Hans Centre Sydney Pty Ltd

338 Pitt Street, Sydney

Construction Management Plan SSDA Report

ST01

Issue 2 | 16 December 2020

Job number 271640

Arup
Level 5
151 Clarence Street
Sydney NSW 2000
Australia
www.arup.com

ARUP

Document Verification

ARUP

Job title		338 Pitt Street, Sydney			**Job number** 271640
Document title		Construction Management Plan SSDA Report			**File reference**
Document ref		ST01			
Revision	**Date**	**Filename**	ST01 191213 338 Pitt St - Construction Management Plan SSDA_issue.docx		
Issue	13 Dec 2019	**Description**	Issue for SSDA – Preliminary CMP		
			Prepared by	Checked by	Approved by
		Name	Richard Cass	Andrew Johnson	Andrew Johnson
		Signature			
Issue 2	16 Dec 2020	**Filename**	ST01 201216 338 Pitt St - Construction Management Plan SSDA_issue.docx		
		Description	For issue (Basement levels amended to 5)		
			Prepared by	Checked by	Approved by
		Name	Richard Cass	Andrew Johnson	Andrew Johnson
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

Issue Document Verification with Document ✓

Contents

			Page
1	**Introduction**		**1**
	1.1	Project Overview	1
	1.2	SEARS requirements	2
	1.3	Report content	3
	1.4	Plan Outline	3
	1.5	Site Description	4
	1.6	Project Phasing	4
	1.7	Site Management – Organisations and Responsibilities	5
2	**Physical Constraints of the Site**		**6**
	2.1	Proximity to City Infrastructure	6
	2.2	Site Access	6
	2.3	Existing Buildings	6
	2.4	Adjacent and Neighbouring Properties	6
	2.5	Sensitive Receivers	6
3	**Major Work Items**		**7**
	3.1	Demolition and Excavation	7
	3.2	Structure	8
	3.3	Façade	8
	3.4	Fit-out & Building Services	8
	3.5	External & Public Domain Works	8
	3.6	Site access and Egress	8
	3.7	Hoardings and Overhead Protection	9
	3.8	Accommodation	10
	3.9	Site Induction	10
	3.10	Site Security	11
4	**Protection of Heritage Items and Surrounding Developments**		**11**
	4.1	Dilapidation Survey	11
	4.2	Adjoining, Adjacent and Neighbouring Properties	11
	4.3	Adjoining Owners Management	11
5	**Public Amenity, Safety and Pedestrian Management**		**14**
	5.1	Hours of Work	14
	5.2	Noise & Vibration Management	14
		Noise and Vibration	14
	5.3	Monitoring	14
6	**Traffic Management**		**15**

6.1 Traffic and Pedestrian Management 15
6.2 Site Access 15
6.3 Street Closures 15

7 Environmental Management 16

7.1 Workplace Health & Safety 16
7.2 Hazardous Materials 16
7.3 Archaeological 18
7.4 Site Discharge 18
7.5 Dust Control 19
7.6 Waste Management 20

1 Introduction

Arup has been commissioned by Hans Centre Sydney Pty Ltd to prepare a construction management plan as part of the SSDA application for the proposed mixed-use development located at 338 Pitt Street, Sydney.

1.1 Project Overview

This report supports a State Significant Development Application (SSDA) for the mixed use redevelopment of 338 Pitt Street, Sydney, which is submitted to the City of Sydney pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). China Centre Development Pty Ltd is the proponent of the SSDA.

The site is located at the corner of Pitt Street and Liverpool Street, within the 'Mid Town' precinct of Sydney's Central Business District (CBD). The site is approximately 150m west of Museum Station and Hyde Park, and approximately 350m from Town Hall Station. The site includes several allotments and constitutes nearly one third of the city block between Bathurst Street, Pitt Street and Liverpool Street. The site is an irregular shape and has a combined area of approximately 5,900m^2.

The proposed development comprises of hotel, residential, commercial and retail uses and will include:

- demolition of all existing structures;
- excavation and site preparation, including any required remediation;
- construction and use of a mixed-use development, with an iconic 258m two-tower built form above a podium and internal courtyard;
- five (5) basement levels and a lower ground level accommodating residential, retail and hotel car parking, motorcycle parking, bicycle parking, loading dock, storage and relevant building services;
- improvements to the public domain, including landscaping, pedestrian thoroughfares/connections, and landscaping; and
- augmentation and extension of utilities and services.

A detailed description of development is provided by Ethos Urban within the EIS

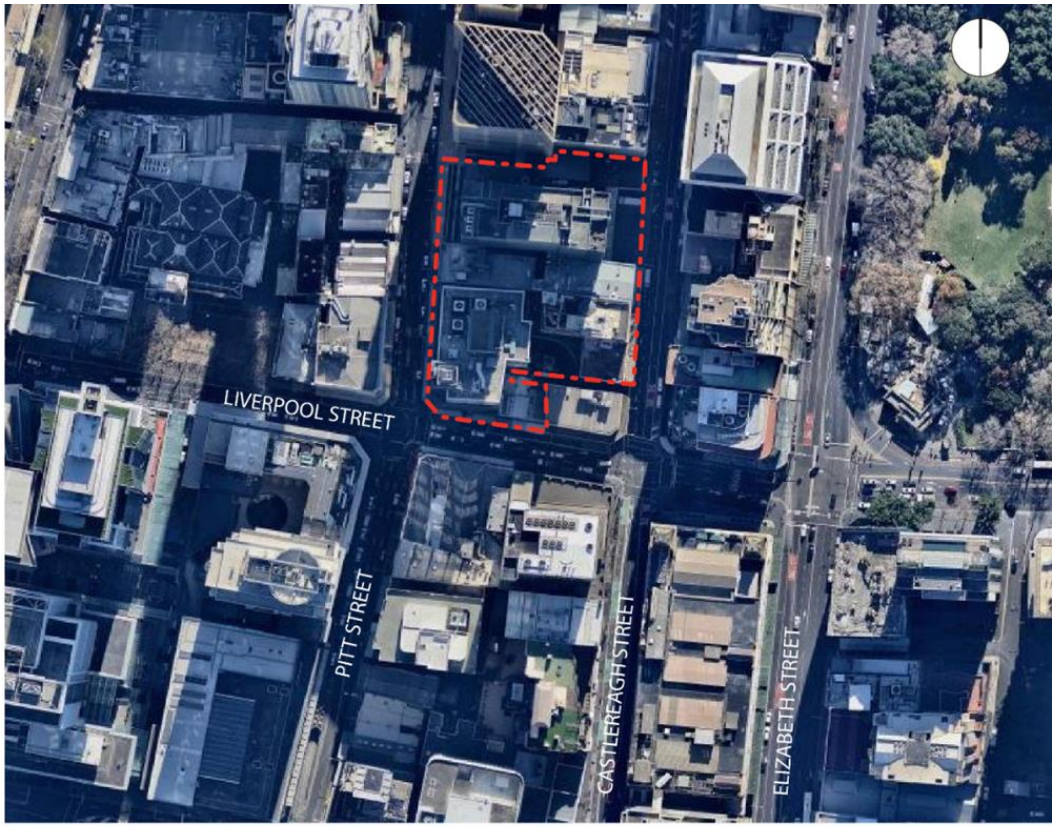


Figure 1: Site location and boundary

1.2 SEARS requirements

The requirements for the SSDA are provided in the SEARs SSD-10362 dated 19/08/2019, as summarised in Table 1 below.

Table 1: Relevant SEARs requirements

Clause	Relevant requirements/policies
10. Construction Management	The EIS shall include a draft construction management plan

1.3 Report content

This preliminary Construction Management Plan (CMP) has been prepared on behalf of Hans Holding Group (the Proponent) to accompany the submission of a Development Application (DA) to City of Sydney Council. This CMP addresses construction issues for the City of Sydney Council assessment of the Detailed Design Development Application. The CMP communicates to Council that the project is well considered and will be undertaken in a manner that seeks to minimise disturbance and impact on the surrounding environment. Items contained in this CMP include:

- Outline of major works
- Heritage items
- Public amenity, safety, and pedestrian management
- Materials handling
- Traffic management including public transport interfaces
- Environmental management
- Impact on adjoining and surrounding properties.

The Proponent along with the Consultants are committed to engaging with the local community, the City of Sydney, Government Agencies and stakeholders in the plan to deliver the 338 Pitt Street project. The Proponent and the Consultants will work closely with the City of Sydney, neighbours, existing tenants, occupants, stakeholders and transport authorities to create plans that will ensure minimal impact and disruption to the surrounding area. Consultation will continue to be a key priority throughout the construction pre-planning and delivery process to ensure the community and stakeholders receive regular updates and have the opportunity to provide feedback. The final version of the CMP will ensure that all construction is properly facilitated, integrated and coordinated thus guaranteeing the Project's objectives are met. It is intended that further detailed CMP's and works plans, for each phase of the project, as outlined in this plan, will be prepared and relevant approvals secured prior to construction commencement.

1.4 Plan Outline

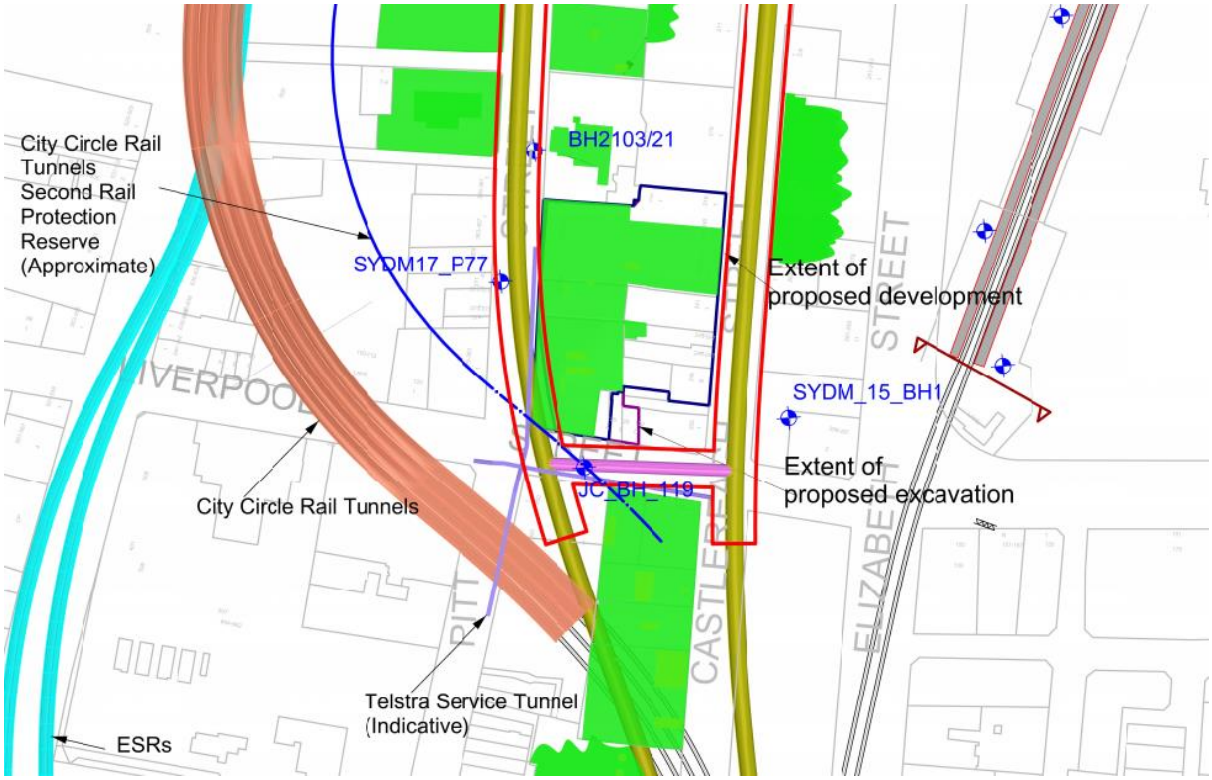
This preliminary CMP has been formulated for the design under development for the DA submission and may require changes to meet stakeholder requirements, as detailed design progresses. The scope of this report provides a holistic approach that:

- Advises how the project management team will comply with the requirements of the contract relating to construction.
- Defines the project objectives and targets of particular relevance to the construction phase.
- Describes constraints specific to the construction phase and the project in general.

- Describes the process for the identification and control of risks specific to the construction phase.
- Details the proposed strategy for the construction phase, with particular regard to establishment resourcing, site organisation and construction controls.

1.5 Site Description

The site is 5914m^2 located at 338 Pitt Street, Sydney, bounded by Liverpool St, Pitt St and Castlereagh St.



1.6 Project Phasing

The phasing for the construction of the development is not yet defined.

1.7 Site Management – Organisations and Responsibilities

An organisational and responsibilities structure will be prepared. Indicative roles to be included are:

- Construction Workers
- Developer
- Line Management Off Site Support Services Advice
- Legend
- Site Manager
- Construction Manager
- Contractor Project Director
- Design Manager
- Supervisory Staff Engineering Staff
- Contractors Off Site Project Services (Quality Assurance, Environmental Design & Management, Industrial Relations, Safety, Programming, Cost Planning, Administration)
- Project Manager
- Lead Consultant Architects (FJMT)
- Structural Engineer (Arup)
- Geotechnical Engineer (PSM)
- Mechanical Engineer
- Electrical, Fire Engineering & ESD
- Services Manager
- Contracts Manager
- Planning
- Owners
- Hydraulics and Fire
- Project Director / Project Manager
- Other Consultants as required
- Authorities
- Stakeholders
- Neighbours
- Occupants / Tenants
- TfNSW/ RMS Liaison
- Community Liaison Officer

2 Physical Constraints of the Site

2.1 Proximity to City Infrastructure

Underground rail easements are located along Pitt Street, Castlereagh Street and Liverpool Street that bound the site. The first reserve of the CBD Rail Link (CBDRL) tunnel under Pitt Street encroaches across the corner of the site. The CBD Metro tunnel is located under Castlereagh Street. A link tunnel between the CBDRL and the CBD Metro is located under Liverpool Street. The tunnels are located approximately below 21m deep at the site location

A historic Telstra tunnel close to the site boundary poses a further similar constraint to the site development.

2.2 Site Access

An access plan to facilitate construction material delivery is yet to be defined and will comprise a critical element of the construction management plan.

2.3 Existing Buildings

The development requires the demolition of several existing buildings on the site is including:

- High rise commercial tower at 338 Pitt Street
- Two storey terrace style building at 126 Liverpool Street
- High rise commercial tower at 324 Pitt Street and 233 Castlereagh Street
- Six storey commercial building at 326 Pitt Street
- Three multi-storey commercial buildings at 245-247 Castlereagh Street and 249-253 Castlereagh Street

2.4 Adjacent and Neighbouring Properties

Adjacent buildings to the site will remain operational during the construction. The impact of the proposed development, including, the basement excavation with respect to shoring retention movements and rock stress relief movements, loading and unloading from demolition and the new construction and vibration.

2.5 Sensitive Receivers

The sensitive noise receivers in the vicinity of the site are yet to be identified.

3 Major Work Items

3.1 Demolition and Excavation

Demolition on the site will be completed in a manner appropriate for its central, high traffic location. Noise, dust and vibration levels will be controlled in accordance with good practice for CBD construction and City of Sydney guidelines to minimise impacts to adjacent tenants and general public. The buildings identified to be demolished are listed above.

Detailed work methods are yet to be determined, however it is envisaged that small excavators and pneumatic hammers will be employed as well as hand works to disassemble the buildings. Structural certifications need to be obtained for working machinery on the floors to be demolished. During both demolition and excavation, specific attention will be made for items of heritage significance to ensure no damage occurs. To facilitate the work, construction hoardings will be erected on all street frontages. Due to the proximity of a number of buildings to the site boundaries, a heavy duty scaffold will be erected around the external walls and return walls of the existing structures being demolished.

External scaffold with chain wire mesh and shade cloth will be erected on all exposed work faces to act as fall protection and provide visual amenity to the surrounding area. The heavy duty scaffold will be encapsulated by chain wire and shade cloth. The scaffold will be progressively stripped down as the external walls are demolished. A hazardous materials survey will be undertaken to identify the location and type of hazardous materials on the site. In reviewing the approximate age of the existing buildings some hazardous material is to be expected. A summary of the demolition methodology includes:

- Class ‘A’ and ‘B’ hoardings to separate adjoining areas from the proposed demolition zone
- Undertake services terminations and relocations
- Install any necessary retention, stabilisation and protective measures
- Hazmat removal and soft strip out
- Commencing from top down with demolition of structural elements.
- Metal, rubbish, concrete and masonry will be progressively loaded onto trucks for transport off site to the recycling depot. Factors that will need to be further considered in the future development of the demolition plan include:
- Minimisation of noise, dust and vibration.
- Loading out of demolished and excavated material.
- Identification and removal of hazardous materials prior to demolition commencement.
- Cranage requirements to assist demolition.

- Traffic management plan. The demolition methodology will be planned to deliver the maximum productivity for a CBD site such as this in order to minimise disruptions over an extended period. The detail excavation plan is dependent on discussion with Transport for NSW. Detailed work methods are yet to be determined, however it is envisaged that the Contractor will use a large bulldozer to rip the rock, excavator with diamond saw to provide separation to the surrounding area and additional excavators with buckets and hammers to remove the material off site.

Shoring approvals associated with temporarily anchoring under adjacent neighbouring private or public properties (including local authorities) will be sought. These underpinning agreements will need to be sought prior to construction commencement to ensure there is not delay to the construction programme as the initial ground anchors/rock bolts would be installed at the commencement of demolition. Where rail tunnels front the site, an alternate shoring restraint system will be design and engaged in lieu of anchors.

3.2 Structure

Once the excavation has been completed, the structure works will commence from the basement up. The structure works will require tower cranes to be erected to facilitate the safe construction of these works. Through further stakeholder engagement, seeking temporary modifications to the traffic arrangements whilst minimising impacts to traffic flow may assist construction.

3.3 Façade

The façade system is yet to be specified.

3.4 Fit-out & Building Services

Once floors are stripped of formwork, the building services and fit out will commence on a floor by floor basis. Service installation will be planned so that the works progress in a safe, tradesman like sequence to ensure that safety is preserved and abortive works are eliminated. The fit out of will be a structured approach with particular emphasis on acoustic and fire quality. Throughout the fit-out duration and at various construction stages, testing of acoustic and fire quality will be undertaken to ensure the best result is achieved

3.5 External & Public Domain Works

The scope of works for external and public domain work is not defined at this stage,

3.6 Site access and Egress

Site access and egress will be required for site personnel and materials. The site has possible means of access and egress from several road frontages including Pitt Street, Liverpool Street, Castlereagh Street and Dungate Lane. The Contractor

will separate pedestrian activity from traffic using suitable hoardings and traffic control officers. Transporting materials to and from the site work face, in an efficient manner, is of fundamental importance to the success of the project.

Access and egress will be required for:

- Demolition – delivery of all plant and loading of trucks within the site of rubble.
- Excavation – delivery of all plant and materials as well as loading of trucks within the site of spoil.
- Structure Works – the delivery of all concrete materials to be pumped within the site. Other structure materials such as, reinforcement, stressing, formwork, structural steel is expected to be lifted by the tower cranes
- Services and Finishes – the delivery of all materials that will be hoisted by hoists or builders lifts.
- Rubbish bins – the delivery and removal of all rubbish bins.

A Construction Traffic and Pedestrian Plan will be required. Coordination with the traffic consultant will provide further advice as well as early application and instigation of planning discussions with the Authority stakeholders.

3.7 Hoardings and Overhead Protection

Hoardings will be installed to establish a secure barrier between the construction site and the general public. Prior to the installation of hoardings onsite, the following will take place:

- Services, particularly essential services and life safety systems will be protected or relocated where necessary
- Routine maintenance will be completed and access provision made for emergency or maintenance access
- Locations will be coordinated with City of Sydney Council, other relevant stakeholders, tenants and consultants
- Final locations and wall types will be detailed on revised plans and approved
- Disruption Shutdown Application (DSA) will be submitted.

External Site Hoardings

External Hoardings will comply with the requirements of the City of Sydney Council hoarding policy and will be installed to establish a secure barrier between the construction site and external frontages. Specialised overhead protection structures will be provided for either temporary structural support or for rated overhead protection of the public, tenants and work force. The load bearing/overhead protective structures will be:

- Designed and constructed using specialised modular scaffold type components.

- Installed where appropriate to allow for aesthetic cladding if required.
- Treated to accommodate acoustic requirements for the operational spaces.
- Used on council property to protect pedestrians using the footpaths.

Internal Site Hoardings

Internal hoardings will be installed taking into consideration:

- Aesthetic suitability
- Acoustic, vibration and dust nuisance
- Operational requirements » Construction access for out of hours work
- Customer and tenant access pathways
- Existing structural capacities
- Effect on surveillance
- Compliance with BCA and fire engineering requirements
- Temporary waterproofing from external and internal conditions.

Internal hoardings of various types will typically be used in:

- Public street frontages
- Street level Construction Zones
- Separation between trades on specific levels where required

3.8 Accommodation

In order to complete the construction works, it is necessary to provide site amenities for the workers that include lunch, change, ablution, first aid and wash down facilities. The site accommodation for the work force will be erected in a staged approach and likely moved to the basement once a suitable space has been constructed.

3.9 Site Induction

The Contractor will prepare and operate a specific site induction for all employees working on the project and ensure that every individual on the project attends a site-specific induction before they are allowed to start work. This induction will be a requirement under the Occupational Health & Safety Plan to be formulated for the project. The site induction sessions will be held on a regular basis and where possible subcontractors will be requested to attend the week prior to the date they are due to start.

The site induction will include specific commentary on the Interface Works Application (DSA) and Permit to Work (PTW) processes. All employees will be educated on the behavioural and security requirements for the project. Any

employee found to be repeatedly disregarding these requirements will be removed from site.

3.10 Site Security

A licensed security provider is proposed to provide security services on the project. A site security plan is yet to be prepared.

4 Protection of Heritage Items and Surrounding Developments

A comprehensive list of heritage items and surrounding developments is yet to be compiled. Heavy construction works and general access will be directed away from areas of heritage significance as much as possible. Wherever required, heritage components will be protected with appropriate measures. Site inductions and tool box talks will be held by the Contractor to inform site personnel and visitors of the location of heritage items and the requirements for their protection. Work method statements will be developed specifically for works in close proximity to heritage items.

4.1 Dilapidation Survey

Prior to commencing work onsite, a full Pre-Construction Dilapidation Report will be completed by a Dilapidation Survey Consultant for adjoining buildings and infrastructure. This detailed survey will encompass current structural, architectural, services and heritage conditions of the existing adjacent neighbouring properties, construction zones, infrastructure and roads. The dilapidation report will cover all areas where construction works are occurring and to which the construction certificate applies. These surveys will be issued to all adjoining neighbours and a post completion survey will be compiled for comparison. Given the adjacency of Rail Assets, dedicated dilapidation surveys shall be undertaken of these elements, by experienced and authorised engineers, in accordance with the requirements of TfNSW/Sydney Trains.

4.2 Adjoining, Adjacent and Neighbouring Properties

Careful site management, which will minimise disruption and inconvenience to neighbouring buildings and their occupants, is of the highest importance. The Contractor is recommended to provide a Community Liaison Officer to work with neighbours, understand their needs and requirements, and, where possible, adjust construction works methodologies accordingly.

4.3 Adjoining Owners Management

Communication Prior to commencement of works, the Contractor will undertake a communication meeting with the stakeholders and surrounding tenants. This

briefing will involve an outline of the construction sequence, together with an overview of the staging and timing of the works. This initial meeting will provide an opportunity for input from the stakeholders and tenant before finalising methodology. To ensure ease of communication between all parties, a protocol will be established to:

- Define lines of communication and appoint a single point of contact for neighbours
- Times for site inspections within the leased premises
- Specific dates for regular communication meetings
- Clarify the escalation process
- Implement the Interface Works Application (IWA).

It is essential that the stakeholder team is aware of current and future activities within the premises and how these could impact on tenants and customers. Points of contact between the Contractor's project team and stakeholders will be agreed for various scenarios, with stakeholders provided with 24 hour contact numbers. Weekly and/or daily inspections of areas that interface with the tenant and customers will be organised so potential issues can be identified early and addressed. Key personnel from the Contractor's project team will be available to attend stakeholder internal briefings if required to communicate details of the proposed works to their respective team members. Services Interruptions and Impairment Prior to any services being impaired or work being carried out within an active operational environment an Interface Works Application (IWA) will be made. This process will be implemented on the project to provide advance agreement for specific work activities to be carried out. IWA's will typically be made a number of weeks in advance of proposed work and in line with the agreed project notification durations. Depending on the risk profile of the proposed work, the agreed notification durations may be required months in advance. The IWA process will be of particular value on the project in relation to the following elements:

- Works within a tenant area
- Works that may affect the services to a tenant area
- Activities in the general public realm
- Works that may affect local traffic flow
- Works that may exceed the agreed noise and vibration criteria
- Major services changeovers or shutdowns.

The benefits to all parties of the IWA process include:

- Proposed works are planned in detail
- Stakeholders are briefed on the proposal
- Stakeholders are empowered and become active participants in the project

- Early dissemination of this information effectively to relevant team members

Works are undertaken in a more controlled and diligent manner. Complaints Response Process The complaints response process for the project will be outlined in the Communication Plan when it is developed. This Plan will describe the Contractor's approach and procedures for communication with internal and external stakeholders, necessary territory authorities, and the public.

Emergency Contact

The initial point of contact for the Project for complaints will be the Project Manager and the Site Manager. As other key personnel commence onsite, further names and contact numbers are to be issued and displayed prominently on sign boards.

5 Public Amenity, Safety and Pedestrian Management

5.1 Hours of Work

General demolition and construction works will be undertaken within the hours permitted under the development approval. In some cases after-hours permits will be sought from the relevant authorities where special requirements exist, for example oversized deliveries. Working hours are foreseen as follows:

- Between 7am and 7pm Monday to Friday
- Between 7am and 5pm Saturday
- No working Sundays or public holidays

5.2 Noise & Vibration Management

Particular care will need to be taken during the construction of the project to control noise and vibration. Work methodologies and plant selection for demolition and excavation will be reviewed to determine the most practical and programme-effective solutions for these works. This active approach will mitigate the potential noise and vibration impacts on surrounding key stakeholders. Noise and vibration emissions from the construction process could potentially have an impact upon adjacent building tenants, the public and surrounding premises as well as the rail tunnels below Pitt Street and Castlereagh Street. Prior to the commencement of any works onsite a noise and vibration management plan will be developed by the Contractor in consultation with the Stakeholders to develop strategies for the mitigation of noise and vibration generated by the works.

The construction noise and vibration management plan (CNVMP) will be continuously reviewed and updated. (Refer to Arup report, AC01(v0-0) Acoustic SSDA report, Section 5)

Key control measures to limit noise and vibration impacts onto surrounding receivers are listed in of the CNVMP. Refer to Section

5.3 Noise and Vibration Monitoring

Refer to Section 5.4.5 of the CNVMP.

6 Traffic Management

A detailed Construction Pedestrian and Traffic Management Plan (CPTMP) shall be prepared and submitted prior to the issue of a Construction Certificate. Traffic will generally be managed in the following way:

- Designated transport routes will be communicated to all personal, and enforced
- Designated peak hour and non-peak hour delivery vehicle waiting areas
- Strict scheduling of vehicle movement will occur to minimise off site waiting times
- On-site parking will not be provided, and site personnel will utilise public transport and car sharing wherever possible
- Vehicle movements will be compliant with conditions of Consent and broader road-use regulations, particularly with regard to hours of work, materials loading and unloading, and over size deliveries and installation
- Stakeholder feedback.

6.1 Traffic and Pedestrian Management

A site specific CPTMP will be produced for the project works to ensure vehicle movements to, around and from the site do not affect traffic arterials within the vicinity of the project or pedestrian movements around it. The contractor will manage traffic associated with the site to minimise the impact on the local area. The CPTMP will be incorporated in subcontractor agreements and the key points communicated to the workforce through the site induction procedures.

6.2 Site Access

Access to the Site will be available at various times via the existing street frontage access ways and construction zone to be created. For access reasons, and to minimise traffic disruptions to the surrounding road network, deliveries will be carefully controlled. Materials will predominantly be delivered via the construction zones. Heavy and wide loads will be coordinated with the relevant authorities and stakeholders for approval, so as to minimise traffic impact during work hours. Onsite traffic management will be finalised with each stage of the works, as appropriate. Ongoing liaison with the relevant authorities will occur throughout.

6.3 Street Closures

For works to be completed safely, some temporary street closures may be required. These closures will be well planned in advance, with approvals sought from relevant authorities. Activities that may require a street closure include tower crane erection and dismantling, and installation of major plant and structure. Wherever possible these closures will be scheduled for non-peak times. A specific management plan will be established to ensure the best possible outcome.

7 Environmental Management

7.1 Workplace Health & Safety

The Contractor will be the nominated "Principal Contractor" as required under the WHS Act. This role will require the careful and controlled management of worker and public safety. Detailed methodologies are yet to be developed, however typical approaches include job training, toolbox talks, and implementation of emergency management plans, safe work method statements, weekly WHS meetings and audits to confirm compliance. The Contractor will be required to report on WHS on a regular basis.

7.2 Hazardous Materials

Consultant survey works have been undertaken to identify the potential for in-ground contamination and hazardous materials in the built-form elements. These surveys have been conducted through desktop studies and site inspections. Due to the limitations of access, further investigations shall be required in order to establish existing site conditions and identify any remediation works that may be required. This investigation would include:

- Hazardous material (Hazmat) survey of the existing structures
- Any additional requirements for soil classification, sampling and analysis works

A community liaison plan is to be established and contact made with relevant authorities. In the event that hazardous materials are uncovered once site works have commenced, the following procedures and principles will be followed; this would be consistent for expected and unexpected hazardous materials:

- Notification to client and project stakeholders
- The contractor to develop a remediation management plan
- Advise the client of the most cost and time efficient solutions whilst adhering to industry best practice standards
- Agree strategy and commence implementation. With asbestos for example, all employees need to be trained in the recognition of asbestos and synthetic mineral fibre (SMF) as part of their employers Safe Work Method Statements (SWMS). Employees would cease work on discovering any Hazmat not identified in the report and then inform their supervisor who would arrange for the appropriate action to be taken. General procedures for hazardous materials removal (including asbestos) will usually be carried-out as follows, but often specific details and procedures will be developed upon material identification. Detailed work method statements will be produced identifying processes such as:
- The area to be decontaminated to be bunted off at a minimum 10 metre radius

- Asbestos warning signage to be erected to inform people of the nature of the work being carried out ‘No unauthorised access’ signage to be erected
- Water points to be established
- Personal Protective Equipment (PPE) including but not limited to Hard Hat, Safety Boots, Disposable Coveralls, Gloves, Masks and Glasses to be worn at all times when in the Hazmat removal zone
- All personnel involved in the removal of asbestos to have attended and completed the approved Work cover courses and to be the holders of valid, Work Cover approved asbestos removal licenses
- Tools and equipment appropriate to the type of asbestos containing material to be used for its removal in order to minimise the disturbance of the material thus preventing the release of fibres
- Where appropriate, water to be used to keep the material slightly damp thus minimising the chances of dust and fibres being released
- All asbestos waste to be wrapped in 200µm plastic and tightly secured
- All asbestos waste to be removed from site and disposed at a licensed EPA asbestos disposal facility
- Asbestos waste to be removed at the end of each shift. Stockpiling of asbestos will not be permitted
- Clearance certificates to be provided on completion of Hazmat Removal.
- The protection of all council infrastructure including trees, overhead cables, and existing services will be managed to ensure that all infrastructure is maintained, and in the same condition at the completion of the project. The following protection procedure will be adopted:
- Ensure all existing services are identified, and terminated or diverted as appropriate
- Ensure movement or placement of construction plant does not damage infrastructure
- At the beginning of construction advise adjoining and nearby properties of commencement date, possible disruptions and approximate construction time. Hazardous Materials used During Construction. Hazardous substances supplied to the project will be approved for use and accompanied by a current Material Safety Data Sheet (MSDS). All hazardous substances will be registered, correctly stored, decanted, used and disposed in accordance with the MSDS and regulatory requirements. Employees will be trained in the Safe Work Method Statement (SWMS) based on the MSDS and provided with the appropriate Personal Protective Equipment (PPE).

7.3 Archaeological

The requirements for Archaeological investigation of the site in accordance with the requirements of the Heritage Council approval and Archaeologist recommendation are yet to be determined.

7.4 Site Discharge

Any discharges from the site will be strictly controlled to ensure hazardous materials and contaminants are contained to authority requirements and do not pollute the council storm water system. The contractor will have within its standard procedures, the requirement of spill kits for hazardous materials also including environmental audits that review the usage and storage of hazardous materials onsite.

7.4.1 Dewatering

To ensure effective management of water discharge from the site throughout the duration of the project, a 'Water Quality Management Plan' as a sub-plan to the Environmental Management Plan will be implemented. Key management strategies include:

- Objective – Avoid the release of contaminants to waterways / drainage systems
- Target – All water discharged complies with the Healthy Waters State Planning Policy
- Measure – Water Quality records confirming compliance with pre-discharge limits. These and other water quality aspects at the site will be controlled by:
- Weekly environmental inspections
- Water quality recording
- Training for responsible staff
- Tool Box talks for trade staff
- Subcontractor Environmental Work Method Statements.

7.4.2 Truck Wash Facilities

A truck wash facility will be provided.

7.4.3 Silt Protection Maintenance of Adjoining and Access Roads

A stormwater and sediment control plan will be developed during the preferred contractor phase to ensure that stormwater from the project does not enter adjoining properties, access roads, etc. and that no water entering the council stormwater system contains silt or other contaminants. The stormwater and

sediment control plan includes but is not limited to providing further detail to the below key control measures:

- Extent/location of silt protection to be installed
- Extent/location of sediment basin to be installed
- Regular weekly checks of silt fences, banks and the like
- Specific checks after any significant storm event to ensure integrity and performance of silt protection
- Sediment fences to be repaired as required and excessive sediment deposits should be removed
- Water quality samples must be taken and analysed prior to the release of any water from the sediment pond/catchment
- All water quality data including dates of rainfall, testing and water releases must be maintained in an onsite register
- Maintenance and cleaning of adjoining/surrounding access roads.

7.5 Dust Control

Dust control will be implemented in areas of all active demolition and construction. Dust control will also be implemented within the construction zone as determined by the Contractor, and as required for the health and safety of employees. All works will be undertaken in accordance with a 'Construction Air Quality' sub-plan as part of the Environmental Management Plan. Dust control measures will be implemented as required, and in accordance with Protection of the New South Wales Environment Operations Act. Dust management will be most critical during the demolition and excavation phases of the project. All subcontractors involved with these works will be required to provide Environmental Work Method Statements that specifically address dust management. Methods of reducing dust that will be implemented are:

- Reduce quantum of demolition "breaker" work by cutting structural demolition elements into larger sections for removal by tower crane
- Encapsulating work zones through the construction of engineer designed full height dust proof structures / hoardings
- Reviewing tool and plant selection in an attempt to select plant
- Utilising concrete saw cutting techniques to reduce dust generation
- Continuous cleaning throughout dust generating work activities
- Ensuring demolition debris skips are covered at all times.
- Site perimeter – Solid panel hoarding will be provided on the boundary during the overall construction phase and perimeter scaffolds clad in shade cloth will be provided during demolition to minimise the escape of dust
- Demolition and excavation – Working surfaces will be watered down as required with stock piling of material minimised

- Plant movement within the basement will be minimised with all loads covered before exiting the site and a stabilised driveway maintained
- Construction – A high level of housekeeping to minimise the likelihood of windblown dust and the banning any dry grinding will be maintained.

7.6 Waste Management

- A tidy site assists with safety, and this principle will be maintained throughout the construction duration. Rubbish bins / skips will be provided at strategic positions around the site, where all subcontractors will be required to clear their rubbish as it accumulates. These bins will be brought down the building in the construction hoists / builders lifts and loaded via forklift into the large skips for removal from site. A specific Waste Minimisation Plan will be developed in accordance with the Contractor's Environmental Management System to ensure optimum waste management initiatives are implemented. The Contractor will develop a Waste Minimisation Plan that is included as a sub plan of the Environmental Management Plan for each the project. The aim of this plan is to work at best practice in minimising the amount of waste produced during the development and manage that waste in order to reduce the amount going to landfill.
- The Waste Minimisation Plan (WMP) will exceed regulatory requirements and meet compliance with potential Green Star benchmarks set for the project. In setting such high standards and to achieve waste re-use and recycling onsite, the site-specific Waste Minimisation Plan will be implemented. The Contractor's project team will be trained in the WMP and the subcontractors informed on variations to the required changes from the industry 'business-as-usual' approach. Subcontract trade packages will be prepared and tendered to ensure optimum recycling through Waste Management achieves the required Green Star targets. All rubbish will be removed from site on a daily basis via wheelie bins and deposited in bins/skips which will be provided at strategic positions onsite. Where space permits, the Contractor will also provide specifically labelled recycling bins for materials such as, cardboard and plasterboard to maximise the amount of material able to be recycled. In addition, all subcontractors are responsible for removing their own packaging and other re-usable items such as pallets from site. Adopting this policy: Promotes recycling by subcontractors and suppliers
- Removes unnecessary packaging at the source rather than at site
- Reduces the amount of rubbish being sent to land fill. Monthly reports detailing the overall percentage of rubbish being recycled will be provided by the waste disposal contractor. This information will enable the effectiveness of the implemented waste management strategies to be monitored and appropriate steps to be taken if necessary to improve.

7.6.1 Recycling

Waste Management and detailed recycling programs will be developed for both demolition and construction phases of the works. The site subcontractors will be

required to report on extent of recycling achieved and be subject to Environmental Audits.