

WESTERN SYDNEY
UNIVERSITY



State Significant Development Application
Construction Management Plan

2-6 Hassall Street, Parramatta
Western Sydney University Innovation Hub

Submitted to NSW Department of Planning and Environment
On behalf of Western Sydney University

9 April 2019, Revision 2.

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Contents

| | | |
|--------|--|----|
| 1. | INTRODUCTION | 5 |
| 2. | AUTHORITIES..... | 6 |
| 2.1. | LEGISLATIVE REQUIREMENTS..... | 6 |
| 2.2. | SSDA APPROVAL AND CONSTRUCTION CERTIFICATE..... | 6 |
| 2.3. | LOCAL GOVERNMENT, UTILITY PROVIDER AND AUTHORITIES | 7 |
| 3. | STAKEHOLDER MANAGEMENT | 7 |
| 3.1. | CONSULTION AND COMMUNICATIONS | 7 |
| 4. | STAGING AND BUSINESS CONTINUITY | 8 |
| 4.1. | Working Within the Parramatta CBD | 8 |
| 5. | RISK MANAGEMENT..... | 9 |
| 5.1. | IDENTIFICATION & MANAGEMENT OF KEY RISKS & HAZARDS | 9 |
| 5.2. | MANAGING RISKS WITHIN A CBD ENVIRONMENT..... | 10 |
| 5.3. | HAZARDOUS MATERIAL..... | 11 |
| 6 | INDUCTIONS..... | 11 |
| 7 | CONSTRUCTION SITE MANAGEMENT | 12 |
| 7.1 | DILAPIDATION SURVEYS AND NOISE MONITORING..... | 12 |
| 7.2 | SITE ESTABLISHMENT | 12 |
| 7.2.1 | Hours of Work | 12 |
| 7.2.2 | Proposed Site Plan and Site Establishment..... | 13 |
| 7.2.3 | Construction Traffic, Pedestrian and Deliveries Planning | 13 |
| 7.2.4 | Site Perimeter Security | 14 |
| 7.2.5 | Site Compound & Amenities | 14 |
| 7.2.6 | Worker Transportation and Parking | 14 |
| 7.2.7 | Site Emergency, Evacuation and Incident Response..... | 14 |
| 7.2.8 | Waste Management..... | 14 |
| 7.2.9 | Materials Handling | 15 |
| 7.2.10 | Temporary Works | 15 |
| 7.2.11 | Edge Protection..... | 16 |
| 8 | ENVIRONMENTAL PROTECTION..... | 16 |
| 8.1 | Noise, dust and vibration | 16 |
| 8.2 | Air Quality and Dust Management..... | 17 |
| 9 | CONSTRUCTION PROGRAM METHODOLOGY | 17 |
| 9.1 | CONSTRUCTION STAGING | 17 |
| 9.2 | CONSTRUCTION MANAGEMENT SEQUENCING | 17 |
| 9.2.1 | Excavation, Piling, Inground Services and Jumpform..... | 17 |
| 9.2.2 | Slab on Ground | 18 |
| 9.2.3 | Ground Level and Podium Slabs..... | 18 |
| 9.2.4 | Tower Structure | 18 |
| 9.2.5 | Facade..... | 19 |
| 9.2.6 | Waterproofing Systems | 19 |

| | | |
|-------|---|----|
| 9.2.7 | Building Services | 19 |
| 9.2.8 | Integrated Fit Out and Finishes | 19 |
| 9.2.9 | Landscaping and handover | 20 |
| 10 | COMBINED TRAFFIC AND PEDESTRIAN MANAGEMENT..... | 20 |
| 10.1 | TRAFFIC MANAGEMENT AND CONTROL | 20 |
| 10.2 | TRAFFIC MANAGEMENT AND CONTROL | 20 |
| 10.3 | CONSTRUCTION ACCESS AND TRAFFIC ROUTES | 21 |

1. INTRODUCTION

This Construction Management Plan (CMP) has been prepared for the State Significant Development Application (SSDA) works for 2-6 Hassall Street. The proponents aspire to establish a state-of-the-art facility for engineering innovation and will offer programs across engineering, architecture and entrepreneurship. This project aims to bring together key WSU Institutes and provide opportunities for colocation and collaboration with complementary commercial partners. Through the proposed development, WSU will leverage its distinctive education and research strengths and serve as a focal point for co-creation, exchange and translation with business, industry and community within a highly serviced location.

Specifically, the proposal will seek approval for:

- Construction and use of a 19 storey building comprising:
 - Basement / Lower Ground level including car and bicycle parking, a loading dock, back-of-house storage and plant, and tertiary institution floorspace;
 - Ground level including retail tenancies, tertiary institution lobby floorspace, a commercial office lobby, plant equipment, end of trip facilities and driveway ramp;
 - Above ground levels comprising tertiary institution and commercial floorspace;
 - Podium terraces and rooftop plant equipment;
- Landscaping and public domain works including the provision of a ground level through-site link; and
- Extension and augmentation of services and infrastructure as required.

This CMP is a preliminary plan which has been prepared to define the minimum conditions of standards for site activities and works methodologies and address the impact of the construction works associated with the future redevelopment of 2-6 Hassall Street, Parramatta.

A Principal Contractor will not be appointed until after approval is granted for the Development Application. The objective of this CMP is to outline a high level framework within which future construction works shall be undertaken. Upon appointment and having developed a final detailed demolition and construction methodology, the Principal Contractor will prepare and submit an amended CMP containing an increased level of detail. The revised and expanded CMP will provide the Principal Contractor's preferred construction methodologies and project specific site management planning detail with the specifics of construction impacts of time, nature, location, extent and duration.

The planning and implementation of construction works will be completed in consultation with the following statutory authorities where applicable:

- Parramatta City Council
- NSW Heritage Office
- NSW Environment and Heritage
- Transport for NSW
- Roads and Maritime Services
- Fire and Rescue NSW
- Sydney Water Corporation
- WorkCover Authority of NSW

This CMP is a preliminary plan which has been prepared to give an outline of the processes to be employed during the main works construction stage of this project. This CMP will outline the preliminary construction management processes including:

- The works being designed, constructed, commissioned and handed over by a single proven responsible entity; and
- Reduced risk of delivery.

Demolition of the existing building has been previously addressed in the CMP provided under the early works Development Application (DA) submitted and approved by City of Parramatta for this site. Works carried out under the Early Works DA approved by the City of Parramatta includes the following:

- Construction of hoardings
- Tree removal

- Demolition of existing structures
- Archaeological clearances
- Shoring and piling
- Excavation works

The following sections set out the methodology for undertaking the construction works, including our processes controls and management of the live interfaces.

The CMP also defines the impacts of the proposed construction activities to the surrounding areas of the site. 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 eradicate any potential risk to the community.

The appointed Principal Contractor will take a proactive and collaborative approach underpinned by the following objectives:

- Ensure safe and timely delivery of the project incorporating a holistic design and construction approach to deliver the works on time to the highest safety and quality standards
- Maintain business continuity to the adjoining facilities and properties;
- Communicate in a timely and proactive fashion with all relevant stakeholders, including immediate neighbours and the community regarding how we are planning to undertake interface works;
- Maintaining a clean site and a positive public perception during the construction works;
- Use experienced and competent subcontractors with appropriate resources to deliver their works in accordance with the relevant standards and codes;

2. AUTHORITIES

2.1. LEGISLATIVE REQUIREMENTS

The SSDA works for 2-6 Hassall Street will be undertaken in accordance with the relevant Legislative Requirements including but not limited to:

- National Construction Code 2019 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 1991 and Regulations;
- Work, Health & Safety Act 2017 and relevant codes of practice and standards;
- Australian Standard 2601-2001: Demolition of Structures;
- Environmental Planning and Assessment Act 1979;
- Heritage Act 1997;
- Local Government Act 1993; and
- National Parks and Wildlife Act 1974.

2.2. SSDA APPROVAL AND CONSTRUCTION CERTIFICATE

The Proponent's appointed Project Managers Solutions Consulting Australia in conjunction with the appointed Principal Contractor will lead this process working closely with the PCA (Principal Certifier) and with the Proponent's Team. The SSDA approval will identify consent conditions and deliverables required from the Proponent for the issuance Construction Certificate. The appointed Principal Contractor and Project Manager will coordinate this process to ensure there is a clear and coordinated program to submit all Construction Certificate requirements to the PCA so that no program delays arise.

2.3. LOCAL GOVERNMENT, UTILITY PROVIDER AND AUTHORITIES

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

- City of Parramatta
- Sydney Water;
- Jemena;
- Endeavour Energy;
- NSW Fire and Rescue;
- Roads and Maritime Services;
- Environmental Protection Authority
- Communication providers; and
- Other relevant Authorities.

The proposed approach with these authorities will differ dependent on the respective requirements, however fundamentally the project will seek:

- Prior coordination with stakeholders 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

3. STAKEHOLDER MANAGEMENT

3.1. CONSULTATION AND COMMUNICATIONS

The appointed Principal Contractor will develop a strategic framework which enables a consistent and transparent guide to engaging stakeholders who are either interested or impacted by the 2-6 Hassall Street Project.

The appointed Principal Contractor will manage stakeholder interests and expectations through early and ongoing engagement. Every member of the appointed Principal Contractor's Project Team will have responsibility for appropriate and effective stakeholder interactions. The key principles of the proposed approach are:

- Establish and maintain open and transparent communication channels with all key stakeholders to ensure they are accurately informed about the project;
- Tailor communications to provide the right information, to the right people at the right time;
- Ensure a proactive, rather than reactive approach to all potential stakeholder related issues and engagement; and
- Respect, involve and engage stakeholders to ensure their needs are recognised and considered at all stages of the project.

The appointed Principal Contractor Stakeholder Management and Communications Plan will support the implementation of the Contractor's final CMP. The Plan will outline key stakeholder groups who are directly or indirectly impacted by works and their respective levels of interest in the project. Key stakeholder groups include:

- Client;
- End Users;
- WSU Operations / Facilities Management;
- Transport;
- City of Parramatta Council;
- Local community;
- Government Departments and Agencies; and

- Authorities / Service Providers / Utilities.

4. STAGING AND BUSINESS CONTINUITY

4.1. Working Within the Parramatta CBD

The appointed Principal Contractor will take a proactive risk management approach and develop a CMP that addresses the challenges and constraints necessary to manage a major construction works interface within the Parramatta CBD and minimize disruptions to the neighbours and community.

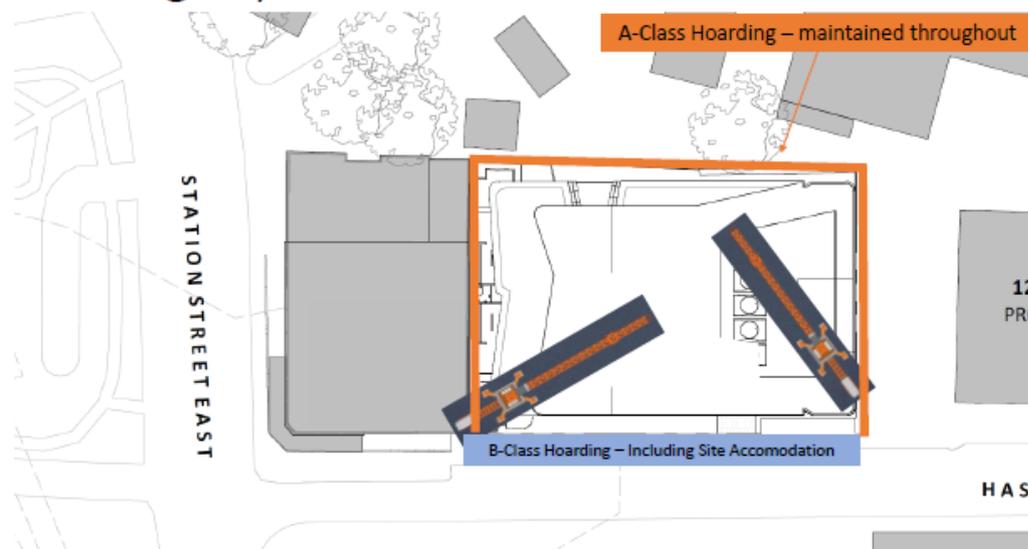
Prior to the commencement of the SSDA works, an A Class Hoarding will be in place from the previous demolition works under the early works DA. The site accommodation will be located within the boundaries, the exact placement of the site accommodation will be determined by the appointed Principal Contractor.

The site area will require careful management of site run-off. Erosion and Sediment Control Plan and other site management measures will be installed prior to commencing any civil works as per the Civil design drawings.

Site Establishment:

- Site accommodation will be located within the site boundary;
- Workforce access will be from gates located along Hassall Street. A controlled access point will be installed to provide secure access to the construction site and worker accommodation. Depending on availability, this may be a 2-storey facility.

Hoarding Layout



Adjoining Properties and Construction Interfaces:

The key issues to consider for adjoining property interfaces include the following:

- Regular stakeholder communications and notices.
- Regular construction risk assessment to identify areas of potential interface that may impact the community;
- Managing and controlling where construction interface occurs including with adjoining properties, boundaries, structures, pedestrians, neighbours, footpaths and roadways;
- Safe separation of the construction works and workers from public areas, ensuring there are suitable site accommodation and amenities within the construction boundaries; and

- Use of suitable equipment and low impact construction methods to mitigate noise, dust and vibration impacts wherever possible.
- Take a proactive approach and engage early with the relevant utilities providers and neighbours to consult and notify of any infrastructure disconnection, augmentation and disruptions.



5. RISK MANAGEMENT

5.1. IDENTIFICATION & MANAGEMENT OF KEY RISKS & HAZARDS

The main building works for 2-6 Hassall Street will present opportunities and risks, the appointed Principal Contractor prior to commencement of works will adopt a WHS CHAIR (Construction Hazard Assessment Identification and Review) approach to construction risks. The appointed Principal Contractor will conduct collaborative workshops including all project stakeholders to identify key safety in design items and works interface points between the construction site and the surrounding properties and determine the agreed mitigation for the identified risks.

The following table is a preliminary assessment of construction risk and mitigation associated with the main works that the appointed Principal Contractor will further develop and expand(as required).

Table 1: Risk Assessment

| Risk, Major Issues and Interface Type | Details | Mitigation |
|--|--|--|
| Environmental Conditions | The site area will require careful management of site run-off. | Ensure Erosion and Sediment Control Plan and other site management are in place as per Civil Engineers documentation. |
| Unauthorized access to the Construction Site | Prevent unauthorized public access to site | Contractor to ensure "A" class hoarding is be maintained around site perimeter |
| Unauthorised access to crane | Prevent unauthorized public access to site and crane area | Install anti climb measures around crane base and ensure "A" class hoarding is maintained around crane. Ensure tower crane locks are installed and locked daily. |
| Works adjoining public areas - Alterations to site compound fencing | boundary hoardings to be monitored and adjusted for site entry, enclosures and gates adjacent to public accessible areas | Utilise spotters and traffic controllers during the course of the works. Maintain separation and exclusion zones where ever possible. Use temporary barriers to provide separation for pedestrian and vehicle routes such as foot path crossing and temporary work zones. |
| Ensure immediate residents and businesses are notified regarding construction activities | Understand the impacts of construction staging to local surroundings and neighbours | All workers to be made aware of their responsibilities for controls and mitigation of disruption. Develop works staging with consideration of the local surrounding and existing use. Ensure there is a full understanding of the proposals and impacts including: durations, construction machinery, power tools, emissions, noise, temporary access etc. |

| Risk, Major Issues and Interface Type | Details | Mitigation |
|--|--|--|
| Construction Workers access and egress impacting neighbours, pedestrians, local traffic and businesses | Construction works are staged to create minimum impact and disruption to local area, business and community | Access to and from site will be clearly defined and out of bounds identified during inductions and recorded on site plans. Site inductions will include workers amenities within the construction site and nearby food outlets to minimise the distance walked for workers. Contractor to track vehicle movements and communications when accessing site. |
| Interface with neighboring construction operations | Work in close coordination with neighbouring construction site managers to coordinate work zone and construction movements | Regular communication and planning protocols to be set-up and managed to ensure a successful project outcome and mitigate impact to the immediate surroundings including footpaths and roadways. |
| Disruption of the existing pedestrian and vehicle access | Entry/exit to site will be manned and managed by Traffic controllers to mitigate disruption to pedestrian and vehicle access. Traffic Management plan to be implemented | The project works will be include a Construction Traffic and Pedestrian Management Plan to be implemented in consultation with relevant stakeholders including Council stakeholders prior to the commencement of construction. In consultation with Council, identify proposed construction vehicular traffic movements and routes. Prepare and agree a detailed traffic management plan that will be implemented on the project. |
| Vehicle parking | Commencement of the construction works will result in increase of workforce number to the area. | Subcontracts will include the parking restrictions clearly noting there will be no parking on site and the use of public transport is encouraged during inductions. Parramatta transport interchange is within 200m from the site. |

A detailed risk analysis and refinement of the associated mitigation strategies will be further developed by the appointed Principal Contractor.

5.2. MANAGING RISKS WITHIN A CBD ENVIRONMENT

The appointed Principal Contractor will be qualified and experience in managing a major construction site in within a CBD environment. The activities identified below have the potential to significantly impact on the wider CBD and neighbours 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 assets (including roads and footpaths);
- Maintenance of neighbouring residents and works privacy and security;
- Emergency after-hours call-out;
- Hazardous material identification and removal;

- Noise, dust and vibration control; and
- Out of hours work.

The appointed Principal Contractor 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 University:

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

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

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

5.3. HAZARDOUS MATERIAL

Soil classification and Geotechnical Reports have been prepared for the site and the removal of all fill material have been removed from site as part of the early works completed under a separate DA approved by City of Parramatta. When managing hazardous materials and unexpected finds, an unexpected finds policy will be in place.

6 INDUCTIONS

Contractor inductions will be conducted to inform workers of their work environment and responsibilities working within a construction site and surrounding CBD context. The project induction will train new workers with a focus on:

- Project specific safety and emergency procedures
- Working hours
- Traffic Management
- Defining no access zones such as neighbouring properties.;
- Separation of Construction Amenities: amenities to be planned for within the construction site boundaries;
- Noisy Works Procedure - workers to be informed of their responsibilities and understanding of noisy works and permissible timeframes for noisy works;
- Working Adjacent to Local Residential and Business Properties - workers will be made aware of acceptable

positive contractor behavior including minimising disruptions to local area;

- Working Adjacent to Other Construction Sites - workers will be alerted to the neighbouring major constructions along Hassall Street and the Parramatta CBD and observe safe practices when accessing to and from site and the surrounds. and
- Acknowledging and adherence to all relevant authority requirements and including local City of Parramatta requirements

7 CONSTRUCTION SITE MANAGEMENT

The 2-6 Hassall Street project site establishment will be well planned project management overlay for the delivery of the construction works with a considered , staging and operation to ensure the achievement of:

- Site safety;
- Productivity;
- Worker and site security; and
- Interface works management

The appointed Principal Contractor’s nominated delivery team will develop a detailed management plan, which will set the project up for success, establish the site culture, program and methodologies on site.

The pre-planning and methodology assessment by the appointed Principal contractor will establish key staging and organisation of the site for the duration of the construction. The following sections provides a preliminary outline of the overall approach that may be incorporated by the appointed Principal Contractor into the detailed site management plan .

7.1 DILAPIDATION SURVEYS AND NOISE MONITORING

Prior to commencing on site the appointed Principal Contractor will carry out dilapidation survey of existing infrastructure in and around the site that may impact the works. The dilapidation report will be provided as a pre- commencement record of the existing built works adjacent to the site.

The Dilapidation Survey will also address services within covered roadways, footpaths, offsite infrastructure, services in existing buildings and adjacent areas to the site such as zone sub stations etc.

Prior to construction works onsite engage an acoustic consultant to prepare a Construction Noise and Vibration Management Plan (CNVMP) for advice and recommendations to manage the noise and vibration issues resulting from the construction works.

As the 2-6 Hassall Street site is adjacent registered heritage items being the Commercial Hotel (to the west) and Lancer Barracks (to the north). The CVMP will include relevant monitoring and protection strategy for any heritage or significant buildings located adjacent to the site.

7.2 SITE ESTABLISHMENT

7.2.1 Hours of Work

The 2-6 Hassall Street working hours will align with the approved working hours contained in the SSDA conditions of consent, generally the working hours proposed to be as follows:

- Monday to Friday: 7am – 6pm
- Saturday: 8am – 5pm
- Sunday: No work

For any works that may be required to be undertaken outside of the standard approved hours such as tower crane erection, the appointed Principal Contractor will agree the process with relevant authorities including City of Parramatta,

Transport for New South Wales (TfNSW) and Roads and Maritime Services (RMS) as per the standard industry and authority requirements.

7.2.2 Proposed Site Plan and Site Establishment

The following section highlights the location of the site accommodation, project office, and demonstrates how the site will be accessed by construction workers and vehicles during the course of construction.

The below diagram shows the proposed site establishment including “A” and “B” Hoardings, Site Accommodation and crane locations.

Hoarding Layout

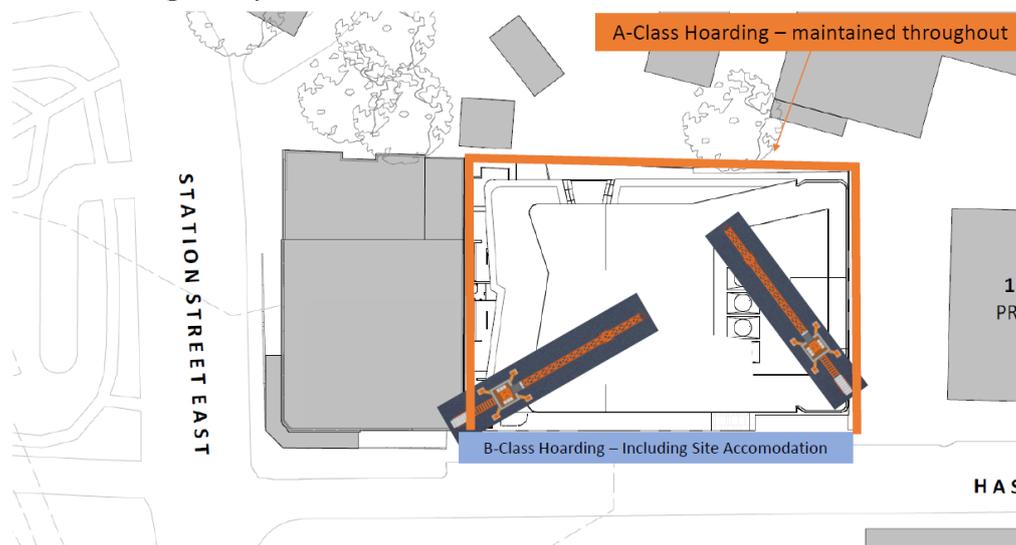


Figure 2 Site establishment 2-6 Hassall Street.

7.2.3 Construction Traffic, Pedestrian and Deliveries Planning

A Construction Traffic and Pedestrian Management Plan Management will be developed for site access and the flow of materials and equipment into and out of the construction site. Planning will incorporate the following:

- Approved site delivery and working hours
- Minimizing disruption to existing vehicular and pedestrian access along Hassall Street and the surrounding area.
- The use telephony and or radio communications to coordinate vehicle movements arriving to and from site;
- Coordinate with suppliers to ensure the correct size and weight vehicles are allocated to the project and compliance with authority vehicle weight limits.
- Maintaining throughout all construction activities compliant pedestrian access along Hassall Street;
- Planning construction vehicle movements, mitigating impact along Hassall Street and surrounding roads

to include detailed analysis of delivery frequencies overlaid with the program and the identification of the various access routes to the site;

- Hassall Street is identified as a high pedestrian thoroughfare, the appointed Principal Contractor will develop strategies to maintain access along Hassall Street throughout all stages of the works. This includes maintaining access along the Hassall Street footpath.

7.2.4 Site Perimeter Security

The site perimeter will be kept secure at all times during the construction period. No unauthorised access will be permitted. Construction worker accessing the site will be strictly controlled and managed by the Principal Contractor via a proximity card and secured gate.

7.2.5 Site Compound & Amenities

Site sheds will be provided for workers accommodation and amenities, the site sheds will be erected, relocated and demobilized as required throughout the redevelopment to suit the staging plan and workforce demands.

Onsite accommodation will likely consist of both single and double stacked sheds located wholly within the site boundary for construction workforce and site staff. Due to the complexity of the site works and demand for space, it is likely that offsite accommodation will also be provided by the Principal Contractor during the course of the project for project administration and staff functions.

7.2.6 Worker Transportation and Parking

The site is in close proximity to Parramatta Transport interchange serviced by various modes of transport options including trains and bus lines operating routes within Parramatta and surrounding suburbs. All workers will be encouraged to use public transport to reduce the number of light vehicles on the road and to ease congestion around the site immediate local area. As part of the Principal Contractor's planning for transport and parking the following key sites and neighboring construction sites will be considered for traffic volume and movements;

- Parramatta Square Project – new civic square and major commercial tower redevelopments
- Lancer Barracks events;
- Arthur Philip and Parramatta Public School Construction works;
- No.9 Hassall Street Construction;
- No.11 Hassall Street Construction; and
- Hassall Street residential community.
- Station street Parramatta CBD traffic movements

7.2.7 Site Emergency, Evacuation and Incident Response

The appointed Principal Contractor will prepare and implement an Emergency Evacuation Plan and Crisis Management Plan to deal with major site incidents or emergency situations.

7.2.8 Waste Management

Waste bins will be provided throughout the construction site and will be regularly cleared and transferred to the main waste location by the subcontractors for collection and removal offsite the nominated waste recycle facility. Bins movements be conducted manually and by motorized plant.

In accordance with the waste management plan all waste will be sorted at the approved waste management centre. To comply with the agreed ESD initiatives records for all wastes removed with by tracked via auditable records for quantities recycled and disposed landfill. Waste records will collected and reported in compliance with the ESD and Green Star initiatives.

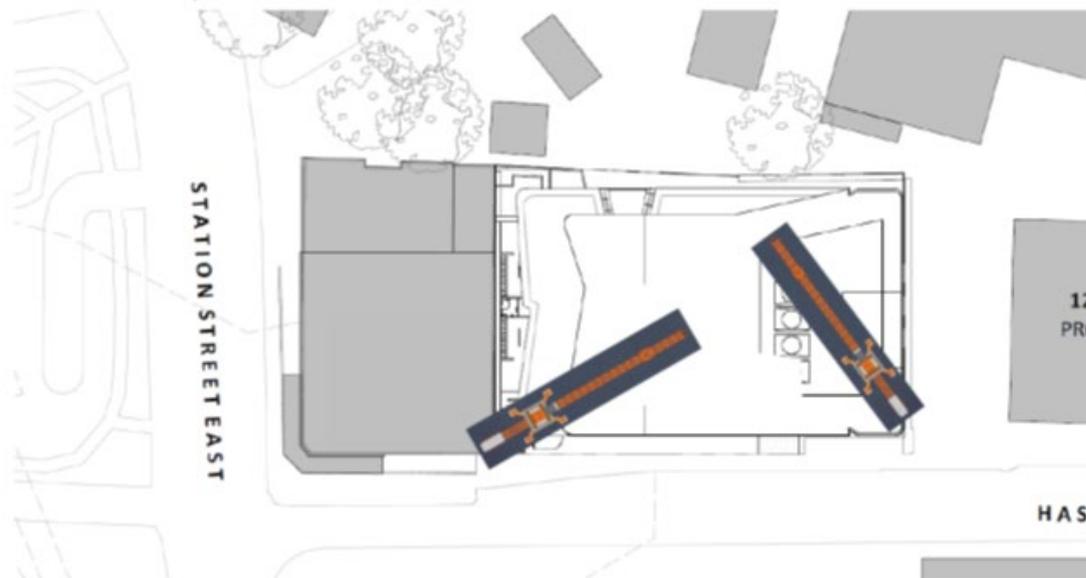
7.2.9 Materials Handling

The appointed Principal Contractor will assess and determine the type, size, location of the cranes required to provide efficient material handling for the works. The selection criteria will consider:

- Access to erect and dismantle of cranes.
- Load or weight capacity;
- Site Coverage
- Service and Maintenance access
- Minimising disruption to the adjacent area and property

Up to two (2) lifting tower crane or similar may be implemented for the project. The cranes will be utilised for all construction material handling. The location of the Tower cranes will be determined by the appointed Principal Contractor and will be landed or fixed to a footing frame. Installation of the crane will typically be completed outside of normal weekday business hours. The appointed Principal Contractor will be responsible for the procurement of the appropriate permit approvals by City of Parramatta.

Crane Layout



The above diagram shows the preliminary location for a two (2) tower crane configuration

An Alimak (size to be determined) will be installed by the Principal Contractor to ensure that the workforce is provided with vertical transportation efficiently and safely. During fitout works stages the Alimak will be utilized to provide vertical transport for fitout materials and supplement the materials handling productivity on site. horizontal material handling will be provided by forklifts or telehandler to assist with materials loading, bin movements and general materials handling.

7.2.10 Temporary Works

During construction protection decks, A Class and B Class Hoardings and proprietary props will be utilised. The appointed Principal Contractor will carry out risk assessment prior to the use and implementation of any high risk activities, temporary

works and or structures and will need to be engineered, certified and reviewed for WHS compliance.

7.2.11 Edge Protection

Scaffolding will be installed as required including for the tower, constrained access areas and areas of close proximity between workers or public. Vertical Nets coupled with physical barriers will be implemented on each floor to provide edge protection and remain until façade has been installation is completed.

8 ENVIRONMENTAL PROTECTION

Perimeter run off protection and sedimentation control will be installed during the initial site establishment phase to protect site boundaries, access roads, infrastructure and stormwater pits. The appointed Principal Contractor will complete daily site inspections and spot check inspections as necessary or in the event of environmental or weather changes. Corrective action will be implemented upon the identification of any issues to mitigate risk of environmental impact.

Specific areas requiring environmental controls includes:

- Removal, storage and disposal of hazardous construction materials;
- Dedicated wash down facilities;
- Monitoring and mitigation of dust, vibration and noise;
- Monitoring local water table during works.
- Management of surface water run-off;
- Disposal of any retained stormwater;

8.1 Noise, dust and vibration

Noise emissions will be managed in accordance with the regulatory requirements and the appointed Principal Contractor's management procedures and the noise and vibration plan, 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 3781: Acoustics – Noise labelling of machinery and equipment;
- NSW Noise Policy for Industry 2017;
- NSW Department of Environment and Climate Change (DECC) "Interim Construction Noise Guideline" (ICNG), 2009;
- NSW Department of Environment and Conservation (DEC) "Assessing Vibration: A Technical Guideline", 2006;
- Australian Standard "AS 1055 : Acoustics – Description and Measurement of Environment Noise", 1997;
- Australian Standard "AS 2670.2 : Evaluation of human exposure to whole-body vibration – Part 2: Continuous and shock-induced vibration in buildings (1 to 80 Hz)", 1990;
- Protection of the Environment Operations Act 1997;
- NSW EPA Road Noise Policy (RNP), 2011.

For the wellbeing of workers on site and neighbours occupying the surrounding buildings, the monitoring for noise emissions, vibration and air quality during the redevelopment works will be conducted by the Principal Contractor. The appointed Principal Contractor will implement the CNVMP outlining the controls to be implement on the site. The CNVMP will confirm strategies that will be implemented to minimise disturbance to sensitive receivers in accordance with regulatory requirements.

The appointed Principal Contractor will identify particular noisy works, specifically those which directly interface with existing buildings where strategies will be implemented to minimise disturbance to neighbours. Some strategies that may

be implemented to mitigate noise and vibration impact includes:

- Use of acoustic mufflers to impact driven equipment;
- Use of acoustic panels to provide sound attenuation for plant and equipment;
- Ensure noisy works conducted within the approved working hours;
- Warning signs shall be erected for noisy work areas;
- Installation of signage for PPE noise protection gear and devices to be issued to the effected personnel.
- Employee and worker training to recognise noisy works and the relevant noise level controls;
- Regular assessment, monitoring, identification of potential noisy works and development of strategies mitigate disruption impacts throughout the construction period;
- As the work environment changes, additional assessments may be conducted, the timing of which will be determined by the site management team;

8.2 Air Quality and Dust Management

Objectives for the project are to implement effective controls to limit dust and other suspended particles in accordance with legislation and risk management requirements. The appointed Principal Contractor will develop a strategy for air quality and dust management includes:

- Installation of air quality monitoring;
- Limiting the generation of dust on the site
- Ensure emissions from motorized construction plant and equipment complies with EPA limits.
- Use of water cart to spray down work areas and exposed soils to suppress dust;
- Installation of a shaker grids and wash down facilities site gates during excavation works;
- Use of truck tailgate locks and trailer cover to prevent windblown dust or spillage;
- Regular inspection of surrounding roads to ensure no construction contamination. (initiate road sweeping if required);

9 CONSTRUCTION PROGRAM METHODOLOGY

9.1 CONSTRUCTION STAGING

The appointed Principal Contractor will manage the disruption and impact that the 2-6 Hassall Street project will bring to immediate surrounding area. The appointed Principal Contractor will manage the staging sequences and the program of the works to mitigate disruption to the neighbours and the public.

The Contractor's construction program and methodology includes a set of staging plans covering the works phases. The staging plans include:

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

9.2 CONSTRUCTION MANAGEMENT SEQUENCING

9.2.1 Excavation, Piling, Inground Services and Jumpform

The first main works site activity will begin with general excavation, followed by foundation piling works, detailed excavation, and inground services. There is proposed to be one (1) basement level in the new building, the excavation volumes generated will be moderate with the works completed in the initial few weeks.

Up to two (2) piling rigs may be utilised for the foundations, working systematically in a spiral formation commencing at the core, including tower crane piling to efficiently complete the works. On completion of the piling works, detailed excavation,

inground services and jump form installation will commence.

Any excavated materials will be transported off site via the Hassall Street, all vehicle movements in and out of site will be in a forward direction. Speed limits will be strictly enforced, and covered in the project site induction, with a focus on the Parramatta CBD environment.

9.2.2 Slab on Ground

The ground floor concrete slab will be poured in stages and carried out with the use of a mobile concrete pump. The basement level will be poured progressively working from the eastern to western sections on site. Concrete trucks will follow the typical construction route to the mobile pump.

9.2.3 Ground Level and Podium Slabs

The ground level slab will be constructed as a concrete structure. Scaffolding will be installed as access and edge protection for podium decks. The scaffolding will have a stretcher stair and be wrapped with chain wire and mesh. All mesh will have the appropriate fire properties. On completion of the pours, handrail will be installed. Prior to works commencing on podium floor alongside Hassall Street, Class B hoarding will be installed to provide protection to Hassall Street and the pedestrian footpath. Traffic control will be implemented for footpath crossing.

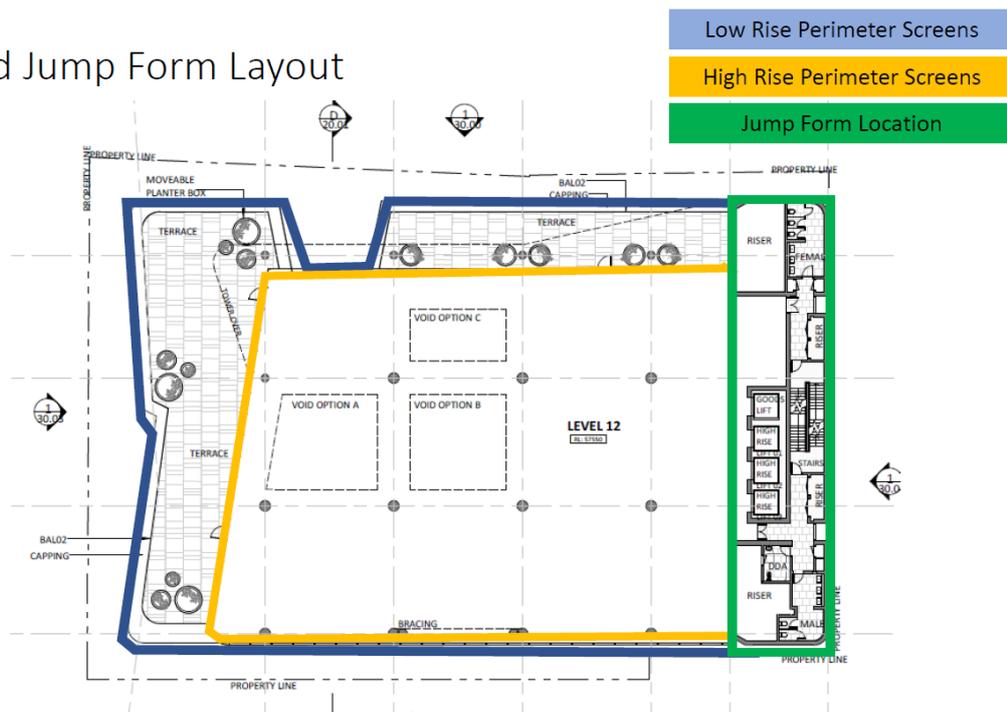
9.2.4 Tower Structure

The tower will be constructed as a concrete structure with a side core to the east. The structure will be constructed using a tower crane, mobile cranes, and hand tools and mixes. The noise and vibration impacts will be moderate during this time. During all works alongside Hassall Street, a Class B hoarding will be in place. Traffic control will be implemented for vehicular footpath crossings.

Temporary propping will be used where required for K-bracing system being adopted to provide additional lateral support for the tower structure.

The Principal Contractor will provide perimeter edge protection as the structure progresses. edge protection will be installed prior to lifting to ensure the perimeter is fully encapsulated. Once the following deck is installed, webbing will be installed between the handrail and the next slab to ensure materials on each floor are captured. Refer to the figures below.

Screen and Jump Form Layout



The above diagram shows perimeter protection methodology proposed.

9.2.5 Facade

The façade for 2-6 Hassall Street will be a full height glazing system on Ground Level to Level 2. A curtain wall system will be installed from Level 3 to Level 17. The roof top plant floors on Level 18 and 19 will be enclosed by a unitized perforated metal screen panels.

Installation of the façade will be via the traditional and proven technique the panels will be delivered to site and lifted to the loading platform on the corresponding level by the tower crane. The panels are then hooked into a Maeda crane positioned above the panel location, launched from behind edge protection fencing on floor and lowered to position as shown below.

During all works alongside Hassall Street, the pedestrian footpath will be protected by a class B hoarding and where required the appointed Principal Contractor will ensure exclusion zones are in place. Traffic control will be used to manage vehicular footpath crossings.

9.2.6 Waterproofing Systems

The integrity of the waterproofing systems both in temporary applications and in final roof areas are components to the construction sequencing. The Principal Contractor will ensure that the membrane works are installed in accordance with manufacturers specifications to ensure product warranty and long term performance.

9.2.7 Building Services

The Principal Contractor will assign a Services Manager to oversee the detailed design finalization, installation, testing and commissioning of each of the building services trades. The Services Manager together with the design consultants will be retained for all stages of the project from design reviews, workshop drawing review, sample approvals through to final witness testing of the installed systems.

Services installation and rough-in will commence as soon as the structure is complete and floor areas become available. The services trades will continually work up the tower and install services to each floor as they become available.

The appointed Principal Contractor will engage suitably qualified services subcontractors with proven ability to provide the expertise and resources necessary in their respective disciplines to deliver the building services including the following:

- Mechanical Services
- Electrical Services
- Hydraulic Services
- Dry and Wet Fire Services
- Vertical Transportation
- Security Services
- Communication Services
- Building Management Control System

To reduce the amount of deliveries services trades will be encouraged to seek opportunities for prefabrication of all services plant and equipment. All plant and services equipment will also be installed to permit safe access for commissioning and maintenance in accordance with the relevant WHS guidelines.

9.2.8 Integrated Fit Out and Finishes

The appointed Principal Contractor's programme will include for the fitout for the building. The fitout sequence trades sequence will generally follow:

- In ceiling services rough-in and riser rough-in
- Façade completion
- Wall framing
- Rough-in of services to walls
- Wall sheeting and linings

- Wet area trades including tiling, stone, partitions, fixtures and FFE
- Specialist finishing trades, joinery and linings
- Services fit-off and commissioning
- Painting
- Builders clean
- Commissioning and User Acceptance

9.2.9 Landscaping and handover

Landscape works will be completed concurrently as one of the last trades. Site demobilization of accommodation and sheds will begin concurrently with the final Landscape trade works. Handover of the building will be complete upon successful services commissioning, user acceptance of the commissioned services, receipt of the Occupancy Certificate and Practical completion has been achieved.

10 COMBINED TRAFFIC AND PEDESTRIAN MANAGEMENT

10.1 TRAFFIC MANAGEMENT AND CONTROL

There are limited metered parking facilities along Hassall Street, minimising parking numbers throughout the construction works necessary. In conjunction with the Traffic Consultant develop a Traffic Control Plans which sets out the management of pedestrian, construction and operational traffic at each stage of works

The Principal Contractor will:

- Encouraging staff, consultants and subcontractors to adopt a Green Travel Plan for this project with use of public transport to and from site
- Manage the flow of materials and equipment into and out of the construction and minimise public area disruptions.
- Manage the maintenance of pedestrian, traffic flow and parking to the surrounding buildings and roads
- In conjunction with the Traffic Consultant develop a Traffic Control Plans which sets out the management of pedestrian, construction and operational traffic at each stage of works
- Understand the existing parking provisions, demands currently onsite, identifying temporary and construction parking replacement options on and offsite to mitigate potential parking shortfalls during the redevelopment

10.2 TRAFFIC MANAGEMENT AND CONTROL

Traffic management and control will be established and monitored closely for the duration of 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. Traffic control will be located at each construction gate to ensure fluid vehicle movement.

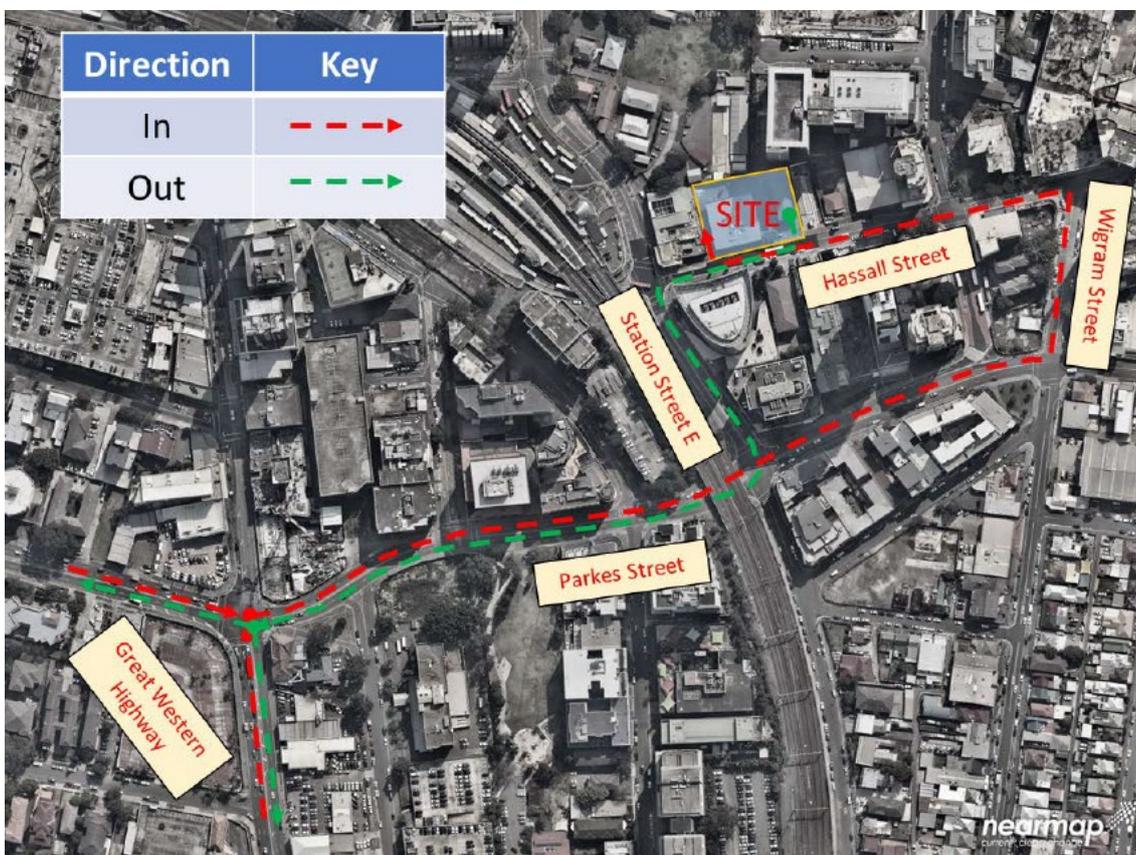
Specific construction traffic considerations includes:

- Seek Council approvals for exclusion zones, foot path permits or construction zones as necessary;
- Continual communications will be maintained with relevant stakeholders regarding Traffic Management and Control planning and implementation at all times.
- Prior to concrete pours appointed Principal Contractor will coordinate with all relevant traffic entities listed above to ensure the concrete trucks can arrive and turn around on site in a timely and successful manner;

10.3 CONSTRUCTION ACCESS AND TRAFFIC ROUTES

The following marked up street overlays shows the various ways delivery drivers will be accessing the 2-6 Hassall Street SSDA works. Careful consideration has been given to all these options to ensure there are mitigate impacts to the daily operations for the surrounding businesses and residents

The appointed Principal Contractor together with the Traffic Consultant and in consultation with TfNSW, RMS and City of Parramatta will develop a Vehicle Management Plan and identify the preferred travel paths for vehicles associated with the construction site at 2-6 Hassall Street. The diagram below shows the proposed truck routes (19.6m Truck and Dog).



An authorised Traffic Controller will be present throughout the demolition stage of the project. The responsibilities include:

- Supervision of all vehicle movements across pedestrian footpaths at all times, and
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project.
- Pedestrian management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur, while maintaining radio communication with construction vehicles at all times.

2 – 6 HASSALL STREET PARRAMATTA
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INNOVATION HUB

CONSTRUCTION MANAGEMENT PLAN

[END CONSTRUCTION MANAGEMENT PLAN]