinated approach to the operation of the to-site shuttle service. Lendlease will work with ATC operations to continually monitor the effectiveness of this operation.

Consultation has occurred with the ATC to determine the most appropriate transport routes, collection points and drop off zones. Consideration will be given to ATC and UNSW event calendars to ensure arrangements do not impact the parking and transportation demands of major events.

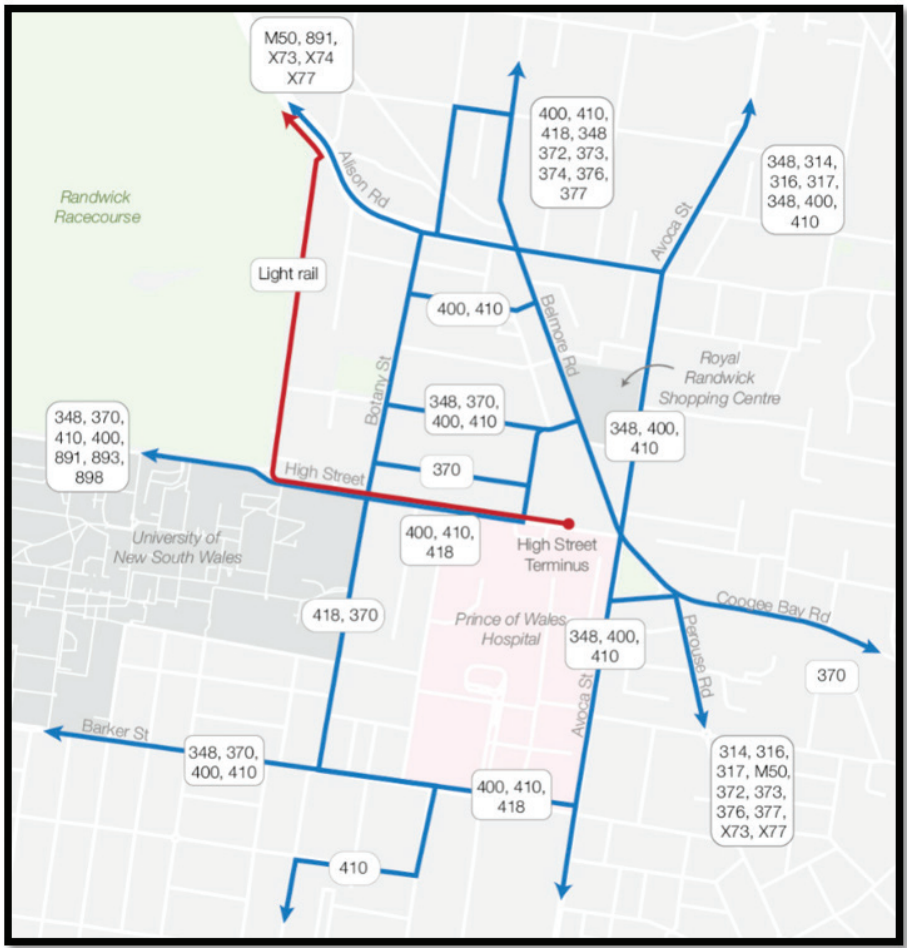


Figure 17 - Existing bus services and future Light Rail servicing the Randwick Campus

Figure 18 - Australian Turf Club – Royal Randwick Racecourse

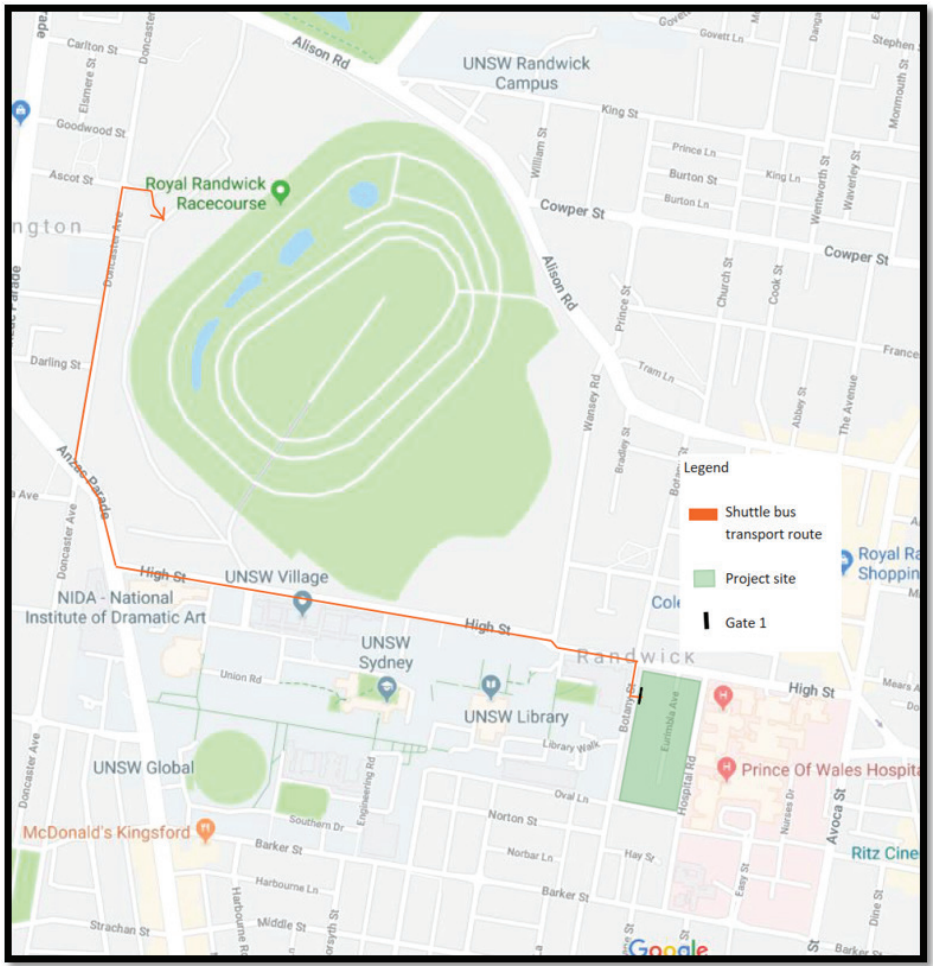


Figure 19 - Transportation Route – To site shuttle service

8.8 ON-SITE FACILITIES

Lendlease will make available facilities, within the site boundary, that enable and encourage site workers to utilise public transport and park and ride services. On-site facilities will include:

- Secure on-site storage for tools and equipment;
- Site worker amenities – change facilities and showers; and
- Dedicated materials handling areas.

9.0 STAKEHOLDER MANAGEMENT

9.1 CONSULTING AND COMMUNICATING

Lendlease's approach to managing enquiries for the Randwick Campus Redevelopment (RCR) project is to create a strategic framework which enables a consistent and transparent guide to engaging stakeholders throughout both the initial project engagement and Delivery Phase. The key principles which underpin our proposed approach are:

- Establish and maintain transparent and consistent communication channels which enable geographically dispersed and diverse stakeholders to engage which the project as required;
- Respect, involve and engage stakeholders to ensure their needs are recognised and considered throughout all phases of the project;
- Ensure a proactive, rather than reactive approach to all potential stakeholder related issues and engagement;
- Tailor communications to provide the right information, to the right people at the right time; and
- Should Lendlease receive any inquires or complaints through the RCR project hotline or email address these will be actioned in a timely fashion with the response to be circulated to the RCR project team.

The Lendlease Stakeholder Engagement Strategy supports the implementation of this CMP during demolition of Eurimbla Avenue roads, road reserve and trees activities. The Strategy outlines six key groups and their respective levels of interest in the project:

- End Users;
- Authorities / Service Providers / Utilities;
- Invested Parties;
- Impacted Parties (Primary);
- Impacted Parties (Secondary); and
- Interested Parties.

Figure 20 - Stakeholder management matrix

10.0 AUTHORITIES

101 LEGISLATIVE REQUIREMENTS

The works will be undertaken is accordance with Legislative Requirements including but not limited to:

- National Construction Code 2011 comprising the Building Code of Australia;
- Protection of the Environment Operations Act 1997 and Regulations;
- Environmentally Hazardous Materials Act 1985;
- Protection of the Environment Administration Act 1991and Regulations;
- Work, Health & Safety Act 2011 and relevant codes of practice and standards;
- Australian Standard 2601-2001: Demolition of Structures;
- Code of Practice for Safe Removal of Asbestos (NOHSC: 2002 (2005));
- Guide to the Control of Asbestos Hazards in Buildings & Structures (NOHSC: 3002 (1988));
- Resource & Recovery Act 2001;
- Environmental Planning & Assessment Act 1979;
- Heritage Act 1977;
- Local Government Act 1993; and
- National Parks and Wildlife Act 1974.

10.2 PLANNING APPROVAL AND CONSTRUCTION CERTIFICATE

In addition to the methodology outlined in Section 2.2 of the Planning Services Plan, for the Delivery Phase we note the following process:

- Development consent will be obtained through a State Significant Development Application (SSDA) under Division 4.7 of the Environmental Planning and Assessment Act 1979; and
- This will allow the earliest start on site date possible and assist with providing delivery certainty to HI, SESLHD and PWC.

Our Design Manager - Building and Authorities will lead this process working closely with the PCA (Principal Certifier) and with the HI NSW Team. The SSDA approval will identify generic and specific deliverables required from HI NSW. These will include payment of development and administration fees. Our Design Manager will coordinate this process to ensure there is a clear and coordinated program to submit all SSDA requirements to the PCA so that no program delays arise.

The Principal is responsible for obtaining all other planning approvals required to deliver the RCR.

10.3 UTILITY PROVIDER AND ASSOCIATED EXTERNAL APPROVALS

At various stages external approvals of components of the works will be required. This will include:

- Randwick City Council (traffic);
- Ausgrid (or local electrical utility provider);
- NSW Fire and Rescue;
- Jemena (gas);
- Sydney Water (water, sewer and storm water);
- Roads and Maritime Services;
- NETS, Adult A&E, Children's A&E, Careflight Helicopters (helipad);
- Communication providers; and
- Other relevant utility providers.

Our approach with these authorities will differ dependent on the respective requirements, however fundamentally we will seek:

- Prior coordination with HI NSW to ensure all approaches are aligned and coordinated;
- Early contact to mitigate potential delays and identify potential issues; and
- Establish common contacts that can provide continuity of service on the project.

11.0 HOSPITAL INTERACTIONS AND MANAGEMENT

11.1 CRANAGE AND HELICOPTER MANAGEMENT PLAN

Proposed methodology for site establishment, including crane location and swing radius

During the construction works there are no fixed tower cranes erected. Lendlease will utilise mobile cranes for pick and carry operations which will not need to be approved by Civil Aviation Safety Authority (CASA) or Sydney Airport Corporation as the mobile crane jibs are lower than the PANS OPS and OLS guidelines for the area.

Lendlease understands through our conversations with the CASA and the Principal that the existing Helipad at the Randwick Hospital is operational.

Lendlease is also acutely aware of the sensitives that helicopter access brings to Randwick Health Campus, we will continue to work proactively with all stakeholders when mobile cranes are bought to site to undertake construction works.

11.2 WORKING IN AN OPERATIONAL HOSPITAL ENVIRONMENT

The successful delivery of the Project will depend on detailed pre-planning involving all stakeholders, and the provision of clear and concise communication for each area of interface, so as to allow the ongoing operation of the existing Hospital.

To meet these requirements the Lendlease Project team proposed a three tiered approach:

- A robust Stakeholder Communication Plan;
- Operational level construction interface management group with an established meeting schedule; and
- Strict implementation of the Disruptive Works Notice (DWN) procedure.

11.3 CONSTRUCTION INTERFACE GROUP (CIG)

Lendlease propose that a Construction Interface Group (CIG) is formed at the start of the works on site. The CIG will contain members from the project team, the Principal, Hospital management, Hospital engineering staff and the SESLHD.

The CIG will meet on a weekly basis to discuss short and medium interface works and be informed of the construction activities and progress. It would also provide the forum to review and approve current Disruptive work notices.

This process has been implemented very successfully in recent NSW health projects and provided to be the cornerstone in communication and coordination between the site operations and hospital operations.

Along with specific upcoming works program and DWN actions, each CIG meeting will status general interface issues such as:

- Access and traffic management;
- Planning and management of any major services shutdowns;
- Minimising and controlling disruptions;
- Protection of existing hospital assets;
- Maintenance of existing patient and staff privacy and security;
- Emergency after-hours call outs;
- Hazardous material identification and removal;
- Noise, dust and vibration control; and
- Out of hours work.

11.4 DISRUPTIVE WORKS NOTICE PROCESS

Working in live environments such as Hospitals, provide significant challenges and responsibilities. Health Infrastructure recognises that such challenges can only be addressed through planned and structured approaches, which identify key risks and implement construction delivery accordingly.

The Contractor's construction methodology and systems for managing works, including works which cause disruption to the existing site are imperative in delivering the Project within expectations.

As the proposed team has a major influence on the success of a project, so does the manner in which the Contractor has understood, and planned the project based on its key risks. It is therefore critical that the Contractor understands such risks, and delivers this via response during the tender process.

The Project will provide a number of challenges that will require a logical, clearly defined strategic approach that the successful Contractor must be able to competently manage during construction, without impact to the business continuity of the hospital.

A strict approach to maintaining business continuity at the Hospital at all times is imperative and must be closely considered at every stage of the works. Forward planning, and the stringent implementation of the Disruptive Works Notice Procedure system (refer to Preliminaries for further guidance), will provide early warning and planning of works required to be carried out, where business continuity impacts may be felt to the hospital.

The Contractor's adherence to this existing procedure and innovations to better the process will be welcomed.

11.4.1 Process and inclusions

In alignment with RFT requirements and Lendlease experience on recent health projects, a formal notification process will be developed to manage communications in the program, details and impacts of all works which will have an impact or potential impact on the hospital operations or create heightened risk of impacts.

Disruptive Works Notices (DWN) will be submitted on a regular basis for activities ranging from major interfaces such as the service diversions, demolition works, traffic diversions, link bridge punch throughs, service interfacing works, Medical Services Construction Phasing (MSCP) works and works on public roads. DWN's will also be submitted for all other activities that could have the potential to disrupt the operation of the hospital, such as possible fumes caused by paint and vinyl laying activities etc.

An example of a major DWN would be the linking of the existing and new Pneumatic Tube Systems.

Along with the agreed DWN protocols, notice periods and technical descriptions, the DWN would include:

- Design sign-off on the planned modification;
- Marked-up sketch of works area and access routes;
- List of equipment and areas affected by works – are any critical to life safety;
- Proposed workarounds during the outage period
- Clearance that any impacts on emergency services are addressed;
- Sign-off from hospital areas impacted that they aware of works and impacts;
- Responsible persons list and emergency contacts;
- Planned duration of works and outage; and
- Contingency plan if works encounter delays/ unforeseen technical issues.

DWN's shall be issued two weeks prior to the works being undertaken, but for more major activities, these notifications will be provided with a minimum of six weeks' notice. These notifications are provided to allow the Principal and the WSLHD sufficient time to review the interface and manage the impact where possible, or if the impact is unavoidable, allow the hospital to plan and re-sequence their activities to ensure that any potential interruptions are minimised.

11.4.2 Disruptive works notice format / LiveOps

Lendlease understand the challenging nature of the RCR works located in close proximity to a complex live hospital environment. All construction works that interface with the existing Hospital facility will require meticulous planning to ensure that hospital business continuity is maintained at all times. Our experience on projects such as Gosford Hospital that is currently in delivery and the large scale refurbishment of the existing Clinical Services Building (CSB) at Liverpool Hospital, we estimate around 500 to 1,000 unique disruptive works notifications will be transmitted during the construction phase at the Campus.

Typically these Disruptive Works notifications are managed via a paper based template through email or Aconex systems. However, this solution is difficult to track, maintain version control and relies on stakeholders manually checking systems for information.

Our aim for the Campus is 'Zero Unplanned Disruptions'.

To achieve this, we propose to leverage smart technology to ensure SESLHD, HI and Randwick Project Team are kept informed of Lendlease daily construction operations, agreed Disruptive Work events and proposed future Disruptive Works events.

Lendlease propose to manage the Disruptive Works notification process via an online mobile SharePoint platform.

Through transitioning from a paper based system to an online platform we will achieve increased auditability, efficiency, transparency and collaboration within Disruptive Works processes.

This platform allows relevant project stakeholders to submit and approve Disruptive Work requests electronically via a mobile friendly online form on PC or mobile phone. Each DWN will be categorised by building, level, impact to live areas, dates, service types, or any other data set captured in the DWN forms, to allow the listing to be filtered and sorted as needed.

The home page dashboard includes a clickable visual representation of the project allowing stakeholders to click a zone and quickly view all related Disruptive Works related to that area.

A colour-coded Calendar will display all DWN's by approval status over the month for an 'at a glance' look ahead. The DWN calendar can be populated by both the construction team and SESLHD, to ensure that Disruptive Works are not planned during peak Hospital work periods.

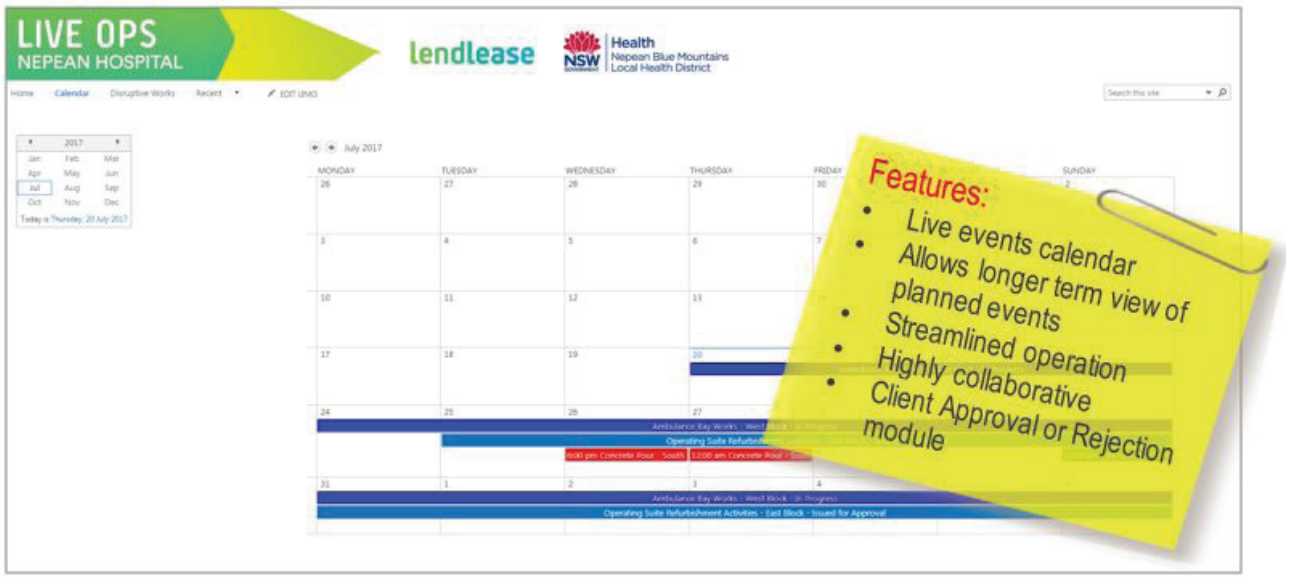


Figure 21 - Example interactive calendar displaying DWN items, showing approval statuses

Each Disruptive Work notification will also be provided in a printable detailed form with images and attachments for the LHD to distribute to all affected Hospital users. Further, when a Disruptive work is approved or rejected by the LHD/HI, an automated email notification can be sent to a customisable distribution list to ensure all relevant parties are kept informed of Disruptive Works planning.

The site will be secure and will automatically maintain versions of all active and completed Disruptive Works for auditing and reporting purposes.

Figure 22 – Filtering and viewing entire DWN listing

The DWN platform will be used in conjunction with the weekly Construction Interface Group meetings that review all short and medium term interface works between the Health Precinct and the construction.

Once a Disruptive Works activity has been agreed to proceed using the online DWN platform, a copy of the DWN form will be printed in Microsoft Word and submitted to the Principal and SESLHD through Aconex for permanent record and any further distribution.

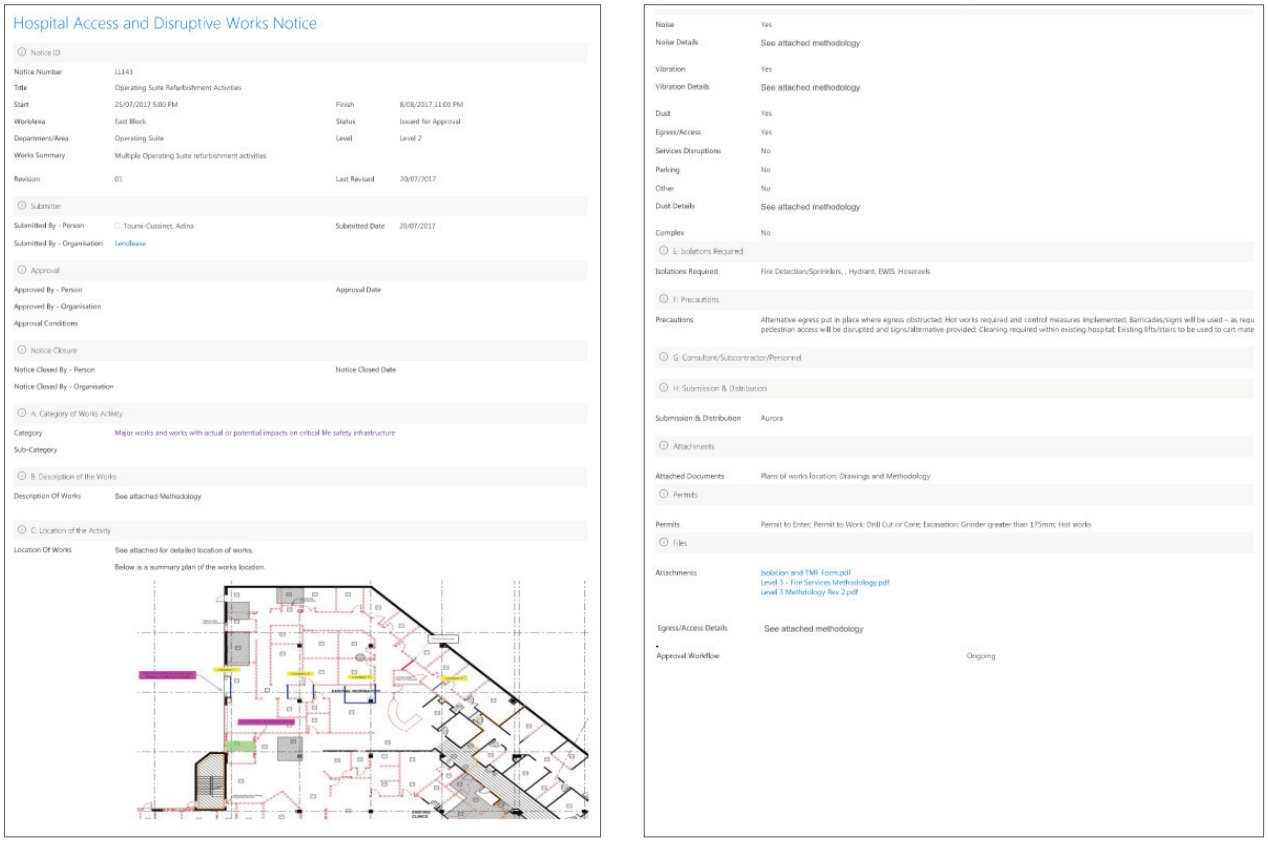


Figure 23 - Example of a printable Disruptives Works Notice from the LiveOps system

The content of the DWN form will include:

- Title, number and date of submission;
- Description of the task to be undertaken;
- Highlight whether services will or will not be disrupted;
- Detail of works, who will undertake the works and durations (date and times);
- Details of the planned disturbance e.g. noise, impact of access;
- Plan and or sections of the area;
- Out of hours work requirements;
- Risk assessment and mitigation strategies;
- Authority notifications if required;
- Required services isolations and impacts;
- Lendlease sign off;
- Impacted Area Manager sign off; and
- RCR project Manager approval.

Using the online DWN platform in conjunction with the Aconex system, we will achieve a reportable, efficient, transparent and collaborative approach to Disruptive Works.

11.5 COORDINATION OF SERVICES SHUTDOWNS AND RECONNECTIONS

Proposed methodology for co-ordination of services shutdowns, diversions and reconnection; Proposed methodology for working within an operational hospital environment;

Lendlease understand that it is imperative that key building services be uninterrupted when constructing within a live hospital environment and we have developed a process to ensure that there are no unplanned disruption to these key life critical services.

No services affecting the project will be shut down without the prior written permission of the Principal via the Disruptive Works Notice procedure. All services will be treated with lock-out / tag-out procedures. For all services requiring modification as part of our scope of works, the Lendlease team will ensure that approval is obtained prior to commencement.

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

In accordance with the Disruptive Works Notice process, the following steps will also be engaged for all shutdowns and cutovers:

- Step 1: 2 weeks' notice is provided to advice on shutdowns and cutovers along with appropriate risk analysis and proposed mitigation procedures;
- Step 2: Discuss in weekly CIG coordination meeting with the Principal and review responses from all stakeholders on timing / duration and agree what actions need to be addressed and closed out;
- Step 3: 1 week prior to shutdown / cutover, confirm with the Principal the procedure and work methodology; and
- Step 4: 1 day prior, confirm works are still proceeding.

Permits are to be completed prior to the commencement of all service shutdowns or cutovers. In addition, permits are to be completed for de-energisation and energisation of live services noting that two points of isolation are required as part of Lendlease's Global Minimum Requirements for safety before any works occur on live services.

The Lendlease Permit Controller will be appointed by the Project Manager and will be the central controller of all services related permits.

11.6 INFECTION PREVENTION AND CONTROL MANAGEMENT

Proposed methodology for infection prevention and control management;

Infection control is one of the critical areas where works in health precincts are more challenging than conventional complex construction projects. The SES LHD Infection Control Policy 2011 and the Australian Guidelines for the Prevention and Control of Infection in Healthcare provide a very robust set of processes for assessing and implementing infection control measures during construction works.

The project specific Infection Control Plan is developed prior to commencing the demolition of Eurimbla Avenue roads, road reserve and trees works. In preparing this plan Lendlease will make reference to the 'Infection Control Principles for the Management of Construction, Renovation, Repairs and Maintenance within Healthcare Facilities.

The plan will identify the different types and locations of works planned on the RCR and specify the level of infection control required for each type of activity. This plan prescribes the upfront the measures required to achieve a standardised response to compliance.

The measures that will be implemented for the project will vary from minor within the new works footprint to extensive for refurb works to clinical areas and have been grouped below:

11.6.1 Safe Work Practises

- Hand sanitisers at work entry and exit points;
- Daily Pre-start Safety Briefings that reinforce Infection Control measures;
- Daily wet mopping to works areas to control dust;
- Contain construction waste before transport in tightly covered containers; and
- Daily cleaning of work area and debris removal.
- Regular supervisor and Lendlease audits of the work environment;
- Upgrade and replace mechanical air intake filters which could be exposed to increased air borne particulates from the construction works. This is critical to the operating theatres areas and any other areas adjoining the new works such as level 3 day oncology;
- Hoardings will have a cleanable face and skirting details;
- Seal holes, pipes, conduits and punctures appropriately; and
- Air quality monitoring adjacent critical clinical areas.

12.0 PROJECT COMPLETION

12.1 OVERVIEW

Lendlease has proven track record when it comes to delivering, highly complex and challenging projects and the Randwick Campus Redevelopment (RCR) project is no different. Over the many years in operation Lendlease has created a number of succinct processes and systems to manage and coordinate seamless project completion, commissioning and handover. A detailed construction program will be developed as the design is progressed throughout the next phases of the project.

12.2 QUALITY MANAGEMENT

Lendlease will implement a comprehensive Quality Management Plan to manage and monitor delivery quality on the project. The QMP will provide the framework for managing and monitoring delivery quality on the project.

Specifically the following areas will be addressed in the QMP:

- Setting and monitoring document control processes across the project including require control documents and tracking of construction documentation;
- Setting out individual responsibilities for quality management on the project: people and roles including competencies;
- Determining level of QA documentation required from subcontractors and consultants which will be incorporated in respective packages;
- Set out ITP process and requirements of submitted and approving ITP forms;
- Management of Project internal administration documentation;
- System and subcontractor audit process and timetable;
- Corrective Action procedures and Non-Conformances;
- Running the QA system on the Aconex or Zutec platform; and
- Compliance with Lendlease certifications including AS/NZS ISO 9001:2008.

This QMP is a management tool and control measure, however the real driver for delivering high quality on the project will be the culture driven through the project by the Lendlease Project Team with their subcontractors working collaboratively in setting and maintaining standards.

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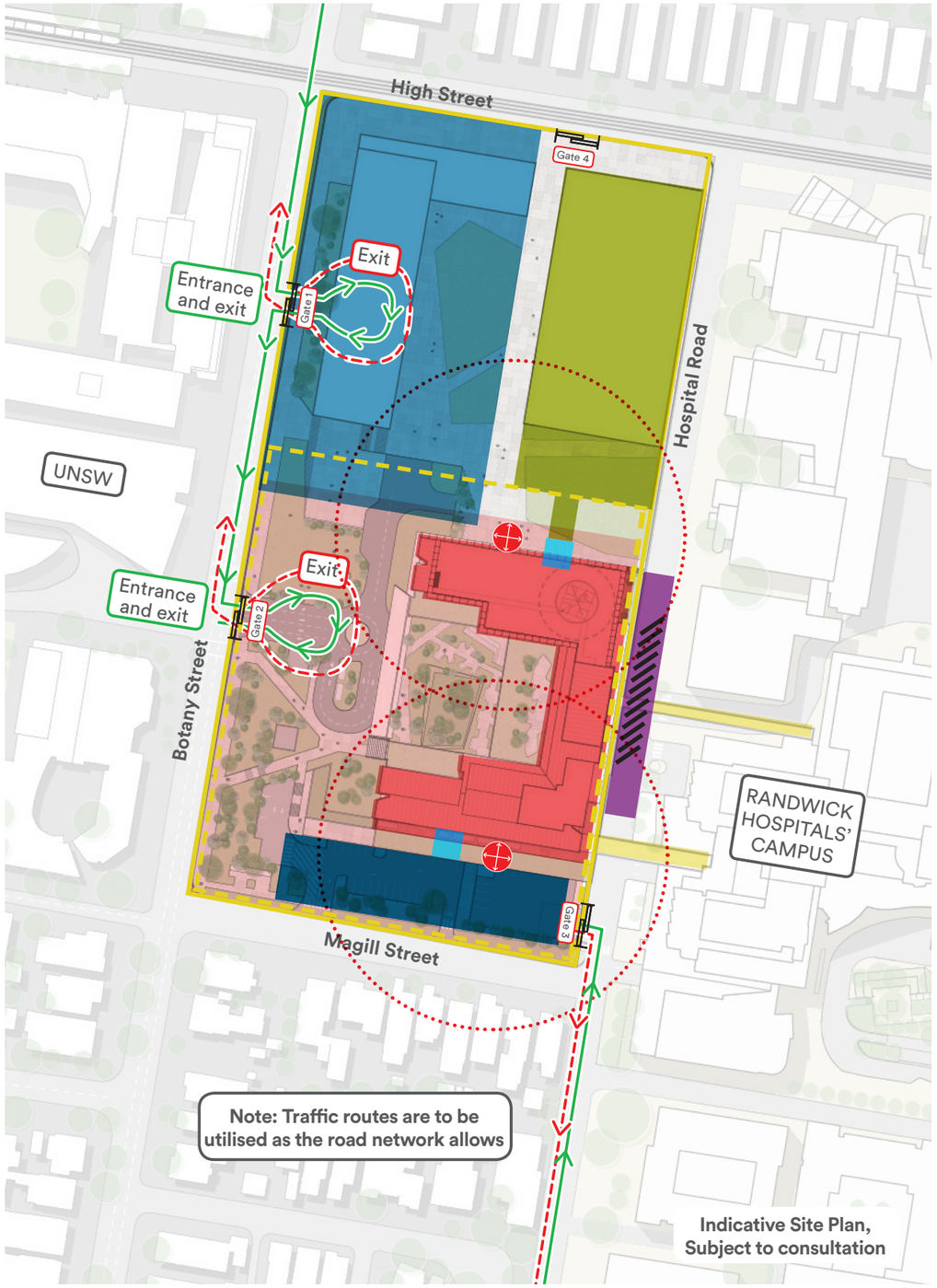
13.0 APPENDICES

APPENDIX 1 – SITE ESTABLISHMENT PLAN



Legend

- A-class hoarding
- Stage 1 Boundary
- Vehicle entry gate
- Construction traffic
- Light construction traffic
- Exit
- Hospital Road Lowering
- UNSW Eastern Extension
- Site accommodation and client site office
- Pedestrian link bridge
- Hoist locations
- Tower crane
- Crane radius

Indicative Site Plan subject to consultation

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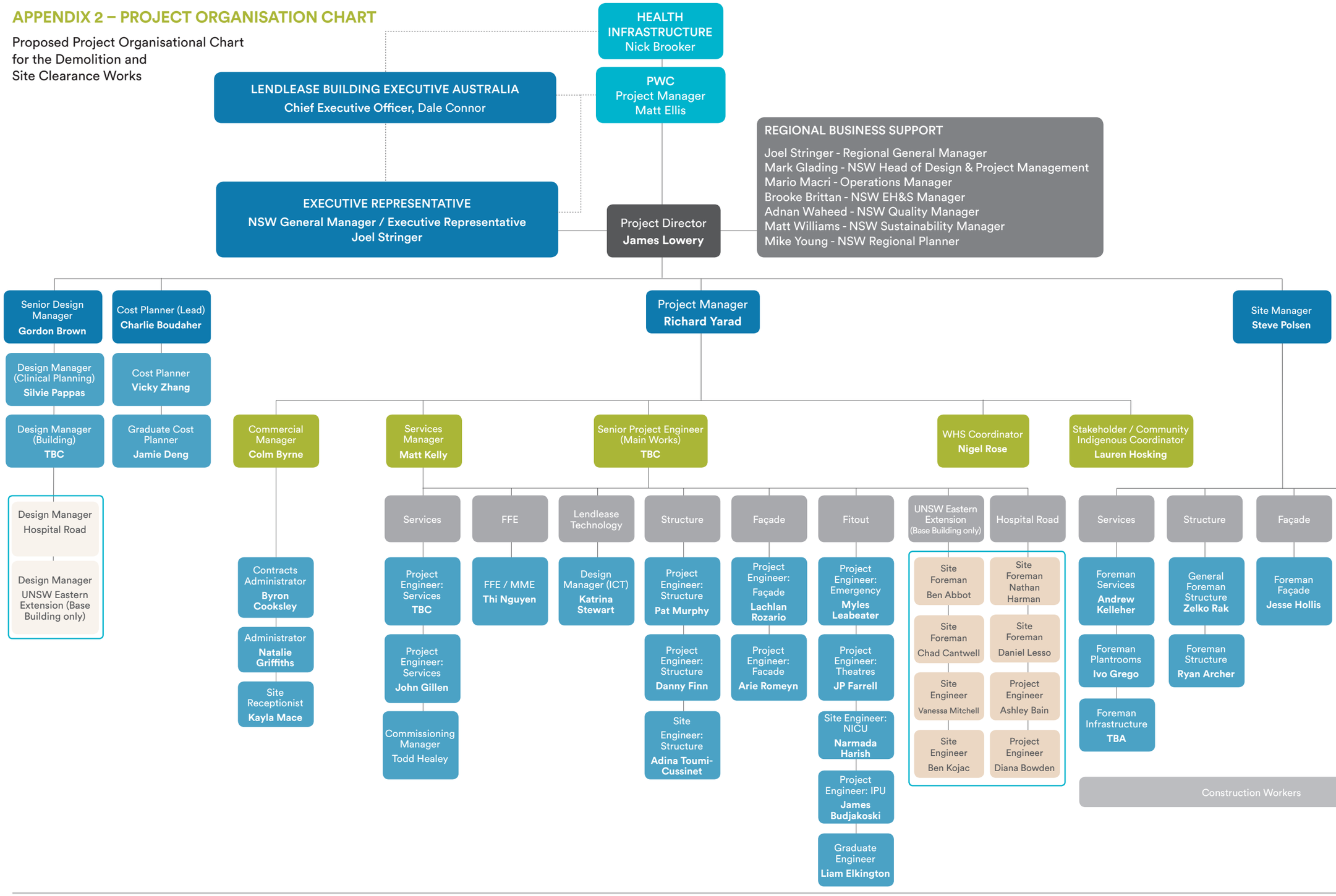
APPENDIX 2 – PROJECT ORGANISATION CHART

Proposed Project Organisational Chart for the Demolition and Site Clearance Works



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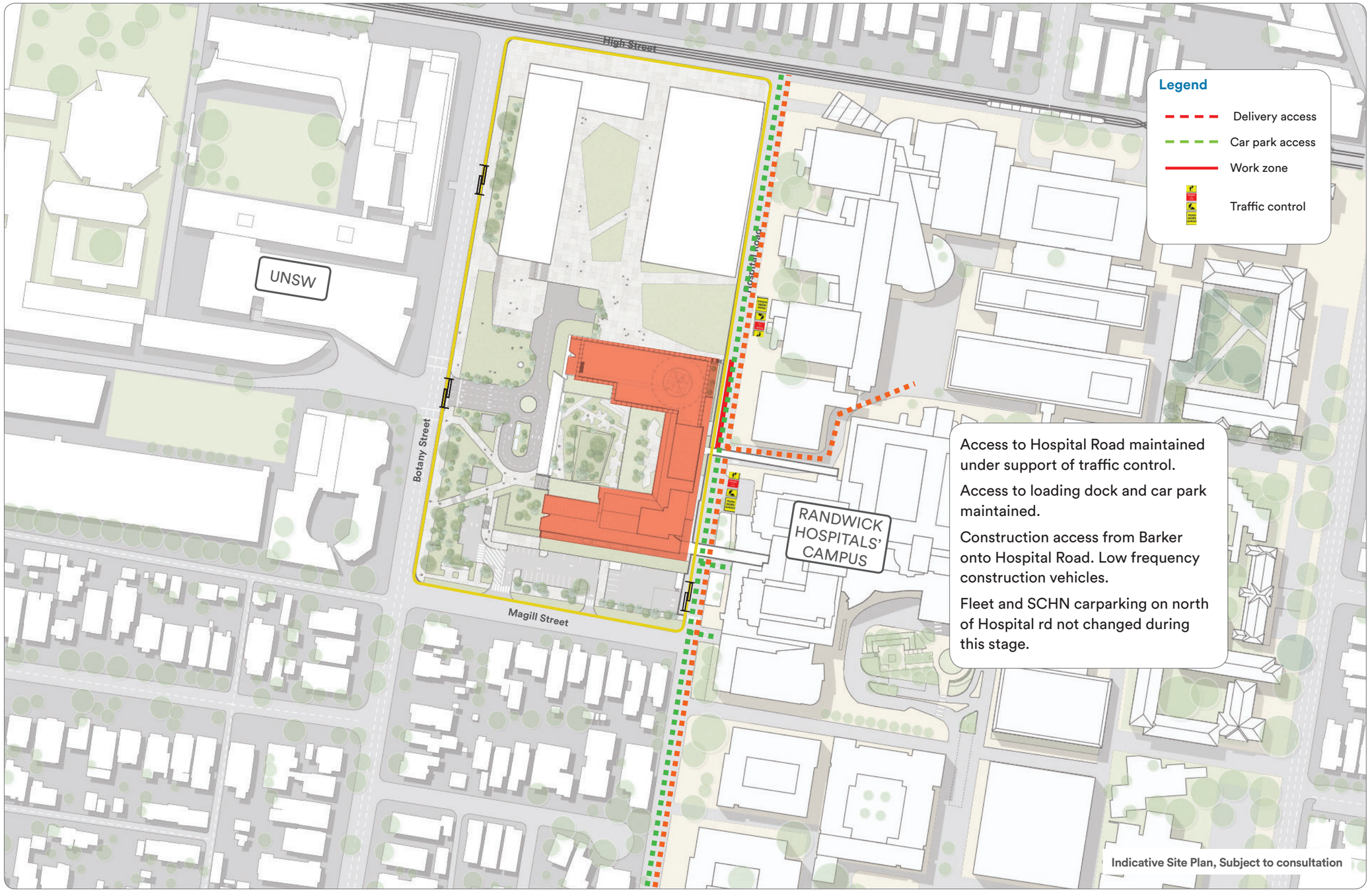
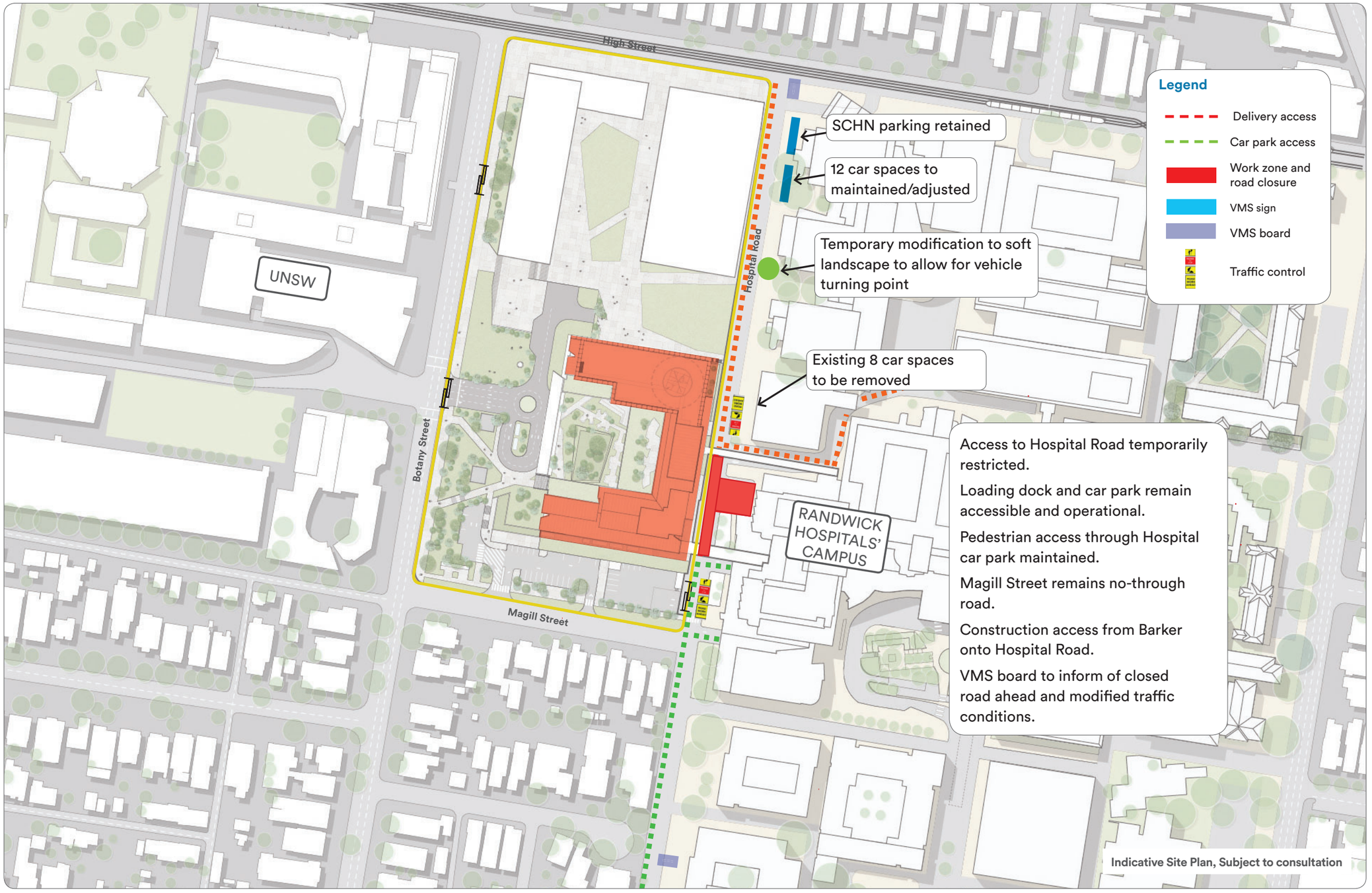
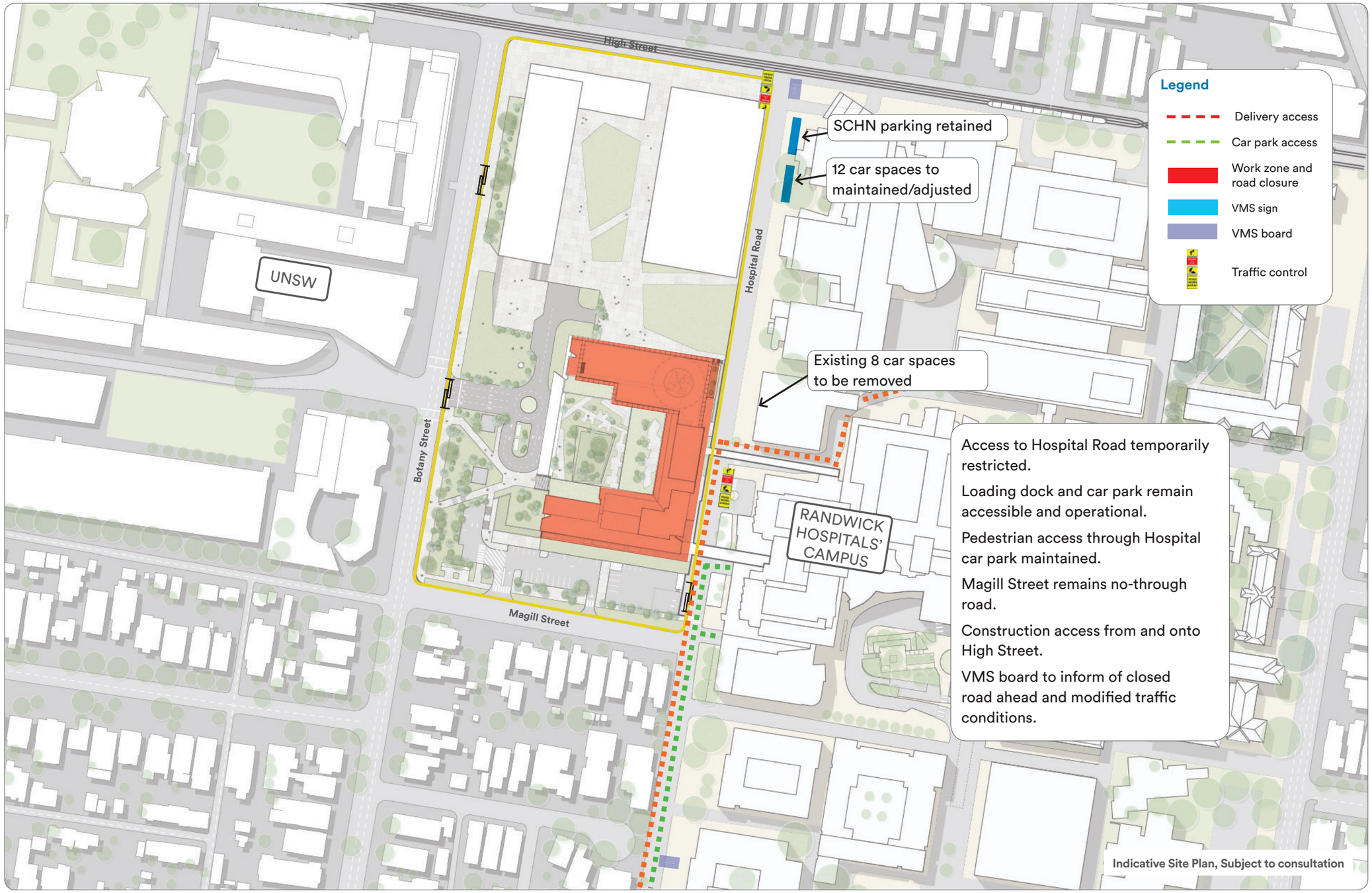
PROPOSED HOSPITAL ROAD LOWERING - STAGE 1 – OCT 19 - JAN 20 (INDICATIVE)



PROPOSED HOSPITAL ROAD STAGE 3 – PROPOSED HOSPITAL ROAD STAGE 3 – MAY 20 – DEC 20 (INDICATIVE)



PROPOSED HOSPITAL ROAD STAGE 2 AND 4 – STAGE 2 - JAN 20 - APR 20 (INDICATIVE) / STAGE 4 - DEC 20 - MAY 21 (INDICATIVE)



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