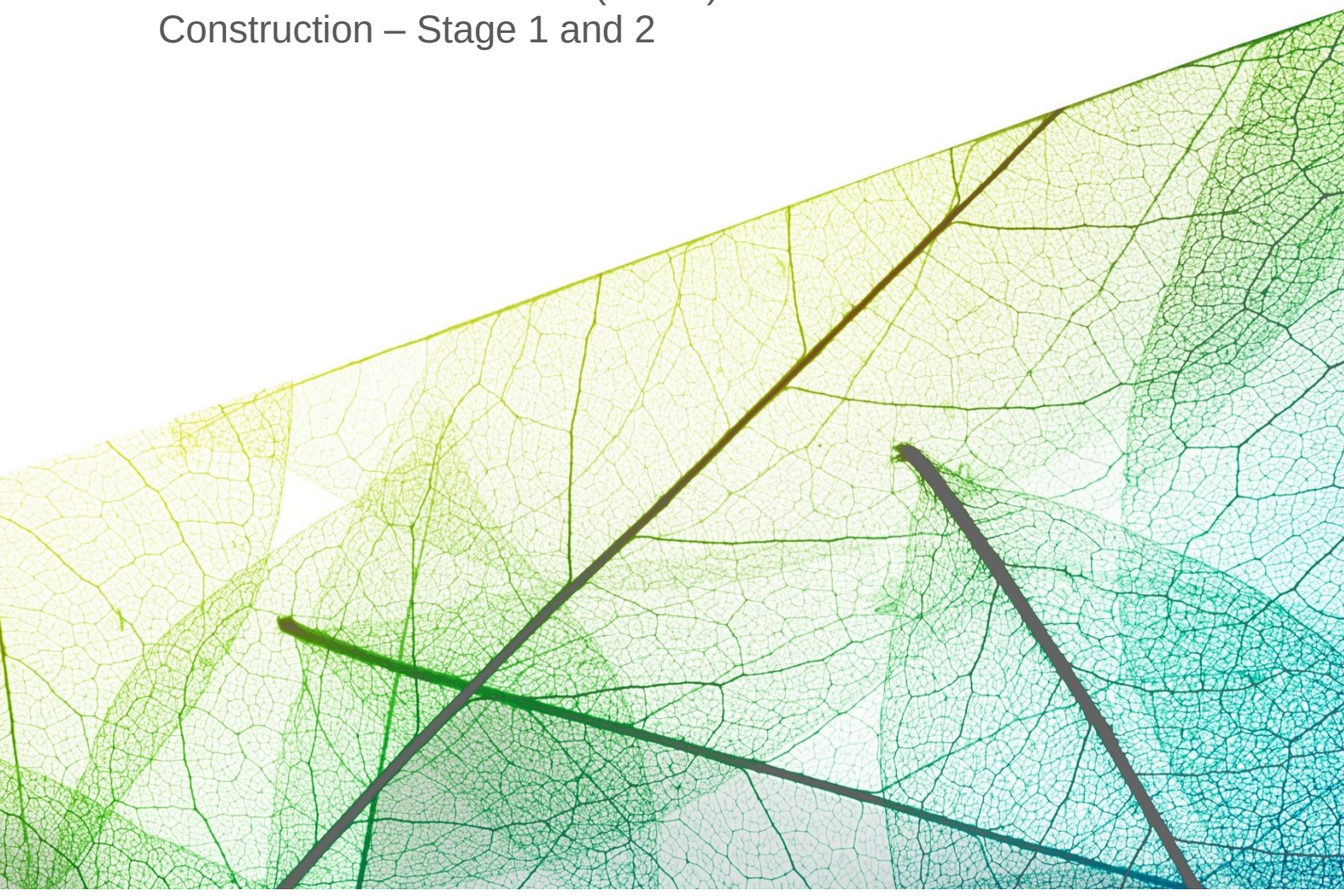
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Fort Street Public School (FSPS)
Construction – Stage 1 and 2



DOCUMENT CONTROL

File Name	20629_CEMP_FSPS_Revision E
Report Name	Construction Environmental Management Plan – Fort Street Public School
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PLAN APPROVED BY

Nick Bergholcs	Murray Graham	Tara Coffey
Construction Manager	**Site Manager**	**HS&E Manager**

REVISION STATUS

Rev	Date	Project	Prepared by	Checked by
A	15/01/2021	Construction Environmental Management Plan – Fort Street Public School	JD	AP
B	15/02/2021	Construction Environmental Management Plan – Fort Street Public School – DRAFT MWO	JD	AP
C	15/03/2021	Construction Environmental Management Plan – Fort Street Public School - MWO	PMC	AP
D	30/04/2021	Construction Environmental Management Plan – Fort Street Public School – FINAL SINSW comments	JD	AP
E	29/06/2022	Construction Environmental Management Plan – Fort Street Public School –Update Independent Audit	TM	NB

EMP PREPARATION CHECKLIST	
REQUIREMENT	REFERENCE
Document preparation and endorsement	
Has the EMP been prepared in consultation with all relevant stakeholders as per the requirements of the conditions of consent? (Section 4.1)	Yes, refer to relevant consultation records in sub-plans
Have the views of the relevant stakeholders been taken into consideration? Have appropriate amendments been made to the EMP and does the EMP clearly identify the location of any changes? (Section 4.1)	Yes, refer to relevant consultation records in sub-plans
Has the EMP been internally approved by an authorised representative of the proponent or contractor? (Section 4.2)	Yes – Page 2
Version and content	
Does the EMP describe the proponent's Environmental Management System (EMS) (if any), and identify how the EMP relates to other documents required by the conditions of consent? (Section 3.5.1)	Yes – Section 4.0
Does the EMP include the required general content and version control information? (Section 3.1)	Yes – Pages 2 to 4
Does the EMP have an introduction that describes the project, scope of works, site location and any staging or timing considerations? (Section 3.2)	Yes – Sections 1.0 and 2.0
Does the EMP reference the project description? (Section 3.3) Does the EMP reference a Community and Stakeholder Engagement Plan (or similar) or include community and stakeholder engagement actions (if required)? (Section 3.4)	Yes – Section 3.0
Have all other relevant approvals been identified? Has appropriate information been provided regarding how each approval is relevant? (Section 4)	Yes – Section 4.4 and Appendix A
Has the environmental management structure and responsibilities been included? (Section 3.5.2)	Yes – Section 4.2 and Appendix B
Does the EMP include processes for training of project personnel and identify how training and awareness needs will be identified? (Section 3.5.3)	Yes – Section 4.5
Does the EMP clearly identify the relevant legal and compliance requirements that relate to the EMP? (Section 3.5.3)	Yes – Section 4.3 and Appendix A
Does the EMP include all the conditions of consent to be addressed by the EMP and identify where in the EMP each requirement has been addressed? (Section 3.5.13)	Yes – Section 1.2 and Appendix A

EMP PREPARATION CHECKLIST	
Have all relevant guidelines, policies and standards been identified, including details of how they are relevant? (Section 3.5)	Yes – Appendix A
Is the process that will be adopted to identify and analyse the environmental risks included? (Section 3.5.5)	Yes – Section 4.8
Have all the environmental management measures in the EIA been directly reproduced into the EMP? (Section 3.5.7)	Yes
Have any additional environmental management measures been included in the EMP? (Section 3.5.7)	No
Have environmental management measures been written in committed language? (Section 3.5.7)	Yes
Have project environmental management measures, including hold points, been identified and included? (Section 3.5.6)	Yes – Section 4.7
Are relevant details of environmental monitoring that will be carried out included? (Section 3.5.8)	Yes – Section 4.8
Have the components of any environmental monitoring programs been incorporated? (Section 3.5.8)	Yes – Section 4.8
Are environmental inspections included? (Section 3.5.9) Does the EMP document all relevant compliance monitoring and reporting requirements for the project? (Section 3.5.12 and 3.5.13)	Yes – Section 4.8
Does the EMP describe the types of plans or maps (such as environmental control maps) that will be used to assist with the management of environmental matters on site? (Section 3.5.10)	Yes – Figure 3
Does the EMP list environmental management documents? (Section 3.5.11)	Yes – Section 4.1 and Appendices
Is an auditing program referenced? (Section 3.5.13) Does the EMP include the incident notification and reporting protocols that comply with the relevant conditions of consent? (Section 3.5.15)	Yes – Section 4.8.6
Does the EMP identify the project role/position that is responsible for deciding whether an occurrence is an incident? (Section 3.5.15)	Yes – Annexure B
Does the EMP describe a corrective and preventative action process that addresses the requirements? (Section 3.5.16)	Yes – Section 4.8.7
Does the EMP include details of a review and revision process that complies with the requirements? (Section 3.6)	Yes – Section 10

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Appendices

Glossary

Term	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
AMU	Access Management Utility of the Department of Education
BCD	Biodiversity and Conservation Division
BOH	Back of House
CAR	Corrective Action Requests
CAR	Corrective Action Requests
CEMP	Construction Environmental Management Plan
CiDD	Certainty in Design and Delivery
CNVM SP	Construction Noise and Vibration Management Sub Plan
COLA	Covered Outdoor Learning Area
CSELR	City and South East Light Rail Project
CSWM SP	Construction Soil and Water Management Sub Plan
CTPMS P	Construction Traffic and Pedestrian Management Sub Plan
CWMS P	Construction Waste Management Sub Plan
DECC	NSW Department of Environment and Climate Change
DoE	Department of Education
DPIE	NSW Department of Planning, Industry and Environment
EEC	The Observatory Hill Environmental Education Centre
EES	NSW Environment, Energy and Science
EHS	Environment, Health and Safety
EMP	Environmental Management Plan
EMS	Environmental Management System
EPA	Environment Protection Authority
ESD	Ecologically Sustainable Development
FFE	Furniture Fittings and Equipment

Term	Description
FOMP	Friends of Millers Point
FSPS	Fort Street Public School
GMR	Lendlease Global Minimum Requirements for safety
IHRA	Impacts and Hazards Risk Assessment
LV	Low Voltage
MET	The Bureau of Meteorology Building or Building M located on the Fort Street School site
MPCRAG	Millers Point Community Resident Action Group
MWO	Main Works Offer
OEH	NSW Office of Environment and Heritage
OOC	Observations of Concern
OSD	On Site Detention tank
POEO Act	Protection of the Environment Operations Act 1997
RAP	Remediation Action Plan
RMS	Roads and Maritime Services
SINSW	School Infrastructure New South Wales
SSDA	State Significant Development Application
TfNSW	Transport for New South Wales

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This CEMP sets out the processes and procedures to be established for the effective environmental management of the Fort Street Public School project in order to satisfy the consent conditions, legislative and compliance requirements for the project.

The scope of this plan encompasses the construction related activities of the development which will be undertaken in both stage 1 (demolition, earthworks, and hazardous materials removal) and stage 2 (construction of the remaining work on site) of the development.

1.2 OBJECTIVES

The objectives of this plan are to;

- Provide a clear and concise outline of the processes and procedures for effective environmental management,
- Form part of the Lendlease integrated Environment, Health and Safety Management System,
- To ensure compliance with relevant legislation and regulatory requirements;
- To monitor environmental impacts relating to the project as identified in this document and related sub plans;
- To be consistent with the elements of the Australian / New Zealand Standard 14001: 2015 – Environmental Management Systems (referred to as AS/NZS ISO 14001); and
- Satisfy the conditions of consent SSD-10340 for the Fort Street Public School, Upper Fort Street, Millers Point dated 7 October 2020. Specific relevant conditions are tabulated below;

Reference		Condition
A25	The Planning Secretary must be notified through the major projects portal immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature	

Reference		Condition
	of the incident.	
A26	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A	
B16		Management plans required under this consent must be prepared in accordance with relevant guidelines, including but not limited to the Environmental Management Plan Guideline: Guideline for Infrastructure Projects (DPIE April 2020). Note: -The Environmental Management Plan Guideline is available on the Planning Portal at: https://www.planningportal.nsw.gov.au/majorprojects/assessment/post-approval -The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.
B17		Prior to the commencement of construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary for information. The CEMP must include, but not be limited to, the following: (a) Details of: (i) hours of work; (ii) 24-hour contact details of site manager; (iii) management of dust and odour to protect the amenity of the neighbourhood; (iv) stormwater control and discharge; (v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site; (vi) groundwater management plan including measures to prevent groundwater contamination; (vii) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting; (viii) community consultation and complaints handling; (b) an unexpected finds protocol for contamination and associated communications procedure to ensure that potentially contaminated material is appropriately managed; (c) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure; (d) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site; (e) Construction Traffic and Pedestrian Management Sub-Plan (see condition B18); (f) Construction Noise and Vibration Management Sub-Plan (see condition B19); (g) Construction Waste Management Sub-Plan (see condition B20); and (h) Construction Soil and Water Management Sub-Plan (see condition B21).

Reference	Condition
B18	A Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following: (a) be prepared by a suitably qualified and experienced person(s); (b) be prepared in consultation with Council and the Sydney Coordination Office within TfNSW; (c) be submitted to the Coordinator General, Transport within TfNSW for endorsement, unless otherwise agreed to in writing by the Planning Secretary; (d) include details of: (i) crane arrangement including the location of any crane(s); (ii) commitment to providing the site manager's direct contact number to business adjoining or impacted by the construction work, the Transport Management Centre and the Sydney Coordination office within TfNSW to resolve issues relating to traffic, public transport, freight, servicing and pedestrian access in real time; (iii) the predicted number of construction vehicle movements and detail of vehicle types, nothing that vehicle movements are to be minimised during peak periods; (iv) specific measures to ensure the arrival of construction vehicles to the site do not cause queuing on public roads; (v) a monitoring regime for maintaining the simultaneous operation of buses and construction vehicles on roads surrounding the site; (vi) measures to avoid construction worker vehicle movements within the Sydney Central Business District; (vii) cumulative construction impacts of projects including Sydney Metro City and South West with reference to the construction traffic and pedestrian management plans for developments within or around the development site to ensure that coordination of work activities is managed to minimise impacts on the surrounding road network; (viii) the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and light rail and bus services; and (ix) heavy vehicle routes, access and parking arrangements.
B19	The Construction Noise and Vibration Management Sub-Plan must address, but not be limited to, the following: (a) be prepared by a suitably qualified and experienced noise expert; (b) identify the following: (i) noise and vibration objectives in the EPA's Interim Construction Noise Guideline (DECC, 2009); (ii) each work area, site compound and access route (private and public); (iii) specific activities that will be carried out and associated noise sources at the premises and access routes; (iv) high noise generating works, including location; and (v) potentially affected sensitive receivers; (c) an assessment of potential noise and vibration from the proposed construction methods (including noise from construction traffic) against the objectives identified; (d) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009); (e) where the noise and vibration objectives are predicted to be exceeded an analysis of feasible and reasonable noise and vibration mitigation measures that can be implemented to reduce construction noise and vibration impacts; (f) describe the measures to be implemented to manage the high noise generating works identified, in close proximity to sensitive receivers; (g) include strategies that have been developed with the community for managing the identified high noise generating works; (h) describe the community consultation undertaken to develop the strategies in condition B19(g); (i) include a complaints management system that would be implemented for the duration of the construction; and (j) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the implemented management measures in accordance with the requirements of condition B16.
B20	The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the following: (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and (b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of construction.

Reference	Condition
B21	The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following: (a) be prepared by a suitably qualified expert, in consultation with Council; (b) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'; (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site); (d) detail all off-Site flows from the Site; and (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI.
B22	A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following: (a) minimise the impacts of earthworks and construction on the local and regional road network; (b) minimise conflicts with other road users; (c) minimise road traffic noise; and (d) ensure truck drivers use specified routes.
C29	In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by EES Group and the management outcome for the site included in the information provided to AHIMS. The Applicant must consult with the Aboriginal community representatives, the archaeologists and EES Group to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of EES Group.
C30	Construction works must be carried out in accordance with the recommendations of Section 6 of the Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared by Curio Projects Pty Ltd and dated 15 July 2020.
C31	If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the Heritage NSW contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of the Heritage NSW.

Figure 1 – Applicable Consent Conditions

1.3 ENVIRONMENTAL, HEALTH AND SAFETY POLICY

Lendlease are committed to our vision 'to create the best places' through workplaces free of incident and injury wherever we have a presence, supported by an uncompromising culture which holds the health and safety of people and the protection of the environment as a key priority in all business reviews and decisions.

To achieve our vision, we are committed to:

- Setting objectives and measurable targets within the framework established by the EHS Management System for continual improvement, the protection of health and safety, the prevention of pollution and protection of biodiversity.
- Eliminating work related environment, health and safety (EHS) impacts and incidents associated with our operational construction activities, products and services.
- Complying with applicable legislation, codes of practice, compliance standards, obligations and guidelines.
- Defining roles, responsibilities and accountability for clarity, consistency and predictability across our workforce.
- Understanding the needs and expectations of workers and other parties; including suppliers, subcontractors, clients, the community and regulatory authorities; through partnerships and consultative forums.

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

2.1.1 Property Identification Details

Fort Street Public School, Upper Fort Street, Millers Point
(Lots 106, 107 and 108 DP748340, Lots 2, 3, 4 and 9 DP732592, Lot 2 DP244444, Lot 5 DP258013)

School Code – 1937

2.1.2 Site description /Context

The Fort Street Public School is in a prominent location on Observatory Hill, adjacent to the Bradfield Highway (the approaches to the Harbour Bridge) and bounded by the Cahill Cut.

The school itself consists of exceptional and significant heritage items and is located between two exceptional heritage sites; the National Trust and the Sydney Observatory. The current Fort Street Public School was a part of original school on this site which was in what is now the National Trust Building and was one of the first public school to be opened in the colony of NSW.

The school is isolated from the rest of Observatory Hill by the Cahill Cut which was cut around the school site in the 1940's.

Fort Street Public School (FSPS) and the Observatory Hill Environmental Education Centre (EEC) require significant redevelopment to cater for increasing student demand, address essential site and facility upgrades and to provide a new and improved innovative learning environment for the next generation of students.

2.1.3 Site Heritage Overview

The site's heritage context is summarised by Curio Projects in their conservation management plan dated March 2020 as;

'The historical archaeological resource associated with the early buildings within the footprint of Fort Street Public School, the Military Hospital's surgeon's residence (later associated with the National School), the Observatory's Messenger's Cottage and associated buildings and facilities, have the potential to provide information regarding the lives of the people living and working at these early colonial institutions. Particular aspects of colonial Sydney would be demonstrated in the physical evidence of buildings and in an artefact assemblage of the detritus of everyday life discarded by military and medical personnel, teachers and students, and staff of the Observatory. An extensive artefact assemblage that may be present in wells, rubbish and / or cess pits would have the potential to provide an insight into lifestyles associated with the Military Hospital or Observatory that would contribute to substantive questions regarding institutional life in the colony. The historical archaeological resources within the footprint of Fort Street Public School have state significance'.

2.2 KEY PERSONNEL CONTACT DETAILS

The emergency contact details (24 hours 7 days a week) for key project personnel are included in the table below.

Role	Name	Contact Details
Site Manager	Murray Graham	Mobile - +61 438 839 444 Email - murray.graham@lendlease.com
Construction Manager	Nick Bergholcs	Mobile - +61 497 885 135 Email - nick.bergholcs@lendlease.com

2.3 SITE LOCATION PLAN

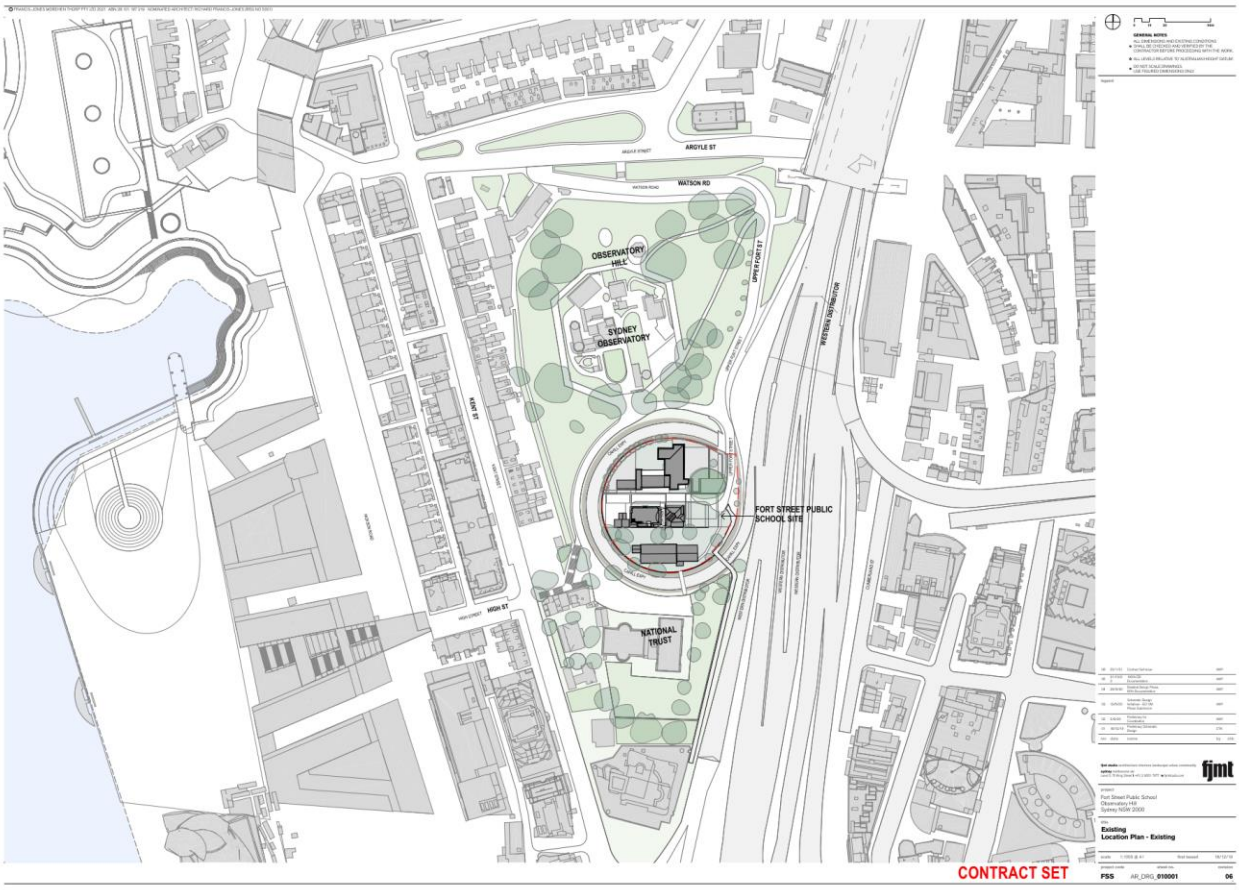


Figure 2 – Site Location Plan

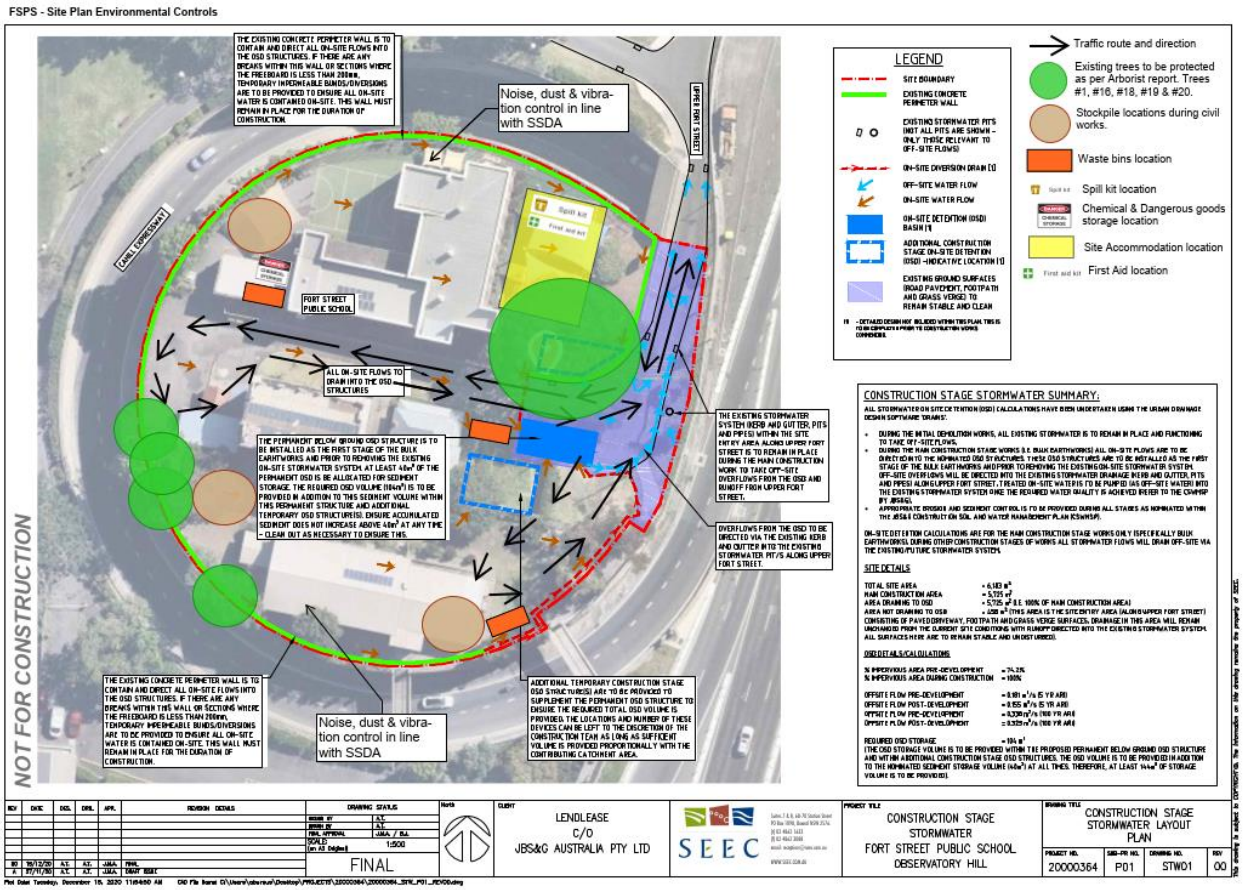


Figure 3 – Site Environmental Protection Measures

2.4 SCOPE OF WORKS

Redevelopment of Fort Street Public School comprising demolition of selected buildings and structures, construction of four new buildings, refurbishment of existing retained buildings, alterations to drop-off and pick-up arrangements and associated works, including tree removal, landscaping and consolidation of lots.

2.5 TIMING OF ACTIVITIES

2.5.1 Hours of Work

In accordance with the Conditions of Consent, the FSPS working hours will be;

(a) Monday to Friday: 7.00am – 6.00pm;

(b) Saturday: 8.00am – 1.00pm

(c) Sunday and public holidays: No work

(d) Out of hours: In accordance with SSDA conditions

Provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

(a) Between 6pm and 7pm, Mondays to Fridays inclusive; and

(b) Between 1pm and 4pm, Saturdays.

In addition to regular working hours, there will be occasional short periods when out of hours works are required for example special deliveries, hoarding removal at project completion and services cutovers. The required Cahill Expressway shut down is foreseen as an after-hours activity and will be conducted in line with the authority approval.

Lendlease will agree the process with SINSW, Transport for New South Wales (TfNSW), Transport Management Centre (TMC), Roads and Maritime Services (RMS) and The City of Sydney Council to address the approvals and additional measures required prior to scheduling any out of hours works. The nature of these works may include dismantle of hoardings, works to footpaths, services connections, vent shaft works and other works that interface with the surrounding facilities.

2.5.2 Project Staging Methodology (Stage 1 & 2)

The SSD pertains to the delivery of the entire package of works. To maintain operational continuity throughout construction of the works and as a result of site access restrictions the works must be staged. An indicative 2 stage approach is proposed as follows;

(1) Stage 1 is the construction of site establishment and preparation, demolition works and hazardous materials removal, civil and remediation works, archaeological research excavation and heritage remediation works to the Meteorology building.

(2) Stage 2 is the construction of the remaining works on site and the handover and occupation of the buildings for its intended use

2.5.3 Stage 1

- Stage 1 - Demolition Works
- Stage 1 - Bulk Excavation and inground services

2.5.4 Stage 2

- Stage 2 - Structure
- Stage 2 - Facade
- Stage 2 – Sequencing – Building Services
- Stage 2 – Sequencing – Internal Works – Integrated fit Out & Finishes
- Stage 2 – Sequencing – Landscaping works & Handover

3.0 STAKEHOLDER ENGAGEMENT AND COMMUNITY

3.1 CONSULTING AND COMMUNICATING

The approach to managing stakeholder consultation and communication for SSDA works for the FSPS Project is to create a strategic framework which enables a consistent and transparent guide to engaging stakeholders who are either interested or impacted by the works.

Lendlease manages stakeholder interests and expectations through early and ongoing engagement. Every member of the Lendlease Project Team is responsible for appropriate and effective stakeholder interactions.

The key principles which underpin our 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 Lendlease Stakeholder Management and Communications Plan supports the implementation of this CEMP. The plan outlines key stakeholder groups who are directly or indirectly impacted by works and their respective levels of interest in the project and has been coordinated with SINSW broader community stakeholder engagement plan for FSPS. Identified key stakeholder groups are outlined in the table below.

Category	Stakeholder Group	Key Parties
Client	NSW Department of Education (DoE)	. Sylvia Corish, ED School Performance . Glen Halliday, EEC Principal - DoE Teaching Principal
Current / future users	Fort Street Public School Principal and teaching staff	Michele Peele-Yates, Principal, DoE
Current / future users	Fort Street Public School Community	. Current students . Luke Lee, P&C Representative FSPS . Future students . Nearby public schools (Conservatorium HS, Ultimo Public School, Plunkett Street Public School)
Interest / action groups	. Millers Point Community Residents Action Group (MCRAG) and Friends of Millers Point	. John McInerney, Chair and ex. City of Sydney Councillor. . MCRAF represents Millers Point, Dawes Point, The Rocks and Walsh Bay residents . FoMP is a coalition of public figures, artists, art organisations, educators, social scientists, church and community leaders, business owners, residents, politicians (local, state and federal) and others. . Patrons are The Hon Anthony Albanese, Eva Cox, Jack Mundy, Reg Mombassa and Michael Kendrick. Convenor - Kelli Haynes/ Media - John Dunn
Interest / action groups	Walsh Bay Precinct Management Association (PMA)	The Hon (Laurie) Laurence Brereton (attends the PMA as well as sometimes the MCRAG meetings) - ex. State and Federal Minister (ALP)
Elected representatives	Lord Mayor of Sydney	. Clover Moore (IND) as well as councillors including Alex Greenwich (IND)

Category	Stakeholder Group	Key Parties
Elected representatives	Local Member of Parliament	Alex Greenwich, State Member for Sydney (Also works a lot with MCRAG and Walsh Bay Precinct Committee. Popular in the local community)
Elected representatives	Federal Member for Sydney	Tanya Plibersek MP (ALP)
Indigenous/ ethnic groups	Metropolitan Local Aboriginal Land Council	. Yvonne Weldon, Board Chair . Nathan Moran, CEO . Cadigal Aboriginal people (original custodians of Millers Point)
Government agencies / depts	RMS Roads	Western Distributor, Bradfield HSW/ Cahill Expressway
Government agencies / depts	Property NSW	Kim Russell, Asset and Leasing Manager, Portfolio Management Group
Government agencies / depts	Schools Infrastructure NSW (SINSW)	Richard Skinner, Director Education Leadership, DoE Port Jackson Access Management Utility (AMU), SINSW Rep present Esben Jensen, Community Engagement Manager Emma Marshall, New Learning Environments
Consultants	Schreiber Hamilton Architecture (SHAC)	Justin Hamilton, Architect Elizabeth Brown, Director
Consultants	FJMT	Elizabeth Carpenter, Managing Principal
Consultants	Root Partnership	David Wiles, Associate Director Justine Newby, Senior Project Manager
Immediate neighbours	National Trust of Australia (SWG) / Sydney Observatory	. HQ for National Trust . Home to S.H. Ervin Gallery . Richard Silink, Deputy CEO . James Rongen-Hall, Exhibition Project Coordinator . Museum of Applied Arts & Sciences
Immediate neighbours	Hotel / holiday accommodation	The Langham Sydney (Kent Street)
Authorities	NSW office of Environment & Heritage (SWG) & NSW Heritage Council	Hendry Wan, Senior Heritage Officer

Category	Stakeholder Group	Key Parties
Local residents	Kent Street, Lower Fort Street, Upper Fort Street, Essex Street, Hickson Road, Argyle Place, Windmill Street	. Residential and commercial properties . Barangaroo team engages with the Kent Street building managers only . Tennis courts
Sport and recreation	King George V Rec Centre	City of Sydney
Sport and recreation	Abe Mott Community and Youth Centre	. City of Sydney . Community Centre worker (Sage) has been there are long time. Sage also does a lot of work for homelessness. Darren Tan, Community Development Manager, Lendlease Barangaroo South has engaged with her re. homelessness in the Sydney CBD.
Lendlease business units	LL Millers Point (Barangaroo South) Development	Darren Tan, Lendlease Community Development Manager, Barangaroo South and Crown, Lendlease Millers Point
Lendlease business units	Lendlease Property & Building Social Sustainability Senior Strategic Management Team	. Amanda Shaw, GM Social Sustainability Australia . Clare Baker, Senior Strategic Stakeholder Engagement Manager, Property & Building
Authorities	City of Sydney Exec & Officers	. Kim Woodbury, COO . Monica Barone, CEO
Media / social media	Local, city and state-wide print media and social media (Facebook, Instagram, etc.)	. SMH, Daily Tele, etc. . Millers Point Community Facebook . Save our Millers Point Facebook

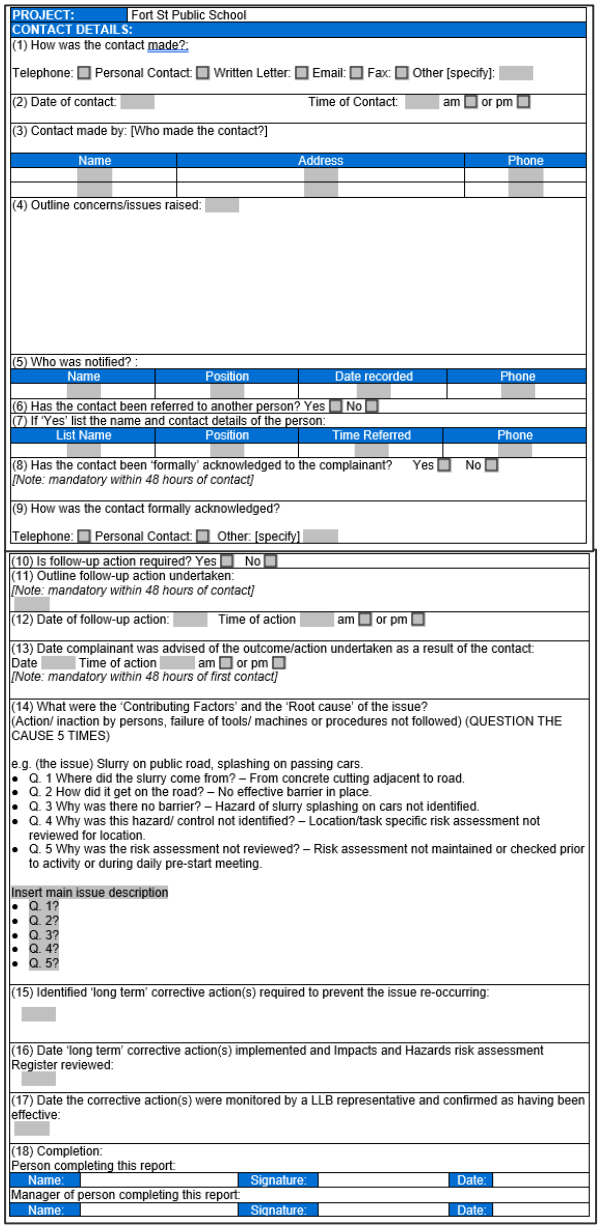
3.2 COMPLAINT MANAGEMENT

Contact with the community is a means by which Lendlease can positively engage stakeholders and potential clients or customers by demonstrating sound management practices in resolving any concerns raised in a timely manner.

Community members that interface with Lendlease Building Business undertakings present the opportunity for feedback and a positive response by Lendlease. Any response shall be commensurate with Lendlease's high regard and sensitivity to social amenity and the lifestyle impacts of its business undertakings.

In addition to the SINSW project hotline and website interface, we will establish a direct complaints management process and formally record any complaints directed through Lendlease channels.

An example of a routine complaint form can be seen below.



PROJECT: Fort St Public School

CONTACT DETAILS:

(1) How was the contact made?:

Telephone: ☐ Personal Contact: ☐ Written Letter: ☐ Email: ☐ Fax: ☐ Other [specify]:

(2) Date of contact: Time of Contact: am ☐ or pm ☐

(3) Contact made by: [Who made the contact?]

Name	Address	Phone

(4) Outline concerns/issues raised:

(5) Who was notified? :

Name	Position	Date recorded	Phone

(6) Has the contact been referred to another person? Yes ☐ No ☐

(7) If 'Yes' list the name and contact details of the person:

List Name	Position	Time Referred	Phone

(8) Has the contact been 'formally' acknowledged to the complainant? Yes ☐ No ☐
[Note: mandatory within 48 hours of contact]

(9) How was the contact formally acknowledged?

Telephone: ☐ Personal Contact: ☐ Other: [specify]

(10) Is follow-up action required? Yes ☐ No ☐

(11) Outline follow-up action undertaken:
[Note: mandatory within 48 hours of contact]

(12) Date of follow-up action: Time of action am ☐ or pm ☐

(13) Date complainant was advised of the outcome/action undertaken as a result of the contact:
Date Time of action am ☐ or pm ☐
[Note: mandatory within 48 hours of first contact]

(14) What were the 'Contributing Factors' and the 'Root cause' of the issue?
(Action/ inaction by persons, failure of tools/ machines or procedures not followed) (QUESTION THE CAUSE 5 TIMES)

e.g. (the issue) Slurry on public road, splashing on passing cars.
- Q. 1 Where did the slurry come from? – From concrete cutting adjacent to road.
- Q. 2 How did it get on the road? – No effective barrier in place.
- Q. 3 Why was there no barrier? – Hazard of slurry splashing on cars not identified.
- Q. 4 Why was this hazard/ control not identified? – Location/task specific risk assessment not reviewed for location.
- Q. 5 Why was the risk assessment not reviewed? – Risk assessment not maintained or checked prior to activity or during daily pre-start meeting.

Insert main issue description
- Q. 1?
- Q. 2?
- Q. 3?
- Q. 4?
- Q. 5?

(15) Identified 'long term' corrective action(s) required to prevent the issue re-occurring:

(16) Date 'long term' corrective action(s) implemented and Impacts and Hazards risk assessment Register reviewed:

(17) Date the corrective action(s) were monitored by a LLB representative and confirmed as having been effective:

(18) Completion:
Person completing this report:

Name:		Signature:		Date:	

Manager of person completing this report:

Name:		Signature:		Date:	

Figure 4 – Complaint Form

3.3 MONITORING AND REPORTING

The project promotes a culture of continuous improvement, constantly striving for better outcomes for the project, our reputation, the community and our stakeholders. The following channels will be used to monitor and review the effectiveness of stakeholder engagement.

CHANNEL	OBJECTIVE	DETAILS
Governance	To provide a summary of the stakeholder engagement and communication performance for inclusion in Governance reports.	Outline key engagement activities for the period Highlight key stakeholder issues and strategies implemented to address them Provide visual updates on status of project (i.e. progress photos) Report on complaints and enquiries response rates
Construction interface meetings with impacted stakeholders	To provide key project stakeholders and Hospital campus representatives with a summary of stakeholder engagement and communications activities underway. This forum acts as a mechanism to ensure key project stakeholders receive timely and relevant communications.	Outline key engagement activities for the period Highlight key stakeholder issues and strategies implemented to address them Provide an opportunity for stakeholders to provide feedback on effectiveness of engagement Provide stakeholders with an opportunity to share their engagement and communication needs
Communications Working Group (CWG)	To provide a summary of stakeholder engagement activities and issues raised and addressed.	Outline key engagement activities for the period Highlight key stakeholder issues and strategies implemented to address them Reporting on key stakeholder issues, complaints and actions taken Seeking advice on the engagement and communication needs of key stakeholder groups

Figure 5 – Stakeholder Engagement Channels

4.0 ENVIRONMENTAL MANAGEMENT FRAMEWORK

4.1 RELATIONSHIP TO EXISTING ENVIRONMENTAL MANAGEMENT SYSTEM

Lendlease has an existing integrated Environmental Health and Safety Management System which is independently certified under ISO 18001, ISO 14001 and ISO 9001. This CEMP will form a project specific sub-plan as a part of this sytem. Refer to the below diagramatic overview.

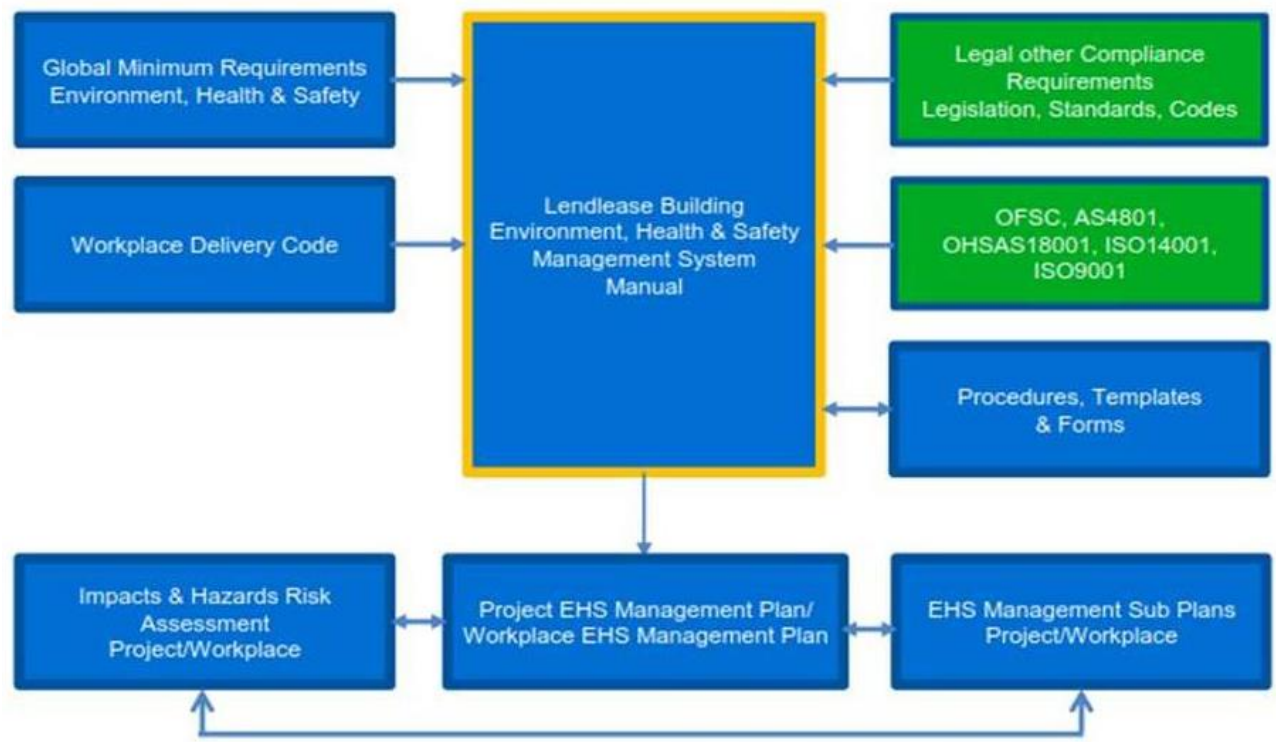


Figure 6 – Lendlease Environmental Health and Safety Management System

4.2 ENVIRONMENTAL MANAGEMENT STRUCTURE AND RESPONSIBILITIES

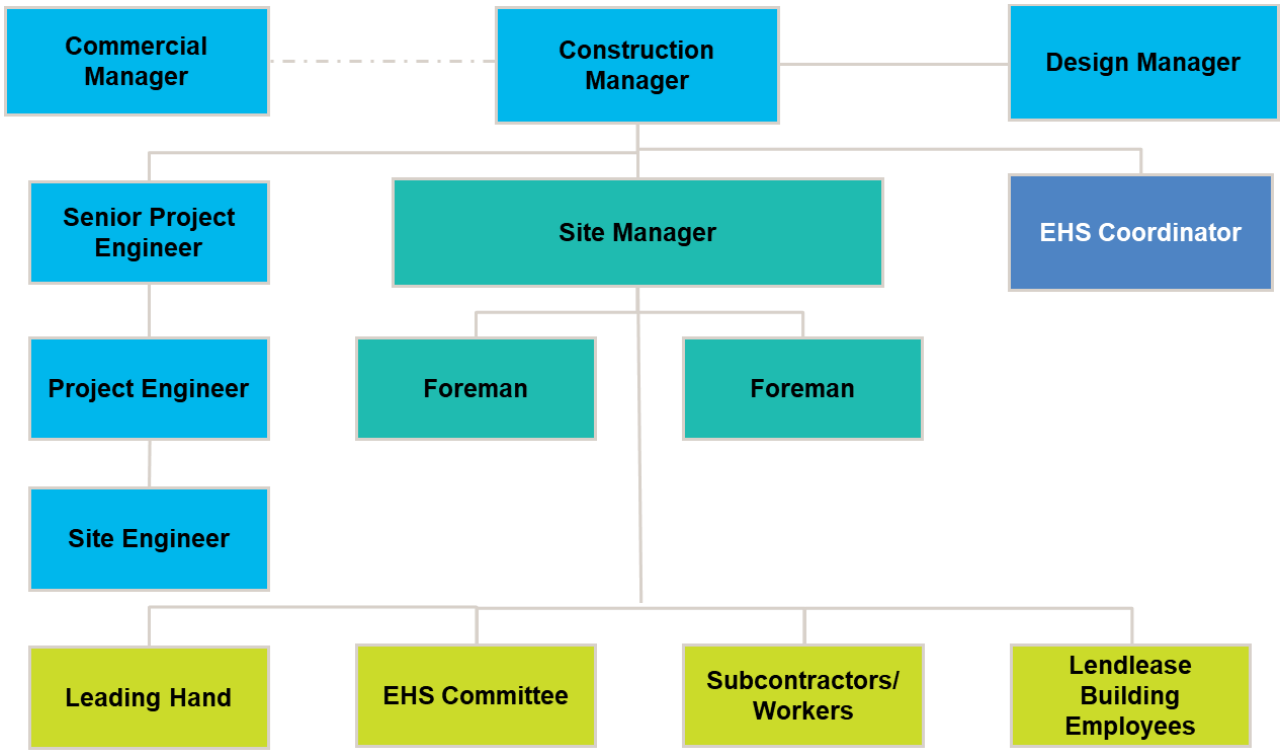


Figure 7 – Team Organisational Structure

For responsibilities matrix across key roles please refer to Appendix B.

4.3 LEGAL, LEGISLATIVE AND COMPLIANCE REQUIREMENTS

A register of Legal, Legislative and Other Requirements has been included in Appendix A.

Lendlease identifies and maintains access to all WHS/OHS/OSH law and environmental law updates and other compliance requirements (e.g. standards, codes, conditions, approvals and others), which are available at LLB workplaces and on the intranet (see Appendix 2 for further information). WHS/OHS/OSH law, environment protection legislation and other compliance requirements; e.g. codes of practice, Client conditions, development approval and standards that apply to this workplace, are listed in the project Impacts & Hazards Risk Assessment.

Lendlease operations are required to collect concise data on energy use, carbon emissions, water consumption, waste disposal and waste recovery at a project level. The data is used to monitor a project's environmental performance and to meet Lendlease Corporation obligations under the National Greenhouse and Energy Reporting Act 2007.

Data is recorded in Footprint and verified by each Regional Business Unit, Strategic Business Unit, nominated employee, with oversight by the Lendlease Building National Sustainability Function and external assurance auditors.

4.4 Approvals Permits and Licensing

A number of approvals, permits and licenses have, and/or will be obtained for the Project. Appendix A contains a register of all relevant environmental approvals, permits and licenses.

The register will be maintained by the Design Manager and will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least annually as part of the management review.

The SSDA Development Conditions recognised that the following approvals and licences identified in the planning approval process would/have be obtained, or are required for the Project:

- Project Approval under the EP&A Act.
- Approval from associated asset owners (TfNSW and CoS) for works to the Upper Fort Street widening and Bradfield vent shaft
- Approval for works to Bradfield Vent Shaft under section 138 of the Roads Act 1993.
- Heritage NSW approval of the Archaeological Research Design

In accordance with the SSDA Planning Conditions, all necessary licences, permits and approvals required for the development of the Project will be obtained and maintained as required throughout the life of the Project. No condition of the Project Approval removes the obligation for SINSW or Lendlease to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 75U of the EP&A Act.

The SSDA requirements, SINSW specification requirements and other applicable legislative controls are detailed within the Legal and other requirements register (Appendix A).

4.5 TRAINING AND AWARENESS

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The Construction Manager will coordinate the environmental training.

All personnel (including sub-contractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site. This is done to ensure all personnel involved in the Project are aware of the requirements of the CEMP and to ensure the implementation of environmental management measures. All visitors are required to sign into the site via the QR Code system located on the site opening wall and be accompanied at all times by an inducted person(s). All delivery drivers must obey all traffic controller instructions and are given on arrival the FSPS Truck Delivery Route sheet to follow.

The EHS Coordinator (or delegate) will conduct the environmental component of the site inductions.

The environmental component will include, but not be limited to, an overview of:

- Relevant details of the CEMP including purpose and objectives.
- Key environmental issues.
- Deliveries entering and exiting site
- Conditions of environmental licences, permits, approvals and other applicable legal requirements (including changes where applicable).
- Specific environmental management requirements and responsibilities.
- Mitigation measures for the control of environmental issues.
- Incident response and reporting requirements; and
- Information relating to the location of environmental constraints.

A record of all inductions will be maintained and kept on-site. The Construction Manager may authorise amendments to the induction at any time. Possible reasons for changes to the induction may be Project modifications, legislative changes or amendments to this CEMP or related documentation.

Toolbox talks will be one method of raising awareness and educating personnel on issues related to all aspects of construction including environmental issues. The toolbox talks are used to ensure environmental awareness continues throughout construction.

Toolbox talks will be tailored to specific environmental issues relevant to upcoming works.

Relevant environmental issues may include (but are not limited to):

- Changes to Project legal requirements, where applicable.
- Erosion and sedimentation control.
- Hours of work.
- Emergency and spill response.
- Aboriginal and non-Aboriginal heritage.
- Threatened species, endangered ecological communities, clearing controls and vegetation protection.
- Noise and mitigation measures.
- Traffic management measures.
- Impacts of external lighting and compliance requirements.

4.6 ENVIRONMENTAL RISK ASSESSMENT

Impacts and hazards related to the workplace are recorded in the Project Impacts & Hazards Risk Assessment. To ensure the IHRA remains current it must be reviewed:

- during project coordination meetings when reviewing the next 6 weeks of activities and related GMR independent engineer reviews for acute risks; and
- at maximum six (6) week intervals during Project Review Meetings by the Construction Manager, or a nominated representative, to ensure currency and accuracy.

Workers are encouraged through the workplace specific induction, tool box/pre-start talks and other consultative forums to identify and control health and safety hazards and risks and environment aspects and impacts on a ‘see and fix’ basis where reasonably practicable to do so and to immediately report these impacts and hazards to their supervisor or Lendlease personnel.

Where high risk impacts or hazards present an imminent or immediate risk of serious harm to a worker are identified that specifically relate to a work area or work task under the control of Lendlease, a subcontractor or other worker due to ineffective or inadequate control measures, the work task shall be stopped. Consultation must then be undertaken with key stakeholders including relevant workers involved in the task to achieve the required control measures.

All incident events and observations must be entered in Enablon and related non-conformities must be issued by the Foreman/Area Supervisor with corrective action instigated and agreed by the relevant subcontractor supervisor, which is then tracked to completion in Enablon.

4.7 HOLD POINTS

At the completion of site remediation works, a validation report will be prepared in general accordance with EPA (2017) and OEH (2011) Guidelines for Consultants Reporting on Contaminated Site (or as updated), documenting the works as completed as per JBS&G Remedial Action Plan 19 June 2020.

- Details of the remediation works conducted;
- Present all sampling field notes and laboratory data including calibration certificates for field monitoring equipment, environmental monitoring etc.;
- Undertake an assessment of QA/QC of analytical data generated by the works and identify data that is reliable for use in characterising the site;
- Sort data into data sets as required by the decision rules;
- Assess whether sufficient data has been obtained to meet required limits on decision error;
- Undertake assessment to the decision rules and identify any environmental data which causes decision rules to be failed;
- Information demonstrating compliance with appropriate regulations and guidelines;
- Any variations to the strategy undertaken during the implementation of the remedial works;
- Results of all environmental monitoring undertaken during the course of the remedial works;
- Details of any environmental incidents occurring during the course of the remedial works and the actions undertaken in response to these incidents;
- Verification of regulatory compliance;
- Provide a summary of waste disposal activities and volumes of waste removed from the Site including supply of all waste disposal dockets confirming final waste disposal/landfill destination;
- Provide a summary of material importation activities (general fill soil/crushed rock, growing media, earthworks aggregates, drainage backfill etc), including material source, type, assessment of suitability, approximate quantities, date of importation and final placement location;
- Identify the requirements for the EMP (where appropriate) including inclusion of a survey clearly identifying the extent of the retained impacted material and associated capping; and
- Provide a comment on the suitability of the Site (or portions thereof) for the proposed use and requirements for any ongoing monitoring/management (where applicable).

4.8 INSPECTIONS, MONITORING & REPORTING

4.8.1 Environmental inspections

A compliance monitoring inspection program must implemented during construction works in order to monitor compliance with the terms of the project approval. Compliance tracking will be undertaken in accordance with the project EH&S management plan.

The effectiveness of environmental protection measures described in this CEMP and sub plans will be assessed on a 3 monthly basis by the relevant team members. The following activities will be undertaken:

- Provide a surveillance tool to ensure that safeguards are being implemented;
- Identify where problems might be occurring;
- Identify where sound environmental practices are not being implemented; and
- Facilitate the identification and early resolution of problems.

Weekly environmental inspections will monitor aspects including;

- Review of relevant works approvals and permits
- Erosion and sediment controls and review of associated plans
- Drainage/groundwater protection
- Air quality, odours, dust emissions and mitigating controls
- Heritage impacts
- Noise and vibration management including approved working hours, required respites and safe working distances
- External lighting installation (temporary and permanent) and compliance to AS 4282-2019 Control of the obtrusive effects of outdoor lighting
- Hazardous substances and dangerous goods
- Waste management, recycling and recovery

Any non-conformances identified through the checklist process will be highlighted and an inspection report (minor issues) undertaken as a section of our weekly EHS Inspection Form will be completed by the Site Manager.

The checklist will remain 'open' until:

- The issue has been resolved;
- A new or revised procedure has been established and implemented; or
- Training has been provided to relevant personnel/ sub-contractors.

Site Activity/Description	Frequency	By Whom	Form
Fencing and Hoarding Checklist	Daily	Site Supervisor/Foreman	Enablon Inspection App
Lendlease environmental site inspection of activities	Weekly/Monthly	Site Supervisor, Site Foreman, Site Manager, EH&S Coordinator, Construction Manager, Client Authorised personnel	EHS Inspection Form

4.8.2 Environmental monitoring program

Environmental monitoring will involve collecting and interpreting data to provide quantification of the effectiveness of the CEMP and sub plans. As required under approved conditions, Construction Monitoring Programs are required to be prepared in consultation with the relevant government agencies. The following monitoring programmes will be implemented;

- A Construction Noise and Vibration Monitoring Program is incorporated within the Construction Noise and Vibration Management Sub Plan (CNVMSP) and includes provision of 'realtime' noise and vibration monitoring. This program has been developed in compliance with MCoA B37 and associated conditions during construction with all 'realtime' noise and vibration monitoring data being made available to DPE, EPA, the construction team, and other parties.
- Waste monitoring reporting is incorporated within the Construction Waste Management sub plan (CWMSP). in accordance with the

These aspects will be managed by the site environmental management, inspection and auditing procedures.

The timing, frequency, methodology, locations and responsibilities for the proposed environmental monitoring programs are specified in the respective Sub plans. The monitoring programs range from those involving formal sample collection, analysis and measurement, to those involving a more qualitative assessment.

Irrespective of the type of monitoring conducted, the results will be used to identify potential or actual problems arising from construction processes. Where monitoring methods permit, results will be obtained at the time of the assessment and analysed immediately by the EH&S Coordinator. This will allow a prompt response to be initiated should an exceedance of accepted levels/criteria be identified.

Where this cannot be achieved, preliminary results will be requested as soon as possible following the monitoring episode with a full report to follow.

Where a non-conformance is detected or monitoring results are outside of the expected range, the process outlined below will be implemented:

- The results will be analysed by the EH&S Coordinator in more detail with the view of determining possible causes for the non-conformance;
- A site inspection will be undertaken by the relevant personnel;
- Relevant stakeholders will be contacted and advised of the problem.
- An agreed action will be identified; or
- Action will be implemented to rectify the problem.

A non-conformance may be issued by the EH&S Coordinator in response to the problem if it is found to be construction related. The timing for any improvement will be agreed between the Construction Manager and EH&S Coordinator based on the level of risk e.g. a significant risk will require immediate action.

Monitoring Requirement	Frequency
Noise monitoring	Continuous ‘realtime’ monitoring and attended monitoring at the commencement of each work activity to confirm forecasts in the CNVIS
Vibration monitoring	Continuous ‘realtime’ monitoring and attended monitoring at the commencement of each work activity to confirm forecasts in the CNVIS
Dust monitoring	Visual monitoring completed throughout duration of works and during weekly inspections
Erosion and Sediment Control Monitoring	Weekly by Construction Manager and Senior Project Engineer andas soon as practicable after any major rainfall event; i.e. 10mm in 24 hours
External Lighting to AS 4282-2019 Control of the obtrusive effects of outdoor lighting	At the initial stages of the installation of any temporary or permanent lighting and ongoing on a weekly basis

The

4.8.3 Lendlease Environmental Auditing

Internal environmental compliance audits will be conducted by the EH&S Manager. Elements to be audited include:

- Compliance with the conditions of approval;
- Compliance with the CEMP & associated sub plans;
- Compliance with approval, permit and licence obligations;
- Compliance with method statements;
- Complaint response;
- Sub-contractor activities;
- Training records;
- Non-conformances;
- Monitoring results; and
- System documentation such as checklist completion.

Regional environmental system compliance audits will be completed by the EH&S Manager to monitor compliance with the Lendlease EHS Management System.

4.8.4 External Environmental Auditing

External audits may be conducted by Schools Infrastructure New South Wales and the Independent Environmental Auditor.

As required by the Development Consent conditions, Independent Environmental Audits will be undertaken in line with the Compliance Reporting Post Approval Requirements. A schedule for these audits is to be prepared in conjunction with the Independent Environmental Auditor and issued to the Planning Secretary and Certifier.

Audit Type	Auditor	Timing
Lendlease Workplace EH&S Audit	Lendlease EH&S Manager	Initial audit within 3 months of construction commencement, then 6 monthly during construction
External Audits	Independent Environmental Auditor	Initial within 12 weeks of commencement, and subsequently 26 weeks.

4.8.5 Corrective and preventative actions

The outcomes of any audit, if reported to Lendlease, will be documented. Corrective Action Requests (CAR) and Observations of Concern (OOC) will be addressed through the same mechanisms as non-conformances. Resolution of CARs and OOCs will be documented and filed with the Audit Report.

4.9 ENVIRONMENTAL INCIDENT AND EMERGENCY PLANNING, PREPAREDNESS AND RESPONSE

Incident reporting and related management of events and corrective and preventative actions are carried out in accordance with the Lendlease Incident Reporting Management Procedure, please see below incident reporting and management guide in line with the conditions listed below:

The Planning Secretary must be notified through the major projects portal immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident.

Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A

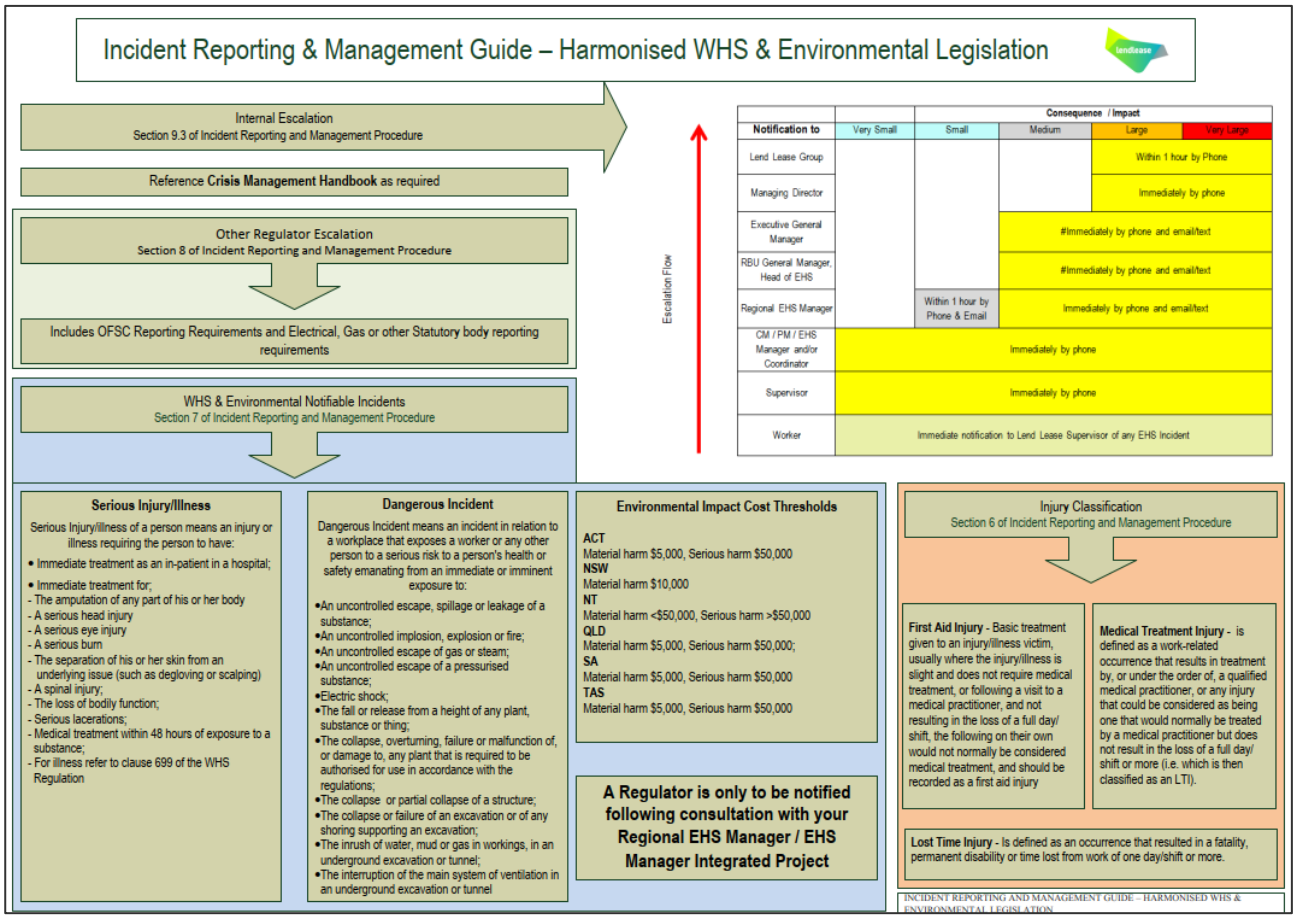


Figure 8 – Incident Reporting and Management Guide

5.0 UNEXPECTED FINDS PROTOCOL

5.1 OVERVIEW

The objectives for the project include to provide control measures for the protection and management of known and unknown/unexpected contamination, heritage, archaeological items and features including but not limited to; soil profiles, trees, buildings, structures, artefacts, relics, human remains and places.

Lendlease are to:

- Ensure all risks associated with excavation and exposure of workers or the public to contamination are eliminated where possible.
- Follow the protocols and communication procedures outlined below for unexpected finds related to contamination, archaeological heritage and aboriginal heritage.
- To protect or conserve (where possible) known Indigenous and Non-indigenous heritage and archaeological items and features on and adjacent to the site.
- To protect and conserve (where possible) previously undiscovered heritage and archaeological items and features on or adjacent to the site.
- To manage heritage and archaeological items and features impacted by construction in accordance with regulatory requirements.

5.2 CONTAMINATION

5.2.1 Protocol and Communication Procedure

The contamination consultant for the project is included in the table below;

Name	Role	Contact Details
Daniel Denaro Senior Project Manager JBS&G	Contamination Consultant	0468 425 321 DDenaro@jbsg.com.au

The possibility exists for hazards that have not been identified to date to be present within fill materials or un derlying existing pavements/building on the site. These hazards may present novel conditions which require to be addressed to ensure that the continuation of site works is completed in a manner which achieves the project objectives.

An example of such a condition would be the identification of previously unknown contaminants within site so ilso and/or excavation dewater.

The procedure has been abstracted for the RAP, as relevant to potential soil and water management at the s ite. The nature of hazards which may be present and which may be discovered at the site are generally dete ctable through visual or olfactory means, for example:

- Hydrocarbon impacted materials (visible/odorous); and/or
- Drums, waste pits, former pipework or USTs (visible); and/or
- Oily Ash and/or oily slag contaminated soils/fill materials (visible/odorous); and/or
- Tarry like impacted soil/fill material (visible/odorous); and/or
- Potential chlorinated hydrocarbon impact (sweet odour soils).

As a precautionary measure to ensure the protection of the workforce and surrounding community, should a any of the abovementioned substances (or any other unexpected potentially hazardous substance) be identif ied, the procedure summarised in the below figure is to be followed.

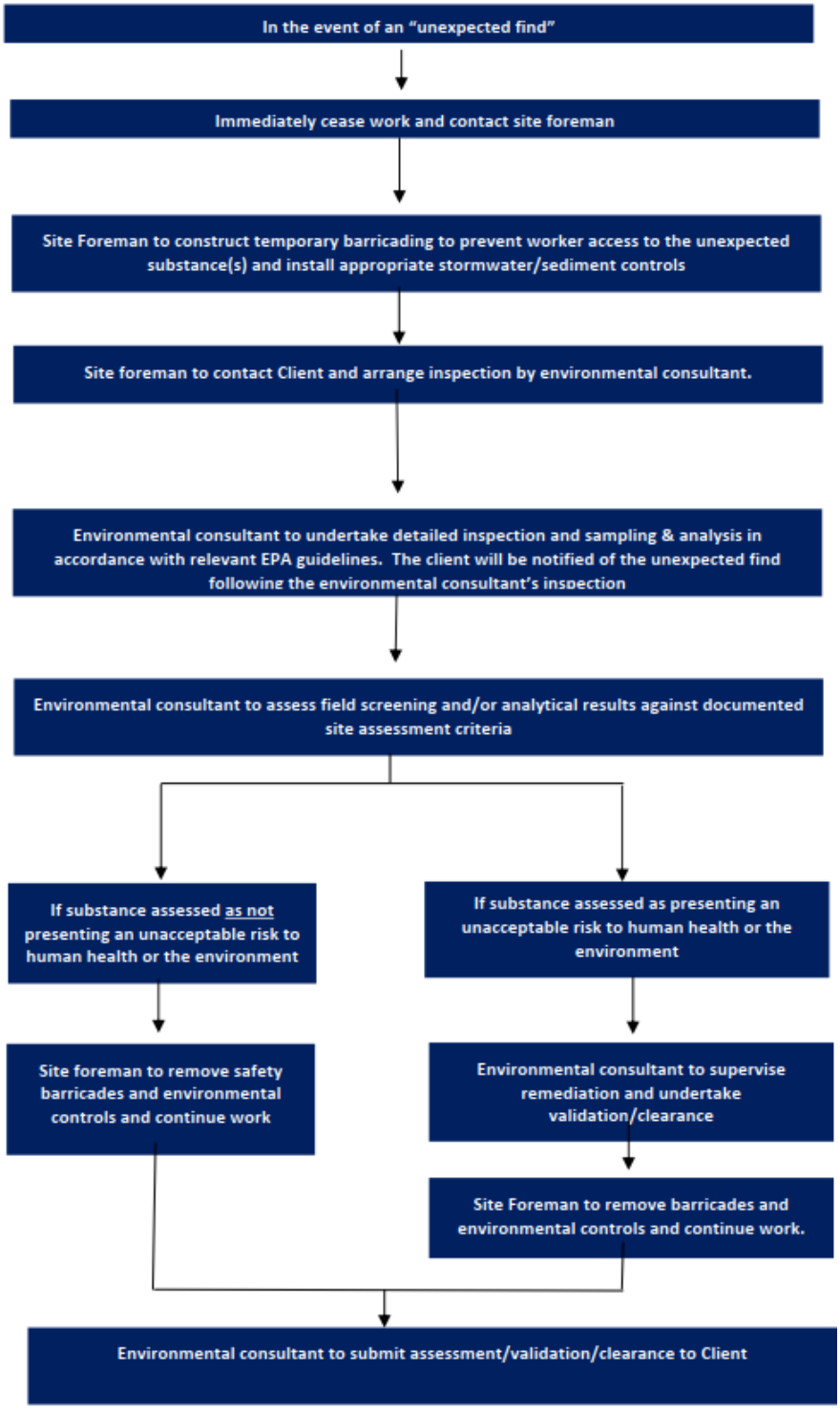


Figure 9 – Unexpected Finds Protocol Contamination

5.3 ARCHEALOGICAL HERITAGE

5.3.1 Protocol and Communication Procedure

The nominated heritage consultant and archaeologist (Excavation Director) for the project is included in the table below;

Name	Role	Contact Details
Matthew Kelly Senior Archaeologist Curio Projects	Excavation Director (Archaeology)	0412 035 440 matthew.kelly@curioprojects.com.au

There is potential that unexpected physical evidence associated with the phases of occupation at the site may be present in all areas of the site. Such unexpected remains may include, but not be limited to:

- Deep cut wells, reservoirs and pits associated with occupation at the site;
- Structural remains and artefacts;
- Rubbish pits containing waste and discarded artefacts disposed of away from housing
- Other unexpected, buried remains.

Unexpected finds do not include isolated artefacts and building remains that may form part of fill deposits. If unexpected finds are exposed or disturbed work should cease in that area and a Curio archaeologist notified of the find as soon as practicable. Do not move the item or attempt to further disturb it. Take a photo and forward to the archaeologist and they will discuss and advise the next step which may include, but not be limited to (The client to be informed prior to any external agency/authority notifications) :

- A site visit by the archaeologist;
- An instruction to move the item;
- No further action required. The Excavation Director will assess the archaeological research significance of all Unexpected Finds and this assessment will determine the action to be followed. These may include:
- No further action (i.e. the find is not significant);
- Retention of isolated artefacts, that otherwise are assessed as of low archaeological research potential, as items for possible use in interpreting the site, display, etc;
- Recording of the location of the find and
- Retaining artefact(s) of research potential for the archaeological collection and further analysis;
- further recording and excavation to expose a larger feature or structural remains;
- Notification of the find(s) to Heritage NSW and further liaison with them;
- Additional research to identify larger features if not previously identified in the historical record;
- Reassessment of the significance of the unexpected find in light of this research.

Some of the attributes of any unexpected finds that may determine if further advice is sought from Heritage NSW regarding the find are:

- Larger previously unrecorded features especially structural remains;
- Suspected human remains;
- Evidence for earlier occupation of the site (i.e. pre 1815);
- Rare or unusual find.

If State or locally significant relics are found during works, the Heritage Council of NSW is to be notified in accordance with s.146 of the Heritage Act 1977. This notification takes place in the form of an email to the relevant archaeologist at Heritage NSW. It is noted that Section 4.41 of the Environmental Planning and Assessment Act 1979 does not exempt notification of the discovery of relics under s146, of the Heritage Act 1977, nor the notification of the discovery of Aboriginal objects under s89 of the NPW Act for State Significant Development or State Significant Infrastructure.

The client to be informed prior to any external agency/authority notifications:

Depending on the assessed significance of the find it may be necessary to undertaken additional assessment and management recommendations related to the new information. Work may only recommence with the written approval of Heritage NSW.

5.4 ABORIGINAL HERITAGE

5.4.1 Protocol and Communication Procedure

The nominated Archaeologist (Aboriginal Heritage) for the project is included in the table below;

Name	Role	Contact Details
Sam Cooling Cultural Heritage Manager Curio Projects	Archaeologist (Aboriginal Heritage)	0402 522 789 sam.cooling@curioprojects.com.au

Upon discovery of an archaeological feature that is suspected to be an Aboriginal Unexpected Find (excluding human remains- see Section 6.4.2 below), the following procedure should be followed (The client to be informed prior to any external agency/authority notifications) :

1. Cease works in the immediate vicinity of the find.
2. Contact the project archaeologist to verify the nature of the find.
3. If Unexpected Find is confirmed as Aboriginal archaeology, project archaeologist will notify project Register Aboriginal Parties (RAPs) and Biodiversity & Conservation Division (BCD) of the find. (If Unexpected Find is confirmed as not Aboriginal in origin, project archaeologist will provide advice for works to recommence).
4. Project Archaeologist/Project RAPs will undertake a preliminary assessment and recording of the find.
5. Formulate archaeological or heritage management plan- specific to nature of the find.
6. Implement archaeological/heritage management plan.
7. Works may commence once archaeological/heritage management plan has been successfully implemented and project archaeologist provides sign off to contractor for works to resume in vicinity of find.

5.4.2 Unexpected Skeletal Remains

While not anticipated to be encountered within the FSPS study area, the unexpected discovery of any potential skeletal remains during development works would be managed in accordance with the approved Office of Environment and Heritage (OEH) protocol for the discovery of human remains which is stated as:

If any suspected human remains are discovered and/or harmed the proponent must (The client to be informed prior to any external agency/authority notifications) :

a) Not further harm these remains;
b) Immediately cease all work at the location;
c) Secure the area to avoid further harm to the remains;
d) Notify the local police and OEH's (now BCD of DPIE) Environment Line on 131 555 as soon as practicable and provide any available details of the remains and their location; and
e) Not recommence any work at the location unless authorised in writing by OEH (now BCD of DPIE).

6.0 CONSTRUCTION TRAFFIC AND PEDESTRIAN MANAGEMENT

6.1 OVERVIEW

Lendlease has developed the Construction Traffic and Pedestrian Management Subplan (CTPMSP) in conjunction with a qualified expert company, Arup Pty Ltd.

The CTPMSP has been prepared in consultation with TfNSW and the City of Sydney. The CTPMSP is in accordance with the approved SSD Conditions and has been endorsed by the applicable Authorities. The plan addresses all traffic and pedestrian details in accordance with the staging and construction of the Fort Street Public School.

The Construction Worker Transportation Strategy has been prepared in accordance with conditions outlined in the planning conditions. This is a combined document which identifies the measures in place to safely and effectively manage workers transportation.

This assessment has been conducted in accordance with the requirements below:

- Conditions B18, B22 and B27 of the Development Consent (SSD 10340).

The CTPMSP is provided in Appendix C.

6.2 MONITORING & CONSULTATION

During the construction works, Lendlease will continue to monitor the effectiveness of the CTPMSP and the controls in place and update the plan as required.

7.0 CONSTRUCTION NOISE AND VIBRATION MANAGEMENT

7.1 OVERVIEW

Lendlease has developed the Construction Noise and Vibration Management Subplan (CNVMSP) in conjunction with a qualified expert company, Stantec Pty Ltd.

The CNVMSP has been prepared in consultation with the local community for the management of high noise generating works. The CNVMSP is in accordance with the approved SSD Conditions. The plan addresses all noise and vibration considerations including measures to mitigate impacts to sensitive receivers in accordance with the staging and construction of the Fort Street Public School.

This assessment has been conducted in accordance with the requirements below:

- Conditions B19 of the Development Consent (SSD 10340).

The CNVMSP is provided in Appendix E.

7.2 MONITORING & CONSULTATION

During the construction works, Lendlease will continue to monitor the effectiveness of the CNVMSP and the controls in place and update the plan as required.

8.0 CONSTRUCTION WASTE MANAGEMENT

8.1 OVERVIEW

Lendlease has developed the Construction Waste Management Subplan (CWMSP).

The CWMSP is in accordance with the approved SSD Conditions. The plan addresses all waste management in accordance with the staging and construction of the Fort Street Public School.

This assessment has been conducted in accordance with the requirements below:

- Conditions B20 of the Development Consent (SSD 10340).

The CWMSP is provided in Appendix FF.

8.2 MONITORING & CONSULTATION

During the construction works, Lendlease will continue to monitor the effectiveness of the CWMSP and the controls in place and update the plan as required.

9.0 CONSTRUCTION SOIL AND WATER MANAGEMENT

9.1 OVERVIEW

Lendlease has developed the Construction Soil and Water Management Subplan (CSWMSP) in conjunction with a qualified expert company, JBS&G Pty Ltd.

The CSWMSP has been prepared in consultation with the City of Sydney. The CSWMSP is in accordance with the approved SSD Conditions and has been endorsed by the applicable Authorities. The plan addresses all soil and water management issues in accordance with the staging and construction of the Fort Street Public School.

This assessment has been conducted in accordance with the requirements below:

- Conditions B21 of the Development Consent (SSD 10340).

The CSWMSP is provided in Appendix D.

9.2 MONITORING & CONSULTATION

During the construction works, Lendlease will continue to monitor the effectiveness of the CSWMSP and the controls in place and update the plan as required.

10.0 CEMP REVIEW AND REVISION PROCESS

10.1 REVIEW PROCESS

This Construction Environmental Management Plan and its associated sub-plans will be reviewed as a minimum on a 3 monthly basis as a part of the regular contractual monthly reporting process and Lendlease's ongoing EH&S management plan internal reviews.

10.2 REVISIONS

The frequency of revision to this Construction Environmental Management Plan will be as required and no less that every three months. Should any amendments or corrective actions be required following external audits a revision will be provided within 5 business days following the notification. All revision will be tracked using the revision status table on page 2 of the CEMP.

Appendix A – Legal, Legislative and Other Requirements

Act	Activity/Aspect	Requirement	Reference
Environmental Planning and Assessment Act 1979	All	Comply with the Development Consent for the project as modified through the planning approval process	Consent Conditions
National Parks and Wildlife Act 1974	Aboriginal Heritage	An Aboriginal Place or Object has the definition under the act to be considered throughout the development of the site and in particular during the excavation and archaeological research works.	Consent Conditions
Biodiversity Conservation Act 2016	Threatened species and ecological environments	Comply with conservation requirements for any identified threatened species on the site and as outlined in the planning conditions.	Consent Conditions
Biodiversity Conservation Act 2016	Heritage item	Any heritage item as identified under the Biodiversity Conservation Act 2016	Consent Conditions
Building Code of Australia	All	Comply with the BCA across all aspects of design and construction of the development.	Consent Conditions
Environment Protection and Biodiversity Conservation Act 1999	Threatened species and ecological environments	Comply with protection requirements for any identified threatened species on the site and as outlined in the planning conditions.	Consent Conditions
Environment Protection and Biodiversity Conservation Act 1999	Heritage item	Any heritage item as identified under the Environment Protection and Biodiversity Conservation Act 1999	Consent Conditions
Heritage Act 1977	Heritage item	Any heritage item as identified under the Heritage Act 1977	Consent Conditions
Protection of the Environment Operations Act 1997	Operational Waste Management	The handling, storage and disposal of all waste streams on site is to be implemented in accordance with the POEO Act.	Consent Conditions
Contaminated Land Management Act 1997	Site remediation and ongoing management	Compliance for all site remediation works including the designation of a site auditor and ongoing management requirements for contaminated land	Consent Conditions

Act	Activity/Aspect	Requirement	Reference
Surveying and Spatial Information Act 2002	Protection of Survey Infrastructure	Identification and protection of any permanent survey marks in the public domain on the project.	Consent Conditions
Roads Act 1993	Works to TfNSW assets	Approval to be provided under the under section 138 of the Roads Act 1993 for any works to the Bradfield vent shaft	Consent Conditions
Public Health Act 2010	Air conditioning installation	The installation of warm water systems and water cooling systems (as defined under the Public Health Act 2010) must comply with the Public Health Act 2010	Consent Conditions
Sydney Water Act 1994	Water and Sewage Infrastructure	Compliance certificate to be issued in accordance with Sydney Water Act 1994 for all water and sewage infrastructure prior to occupation	Consent Conditions
Protection of the Environment Operations (Waste) Regulation 2014	Operational Waste Management	The handling, storage and disposal of all waste streams on site is to be implemented in accordance with the regulation.	Consent Conditions
National Greenhouse and Energy Reporting Act 2007	Energy reporting	Commitment to report on energy consumption under the NGERS Act for all site operations.	Lendlease requirement

Consent Condition	Requirement	Reference
B17	(i) hours of work;	Section 2.5.1
	(ii) 24-hour contact details of site manager;	Section 2.2
	(iii) management of dust and odour to protect the amenity of the neighbourhood;	Section 4.8, CWMSP, CNVMSP
	(iv) stormwater control and discharge;	CSWMSP
	(v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;	Section 2.3, CSWMSP
	(vi) groundwater management plan including measures to prevent groundwater contamination;	CSWMSP
	(vii) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;	Section 4.8

Consent Condition	Requirement	Reference
	(viii) community consultation and complaints handling;	Section 3.0
	(b) an unexpected finds protocol for contamination and associated communications procedure to ensure that potentially contaminated material is appropriately managed;	Section 5.2, CSWMSP
	(c) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;	Section 5.3, Section 5.4
	(d) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site;	CSWMSP
	(e) Construction Traffic and Pedestrian Management Sub-Plan (see condition B18);	Appendix C
	(f) Construction Noise and Vibration Management Sub-Plan (see condition B19);	Appendix E
	(g) Construction Waste Management Sub-Plan (see condition B20); and	Appendix F
	(h) Construction Soil and Water Management Sub-Plan (see condition B21).	Appendix D
B18	Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP)	Appendix C
B19	Construction Noise and Vibration Management Sub-Plan	Appendix E
B20	Construction Waste Management Sub-Plan (CWMSP)	Appendix F
B21	Construction Soil and Water Management Sub-Plan (CSWMSP)	Appendix D
B22	Driver Code of Conduct	Refer to CTPMSP Appendix C

Appendix B – Roles and Responsibilities

Roles and Responsibilities	
Construction Manager	The environmental responsibilities of the Construction Manager include (but are not limited to) the following: Plan construction works in a manner that avoids or minimises impact to environment; Ensure the requirements of this CEMP are fully implemented; Ensure construction personnel manage construction works in accordance with statutory and approval requirements; Ensure environmental management procedures and protection measures are implemented; Ensure all Project personnel attend an induction prior to commencing works; Liaise with SINSW and other government authorities as required; and Stop work immediately if an unacceptable impact on the environment is likely to occur.
Site Manager	The environmental responsibilities of the Site Manager include (but are not limited to) the following: Communicate with all personnel and sub-contractors regarding compliance with the CEMP and site-specific environmental issues; Ensure all site workers attend an environmental induction prior to the commencement of works; Participate in the preparation and implementation of Environmental Planning and Control measures; Co-ordinate the implementation of the CEMP; Co-ordinate the implementation and maintenance of pollution control measures; Identify resources required for implementation of the CEMP; Attend environmental inspections as required; Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the appropriate escalation points; Co-ordinate action in emergency situations and allocate required resources; and Stop activities where there is an actual or immediate risk of harm to the environment and advise the Construction Manager and EHS Coordinator. Manage the day-to-day environmental elements of construction;

Roles and Responsibilities	
EHS Coordinator	The environmental responsibilities of the Environmental Officer include, but are not limited to, the following: Assist in preparing the CEMP (including any future revisions) in accordance with all relevant requirements; Undertake site inspections, carry out monitoring activities and complete site checklists with the approval of the Site Manager; Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed with the approval of the Environmental Site Representative; Record and provide written reports to the Site Manager of non-conformances or corrective actions with the CEMP. This may include the need to implement additional, or revise existing, mitigation measures; Assist in identifying environmental risks; Advise the Site Manager and Construction Manager of the need to stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken by the Construction Manager or site construction staff to avoid or minimise impacts; Provide reports to the Site Manager on any major issues resulting from the Project; Assist all site staff with issues concerning Project environmental matters; Assist in developing training programs regarding environmental requirements and deliver where required, including delivery of the environmental component of toolbox talks; and Stop activities where there is an actual or immediate risk of harm to the environment and advise the Construction Manager, Site Manager and project team.
Design Manager	The environmental responsibilities of the Design Manager include (but are not limited to) the following: Provide input into the preparation of environmental planning documents as required; Ensure that the design is completed in compliance with all legal, legislative and environmental requirements on the project; Identify any environmental risks in the design; Identify resource needs for implementation of CEMP requirements and related documents; Ensure that consultant teams are aware of the environmental obligations on the project; Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Construction Manager and Site Manager.

Roles and Responsibilities	
Project Engineers	The environmental responsibilities of the Project engineers include (but are not limited to) the following: Provide input into the preparation of environmental planning documents as required; Ensure that instructions are issued and adequate information provided to employees that relate to environmental risks on-site; Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls; Identify any environmental risks; Identify resource needs for implementation of CEMP requirements and related documents; Ensure that complaints are investigated to ensure effective resolution; Take action in the event of an emergency and allocate the required resources to minimise the environmental impact; and Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Construction Manager and Site Manager. Track environmental observations weekly.
Foreman	The environmental responsibilities of the foreman include (but are not limited to) the following: Undertake any environmental duties as defined by the Site Manager or Project/Site Engineer; Control field works and implement/maintain effective environmental controls; Where required, undertake environmental risk assessment of works prior to commencement; Participate in preparation of and ensure site activities comply with plans and relevant records are kept; Ensure all site workers are site inducted prior to commencement of works; Attend to any spills or environmental incidents that may occur on-site; Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Site Manager; and Stop activities where there is an actual or immediate risk of harm to the environment and advise the Construction Manager, Site Manager or EHS Coordinator. Track environmental high risk construction observations.

Appendix C - Arup Construction Traffic and Pedestrian Management Sub-Plan

Lendlease Building

Fort Street Public School

Construction Traffic Pedestrian Management Sub Plan

REP-02

Rev A | 21 April 2021

Job number 278722-00

Arup Australia Pty Ltd ABN 76 625 912 665

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ARUP

Document verification

ARUP

Job title		Fort Street Public School			**Job number** 278722-00
Document title		Construction Traffic Pedestrian Management Sub Plan			**File reference**
Document ref		REP-02			
Revision	**Date**	**Filename**	FSPS CPTMSP Draft Report.docx		
Draft 1	26 Nov 2020	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 2	07 Dec 2020	**Filename**	FSPS CPTMSP Draft Report v2.docx		
		Description			
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 3	18 Dec 2020	**Filename**	FSPS CPTMSP Draft Report v3.docx		
		Description			
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 4	11 Jan 2021	**Filename**	FSPS CPTMSP Draft Report v4.docx		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
				Issue Document verification with document	✓

Document Verification

Job title		Fort Street Public School			**Job number** 278722-00
Document title		Construction Traffic Pedestrian Management Sub Plan			**File reference**
Document ref		REP-02			
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Draft 5	21 Jan 21	**Description**			
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 6	05 Mar 21	**Filename**	FSPS CPTMSP Draft Report v6.docx		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 7	15 Mar 21	**Filename**	FSPS CTPMSP Draft Report v6.docx		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 7	19 Mar 21	**Filename**	FSPS CTPMSP Draft Report v7.docx		
		Description	Update to CTPMSP following consultation with CoS and TfNSW on 11/03/21 to include dimensioned drawing of the northern section of the SHB shared path diversion.		
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
				Issue Document Verification with Document	✓

Document Verification

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Document title		Construction Traffic Pedestrian Management Sub Plan			**File reference**
Document ref		REP-02			
Revision	**Date**	**Filename**	FSPS CTPMSP Draft Report Issue.docx		
Issue	25 Mar 2021	**Description**	Issue version encompassing all comments from Road Safety Audit and City of Sydney		
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Rev A	21 Apr 2021	**Filename**	FSPS CTPMSP Draft Report RevA.docx		
		Description	Minor change to works zone location		
			Prepared by	**Checked by**	**Approved by**
		Name	Michael Cavallaro	Michael Cavallaro	Michael Cavallaro
		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

1 Introduction

Lendlease Building (LLB) and Schools Infrastructure NSW (SINSW) have commissioned Arup to develop a Construction Traffic Pedestrian Management Sub Plan (CTPMSP) for the Fort Street Public School project. The site is located on Upper Fort Street in Millers Point. The existing school has been in operation since 1849 making it one of the oldest government schools in Australia.

1.1 Site description

Fort Street Public School is located in the City of Sydney (CoS) council area. The School site is bordered by the Cahill Expressway to the north west and south and Upper Fort Street and Bradfield Highway to the east.

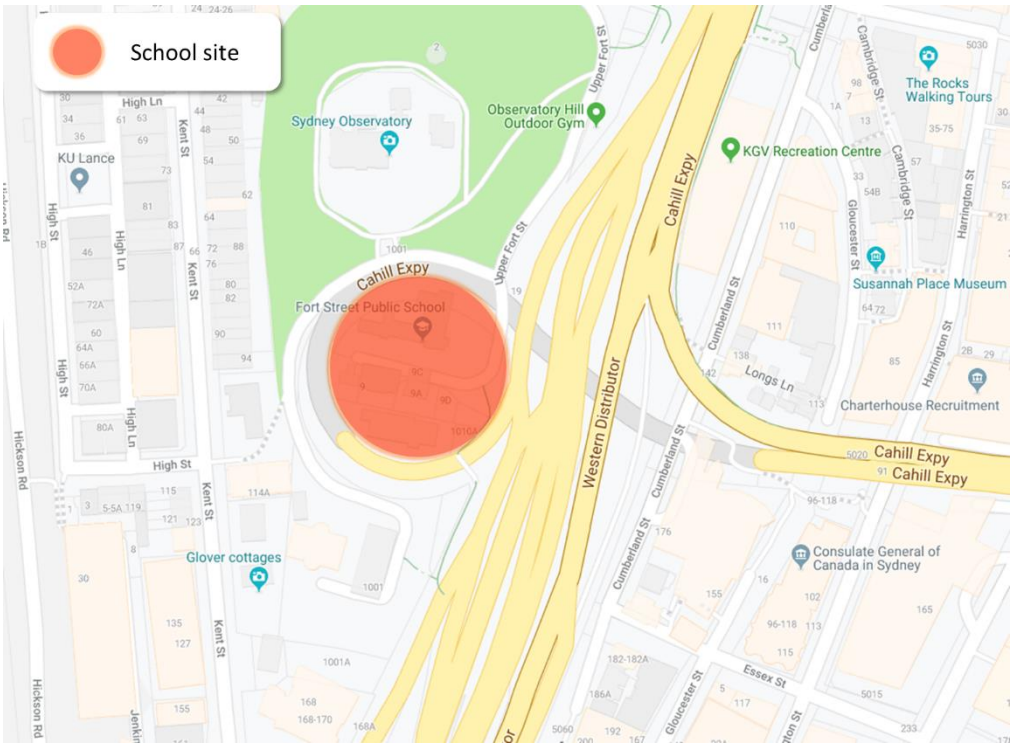


Figure 1: School site boundary

1.2 Development description

Approval has been given for the expansion of Fort Street Public School to accommodate a total of 550 primary school students. The works include:

Site preparation, demolition and excavation

- Site remediation;
- Demolition of the EEC building, the garage and storage shed west and east of the Bureau of Meteorology Building (the Met Building), and the toilet block adjoining the main school building;

- Selective removal of various elements of the main school building, as well as minor and insignificant elements of the Messenger's Cottage to facilitate refurbishment and future use of these buildings and the Met Building including demolition of the existing internal structure due to dilapidation and contamination;
- Bulk excavation works to facilitate the new southern buildings and onsite detention;
- Tree removal; and
- Installation of hydraulic and electrical services.

Land use

- Use of all buildings for the purpose of a school.

Existing buildings

- Retention, refurbishment and extension of the existing Fort Street Public School building, including construction of a new roof and rooftop additions on Level 2;
- Retention and refurbishment of the Met Building and internal alterations and additions; and
- Retention and minor alterations and additions to the Messenger's Cottage.

Construction of New buildings

- Construction of one new building on the western part of the site for a staff room;
- Construction of two new, interconnected school buildings on the southern third of the site; and
- Construction of a new communal hall and canteen building.

Landscaping

- Retention of the existing large fig tree; and
- Landscaping works throughout the site, including construction of a new amphitheatre, new central plaza, and a multi-purpose forecourt.

Other works

- Works to the existing entrance road, including alterations to the Bradfield Services Shed. The works is expected to commence in October 2021 lasting for a period of six (6) months;
- Widening of Upper Fort Street at the identified pinch point location;
- Modifications to existing pick-up / drop-off arrangements which includes a new loop road arrangement at the entry to the school;
- Provision of signage zones; and
- Installation of on-site detention.

1.3 Objectives

The key objective of the Plan is to address the conditions of consent received on 7th October 2020 which require the development of the following plans:

- Construction Traffic and Pedestrian Management Sub Plan (CTPMSP – this document);
- Construction Worker Transportation Strategy (refer to Section 4.7); and
- Driver Code of Conduct for heavy vehicle drivers (refer to **Appendix A**).

1.4 Report structure

This document will follow the general structure outlined in Table 1.

Table 1: Content and report structure

Section	Content
1. Introduction	Provides summary of the context of the school and description of proposed developments. This section also defines the objective of the CTPMSP.
2. Description of proposed works	Defines the hours of work and indicative construction programme.
3. Construction traffic	Provides forecast of construction traffic and workers. This section also outlines expected vehicles types general construction site access.
4. Impact of proposed measures	Outlines the proposed truck routes and controls and expected network impacts.
5. Effects on existing and future infrastructure	Details neighbouring developments and proposed works to be undertaken which may be impacted by the project.
6. Provisions for emergency vehicles, heavy vehicles and cyclists.	Outlines measures during construction to accommodate emergency vehicles, heavy vehicles and cyclists.
7. Measures to ameliorate impacts	Summarises potential measures to implement to minimise impacts of the project.
8. Public transport	Outlines potential impacts to public transport operators in the vicinity of the site.
9. Public consultation	Summarises approvals processes for the document including public consultation and temporary road works.

1.5 Conditions of consent

This plan has been produced to assess Conditions B18, B22, B27 and B48 associated with SSD-10340. The conditions are presented in Table 2 along with the sections of the document which addresses each point.

Table 2: Traffic and transport conditions of consent

Condition		Section
B18. A Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:		
a)	be prepared by a suitably qualified and experienced person(s);	Appendix C
b)	be prepared in consultation with Council and the Sydney Coordination Office within TfNSW;	1.6
c)	be submitted to the Coordinator General, Transport within TfNSW for endorsement, unless otherwise agreed to in writing by the Planning Secretary;	9
d) i)	crane arrangement including the location of any crane(s);	3.3
d) ii)	commitment to providing the site manager's direct contact number to business adjoining or impacted by the construction work, the Transport Management Centre and the Sydney Coordination office within TfNSW to resolve issues relating to traffic, public transport, freight, servicing and pedestrian access in real time;	9
d) iii)	the predicted number of construction vehicle movements and detail of vehicle types, nothing that vehicle movements are to be minimised during peak periods;	3
d) iv)	specific measures to ensure the arrival of construction vehicles to the site do not cause queuing on public roads;	3.4 and 4
d) v)	a monitoring regime for maintaining the simultaneous operation of buses and construction vehicles on roads surrounding the site;	4
d) vi)	measures to avoid construction worker vehicle movements within the Sydney Central Business District;	4.7
d) vii)	cumulative construction impacts of projects including Sydney Metro City and South West with reference to the construction traffic and pedestrian management plans for developments within or around the development site to ensure that coordination of work activities is managed to minimise impacts on the surrounding road network;	5
d) viii)	the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and light rail and bus services; and	4, 6 and 7
d) ix)	heavy vehicle routes, access and parking arrangements.	4.1 and 4.2
B22. A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:		
a)	minimise the impacts of earthworks and construction on the local and regional road network;	7.2 and Appendix A
b)	minimise conflicts with other road users;	
c)	minimise road traffic noise; and	
d)	ensure truck drivers use specified routes.	

Condition		Section
B27. Prior to the commencement of construction, the Applicant must submit a Construction Worker Transportation Strategy to the Certifier. The Strategy must detail the provision of travel arrangements for construction workers in order to avoid parking in nearby public and residential streets or public parking facilities. A copy of the strategy must be provided to the Planning Secretary for information.		4.7
B48. Construction Access Arrangements – Prior to the commencement of construction, evidence of compliance of construction access arrangements with the following requirements must be submitted to the Certifier:		
a)	all vehicles must enter and leave the site in a forward direction;	7.2
b)	the swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, is in accordance with the latest version of AS 2890.2; and	4.1.2 and 4.1.3
c)	the safety of vehicles and pedestrians accessing adjoining properties, where shared vehicle and pedestrian access occurs, has been addressed.	5, 5, 6 and 7

1.6 Stakeholder consultation

The stakeholders outlined below have been identified for consultation. Responses from consultation undertaken to date are summarised in Table 3. The consultation undertaken with the stakeholders summarised below mainly concerned a cycleway diversion route running along Kent Street and Argyle Street. This has since been removed from consideration. It should be noted that a number of these stakeholders are still undergoing consultation.

- City of Sydney (CoS);
- Customer Journey Planning (formerly known as the Sydney Coordination Office); and
- Transport for New South Wales (TfNSW);

Table 3: Summary of stakeholder responses

Agency	Response
CoS	• Preference to maintain two-way operation on High Street with angled parking (90-degree) in the dog-legged section only. • No objections to one-way northbound option.
TfNSW	• No objections with one-way northbound options and temporary removal of bus stop on Argyle Street near Watson Street. • Concerns of pinch point at High Street/ Argyle Street intersection.

The documented minutes from the consultation sessions are provided in **Appendix B**.

2 Description of proposed works

2.1 Construction programme

Construction work is set to commence in May 2021, lasting for a period of approximately 20 months. Table 4 provides a timeframe of the construction activities for the project.

Table 4: Construction programme

Activity	**2021**			**2022**			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site establishment							
Demolition							
Excavation/ footings							
Structure							
Façade							
Services/ finishes							
External works							

2.2 Hours of work

The hours of works through the course of the project will be in accordance with standard Sydney CBD working hours as detailed below:

- Monday to Friday – 7:00am to 6:00pm;
- Saturday – 8:00am to 1:00pm; and
- Sundays and public holidays – No works.

Deliveries in cars or vans may be undertaken during Sydney CBD extended hours of work. These hours are applicable for activities defined as quiet works where ambient noise levels do not increase above 5 decibels (dB). The extended hours of worked are outlined below.

- Monday to Friday – 6:00pm to 7:00pm; and
- Saturday – 1:00pm to 4:00pm.

Applications for ‘out of hours’ works will be considered on a case by case basis. All out of hours applications will need to be approved by the relevant authority. Reasons for out of hours work may include but are not limited to the following;

- As a result of an emergency;
- The works create a hazardous environment;
- Plant break down have delayed works; or
- Minimise impact to the surrounding community.

3 Construction traffic

3.1 Construction traffic volumes

Construction traffic will consist of utes/ vans and trucks. The number of vehicles accessing the site will vary over the project lifespan, depending on the requirements for each construction activity. To make sure the management of construction traffic is robust, the peak daily vehicle trips have been considered as outlined below. Vehicle movements will be scheduled to occur outside of peak periods where practical to minimise impacts to the road network.

- Utes/ vans: 50 daily vehicle trips; and
- Trucks: 50 daily vehicle trips.

3.2 Construction workers

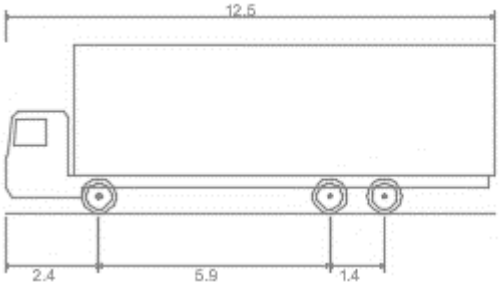
During the peak of construction, 90 workers are expected onsite. Refer to Section 4.7 for the Construction Worker Transportation Strategy.

3.3 Vehicle types expected

The construction vehicles accessing the site will mainly comprise of Medium and Heavy Rigid vehicles (MRVs and HRVs). During certain stages of construction, concrete pumps and a mobile crane will also be used onsite.

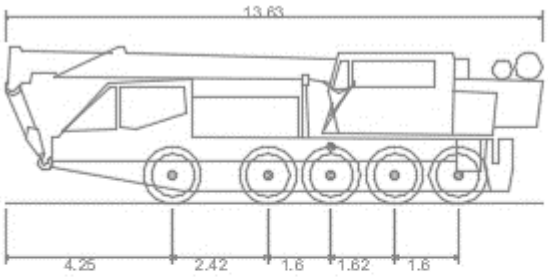
The longest construction vehicle that will be typically used is a HRV with a length of 12.5m. The vehicle dimensions are shown in Figure 2.

It is expected that a 100-tonne mobile crane will require access to the site. This will be a one-off event with the crane entering at the start of construction and exiting at the end of construction. The vehicle dimensions for a typical 100-tonne mobile crane is shown in Figure 3. The vehicle length can range up to 13.6m.



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

Figure 2: HRV vehicle dimensions



Liebherr LTM 1100-5.1 Mobile Crane	
Overall Length	13.630m
Overall Width	2.440m
Overall Body Height	3.995m
Min Body Ground Clearance	0.295m
Track Width	2.440m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	8.990m

Figure 3: Mobile crane vehicle dimensions

3.4 Site access arrangements

The main vehicle access to the site will be on Upper Fort Street which provides a connection to the Argyle Street via Watson Road.

During day-to-day works, traffic management will be required to the north and south of the pinch point on Upper Fort Street in the form of accredited traffic controllers who will be responsible for general site access, coordinating vehicle and cyclist movements and managing access for construction vehicles. An additional traffic controller will be employed at the Argyle Street and Watson Road intersection during occasions an oversize or over-mass heavy vehicle requires access to the site.

A management strategy will be employed between the traffic controllers which includes the use of a two-way radio to coordinate control vehicles along the length

of Watson Road and Upper Fort Street. The location of the pinch point and proposed location of the traffic controllers are displayed in Figure 4.

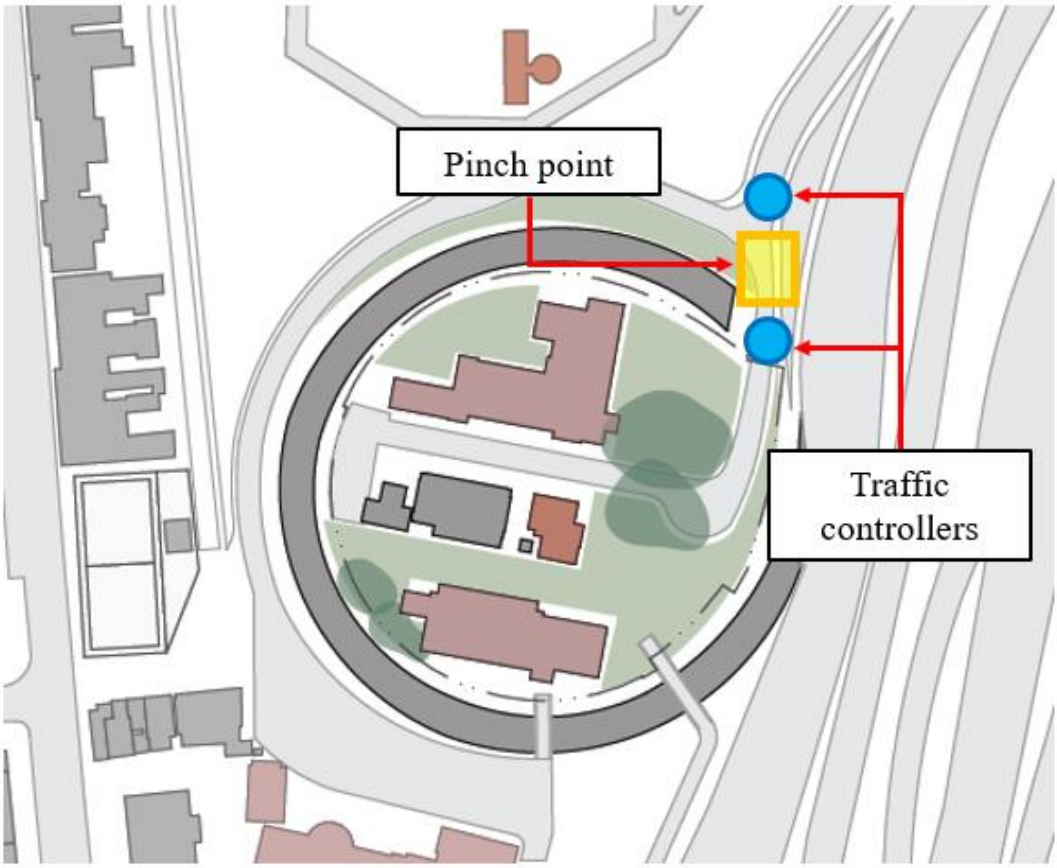


Figure 4: Location of pinch point and traffic controller

3.5 Works zone

The construction works will require 20m of existing kerbside space to establish a works zone adjacent to the work site, allowing for two (2) truck waiting bays. This works zone will operate during the approved hours of works outlined in the project's development application (DA). The Contractor will be required to submit an application to the relevant authority, with CoS having jurisdiction over local and regional roads and TfNSW for State roads.

In order to minimise impacts to the road network, the use of works zones are to be kept to a minimum and not impact existing public transport locations where possible. In the case a public transport operator is impacted, an alternative stop location must be agreed with the relevant operators and TfNSW.

3.6 Hoarding and fencing

During site establishment and construction of FSPS, the project is expected to use a combination of existing fences and Type A hoarding in order to secure the boundary of the site as shown in Figure 5. The extents of the hoarding and fences will be within the project site and so, no impact is expected on Council roads.

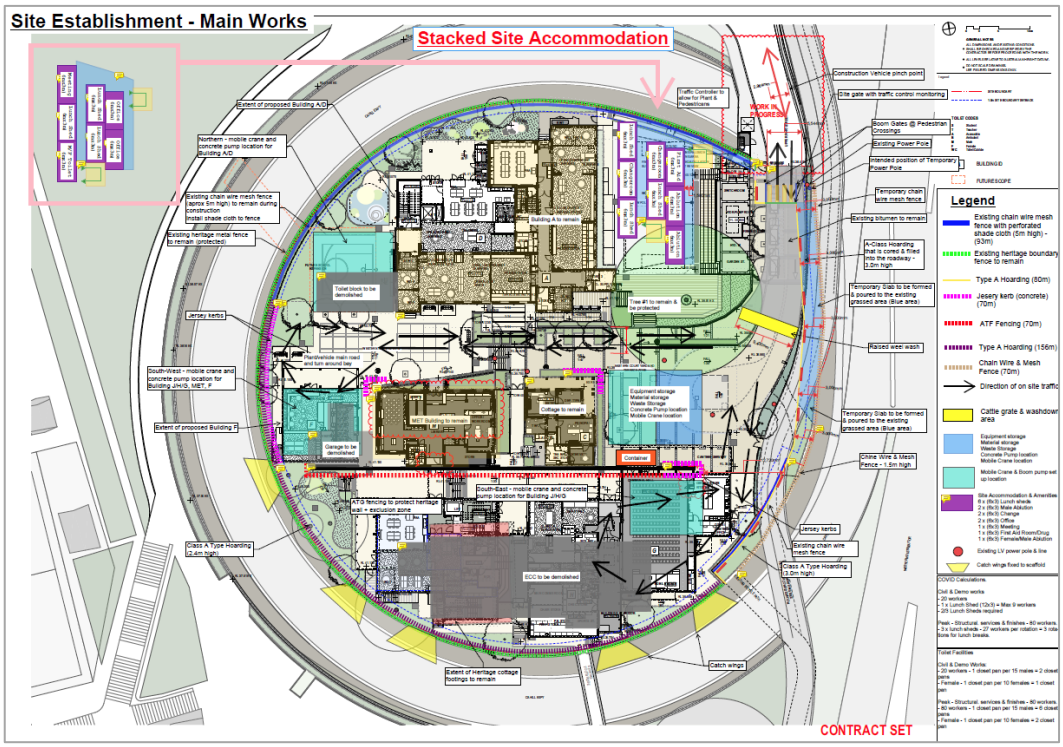


Figure 5: Hoarding and fencing boundary line for redevelopment of FSPS works

However, as outlined in Section 1.2, other works will be undertaken in the vicinity of the FSPS site. The works include modifications to the Bradfield Tunnel Services Shed and the widening of Upper Fort Street. The hoarding and fencing requirements for these works will be outside of the FSPS project boundary and on Council property as shown in Figure 6. Further detail on how this area will be managed during the works is provided in Section 4.3.

Moreover, diversion of the existing SHB shared path will require the provision of a Class A hoarding structure in line with CoS hoarding and scaffolding guidelines as shown in Figure 7. This will provide the required separation between construction vehicles and vulnerable road users and allows for both pedestrians and cyclists to maintain existing access along Upper Fort Street.

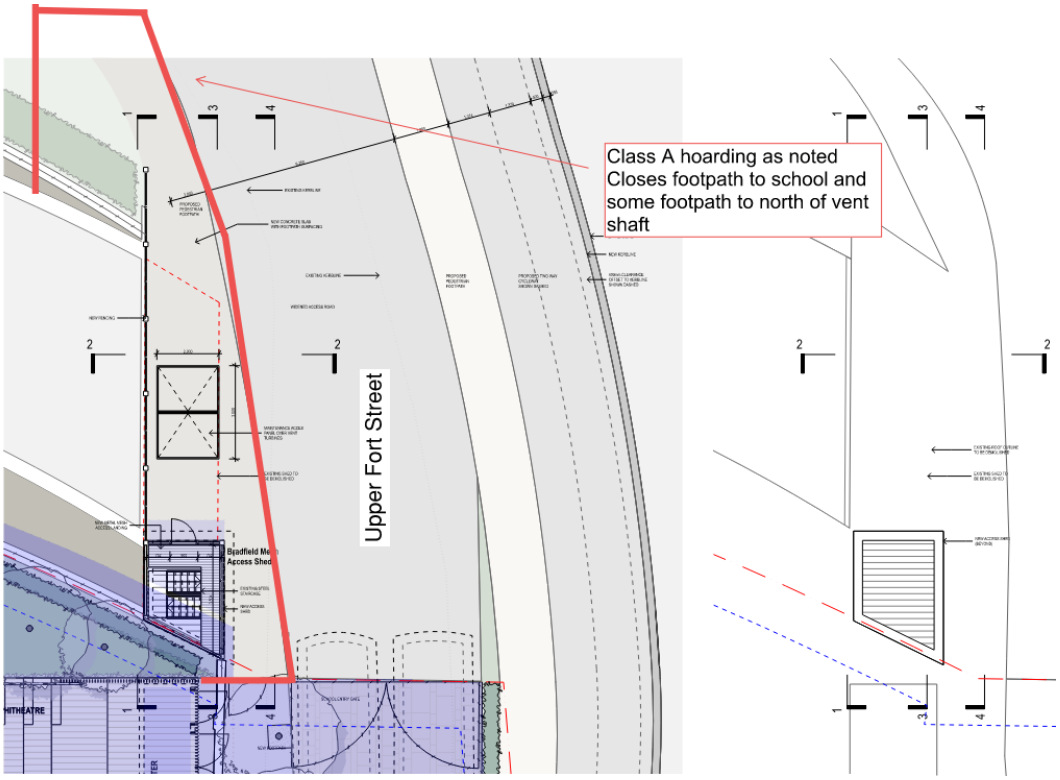


Figure 6: Hoarding boundary line for Bradfield Tunnel Services Shed modification works

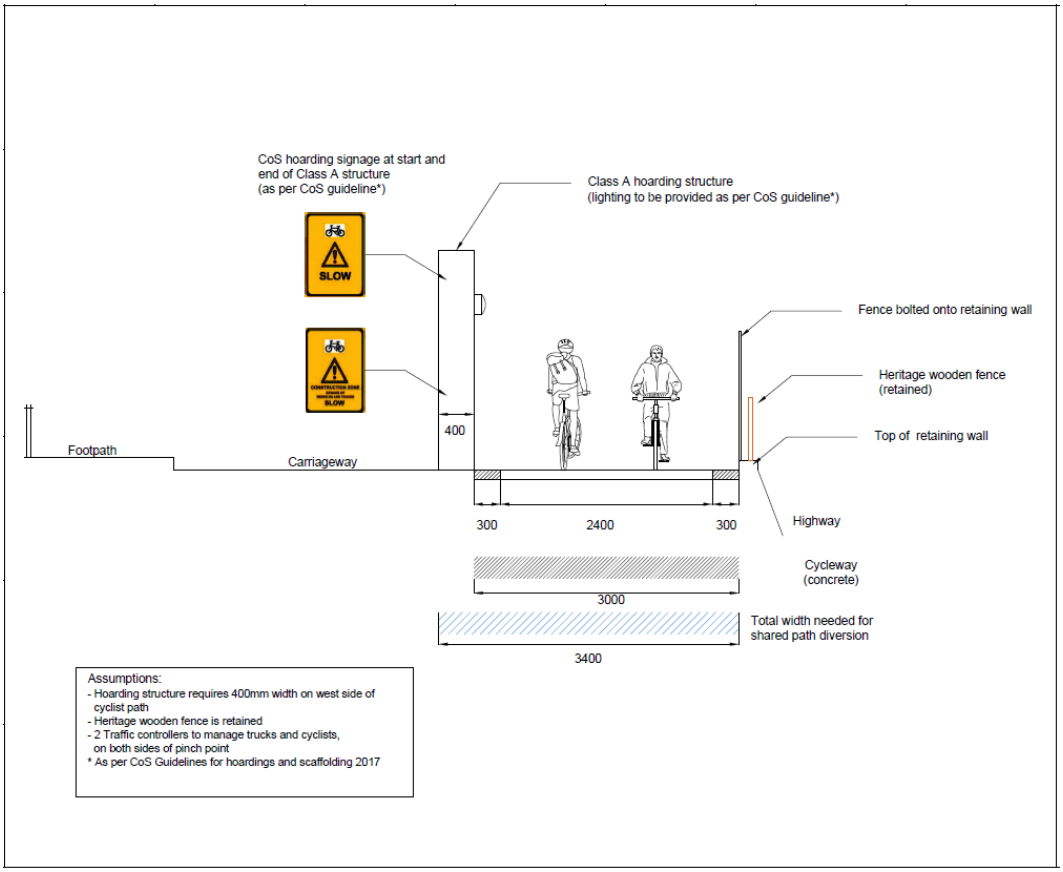


Figure 7: SHB shared path diversion hoarding structure

4 Impact of proposed measures

4.1 Truck routes and controls

4.1.1 Medium and Heavy rigid trucks

Construction vehicle access to the site is limited to Upper Fort Street connecting from Argyle Street via Watson Road. Trucks will access Watson Road using the eastbound lane of Argyle Street which connects into Upper Fort Street.

All truck turning movements would occur within the site, with vehicles entering and exiting via Upper Fort Street as shown in Figure 8. It is likely that it will be necessary to provide queuing space for up to two trucks on Upper Fort Street. As a result, a works zone has been proposed at the location shown in Figure 9.

Traffic controllers will manage vehicles passing each other however, during operation if there are any issues identified the Contractor will update the CTPMSP to include a passing bay and the removal of two parking spaces. This will require an application to CoS as an extension of the works zone.

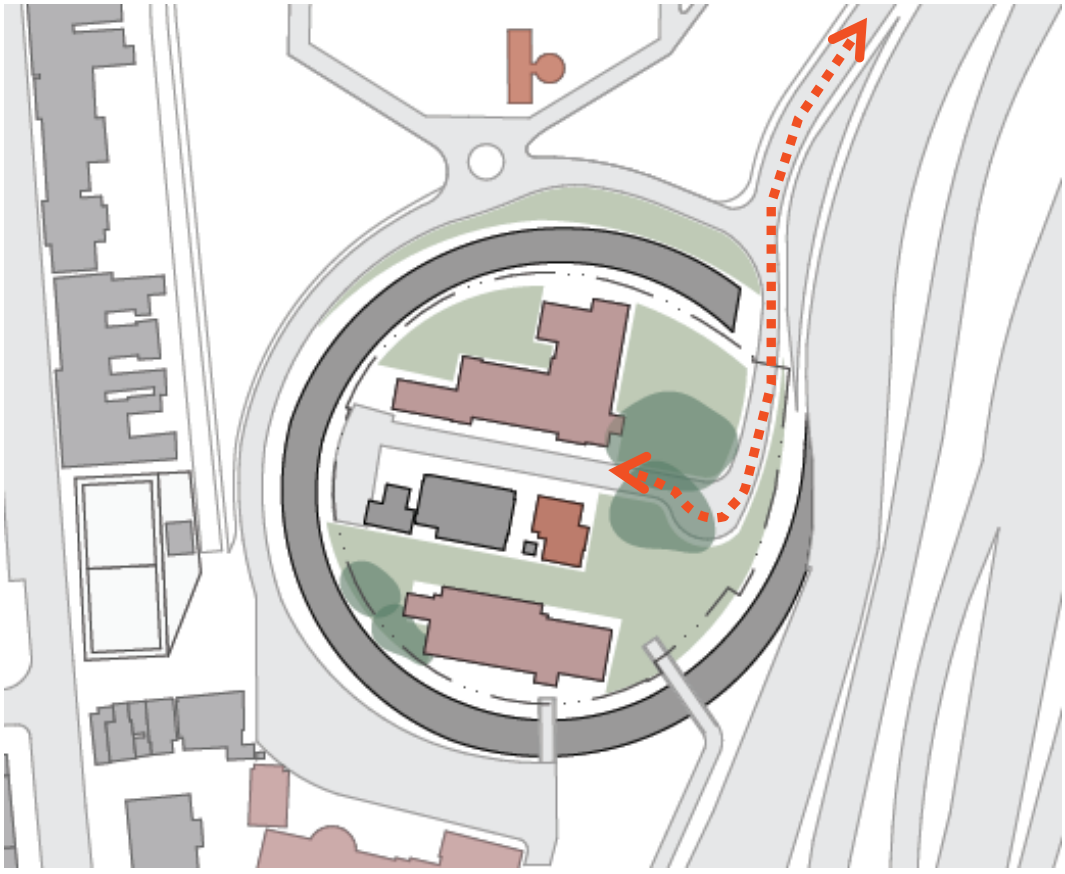


Figure 8: Construction vehicle access to the site

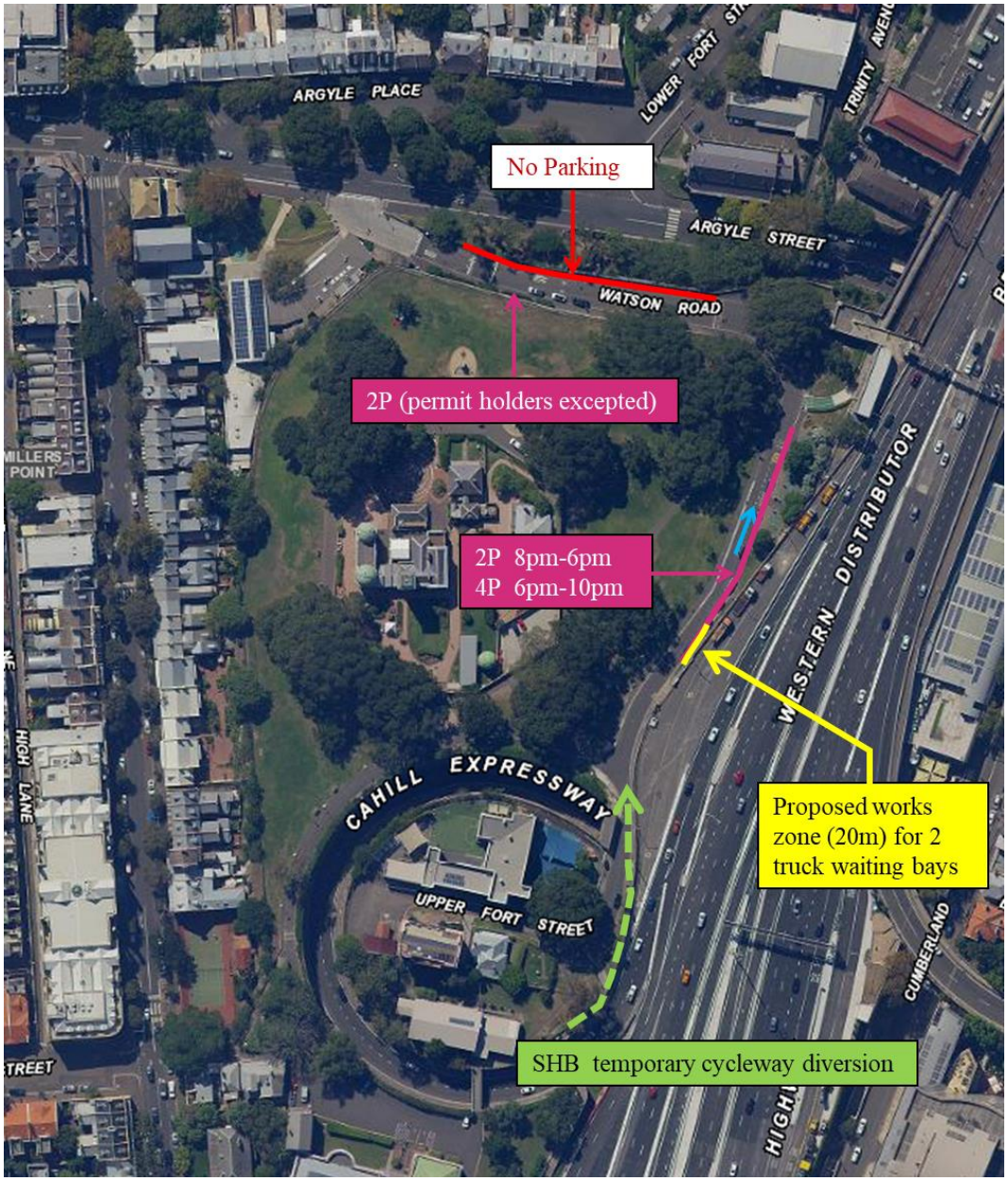


Figure 9: Proposed works zone

4.1.2 HRV truck swept paths

The HRV truck swept paths have been considered for access between Argyle Street and Watson Road as it has been identified as the longest construction vehicle which would typically access the site. The swept paths have been undertaken in accordance with *AS2890.2: Parking facilities – Off-street commercial vehicle facilities* and are displayed in Figure 10 and Figure 11. The paths show that access is available for these larger trucks. Careful manoeuvring will be required along Upper Fort Street due to vehicles parked along the kerb. All vehicles will be required to enter and exit the site in a forward direction to and from the site.

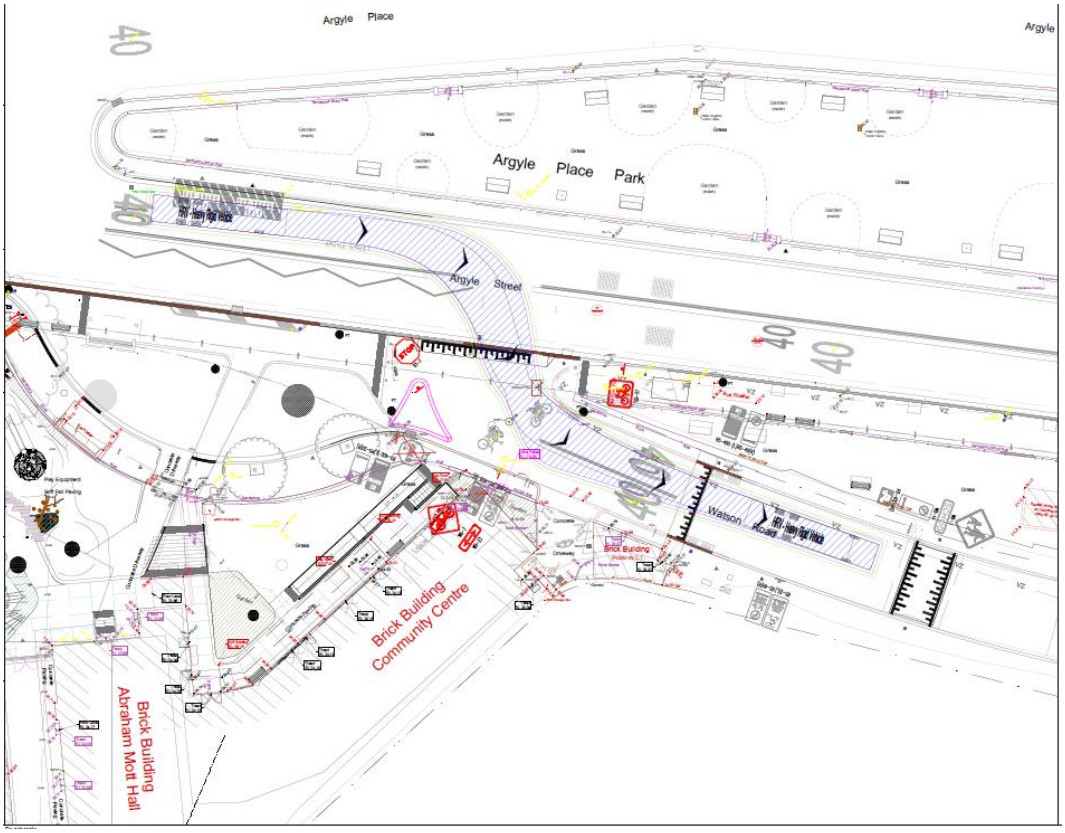


Figure 10: HRV entry path from Argyle Street into Watson Road

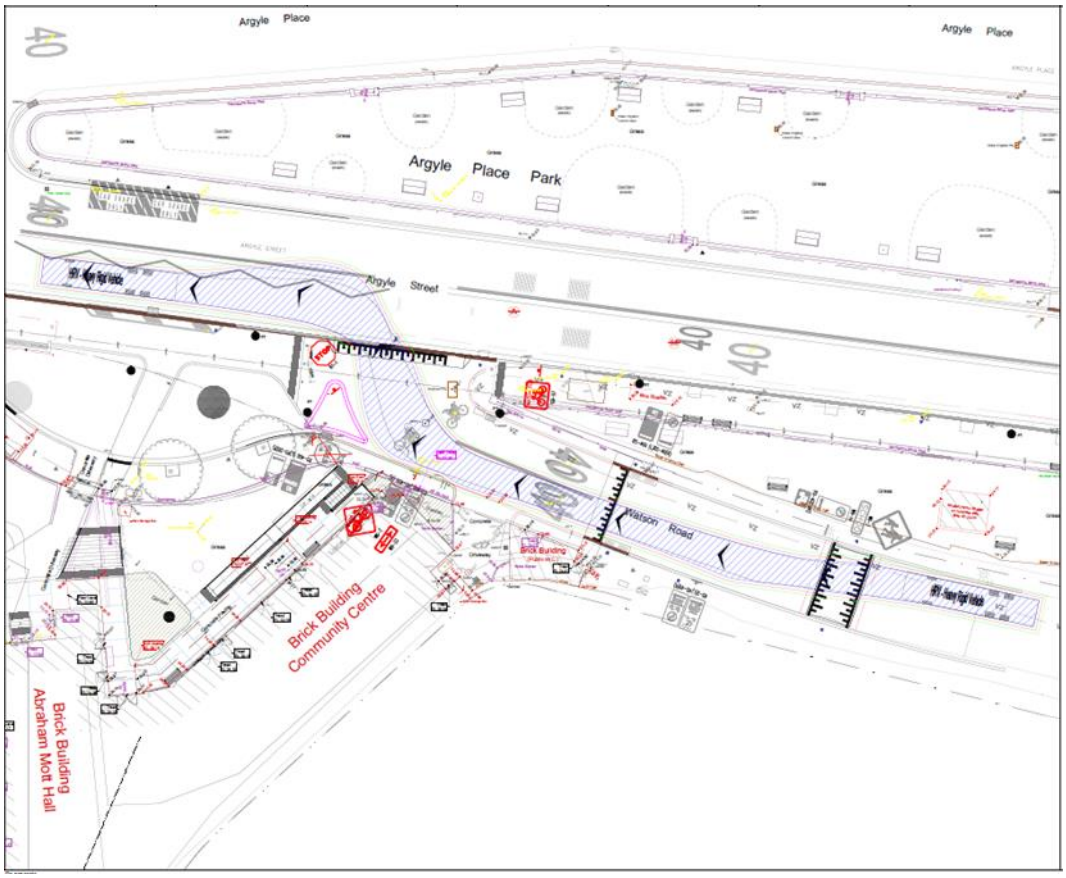


Figure 11: HRV exit from Watson Road to Argyle Street

4.1.3 Mobile crane swept paths

A mobile crane has been identified as the longest vehicle accessing the site during construction. The vehicle is expected to access the site only once during the start of construction and exiting at the end of the construction works. Swept paths have been undertaken for this vehicle at the Watson Road and Argyle Street intersection in accordance with *AS2890.2: Parking facilities – Off-street commercial vehicle facilities* as shown in Figure 12 and Figure 13. These swept paths indicate that the vehicle will be able to satisfactory manoeuvre along this route. However, similar to HRVs, careful manoeuvring will be required with the assistance of the traffic controller in order to navigate past parked vehicles on Watson Road. The mobile crane will be required to enter and exit in a forward direction.

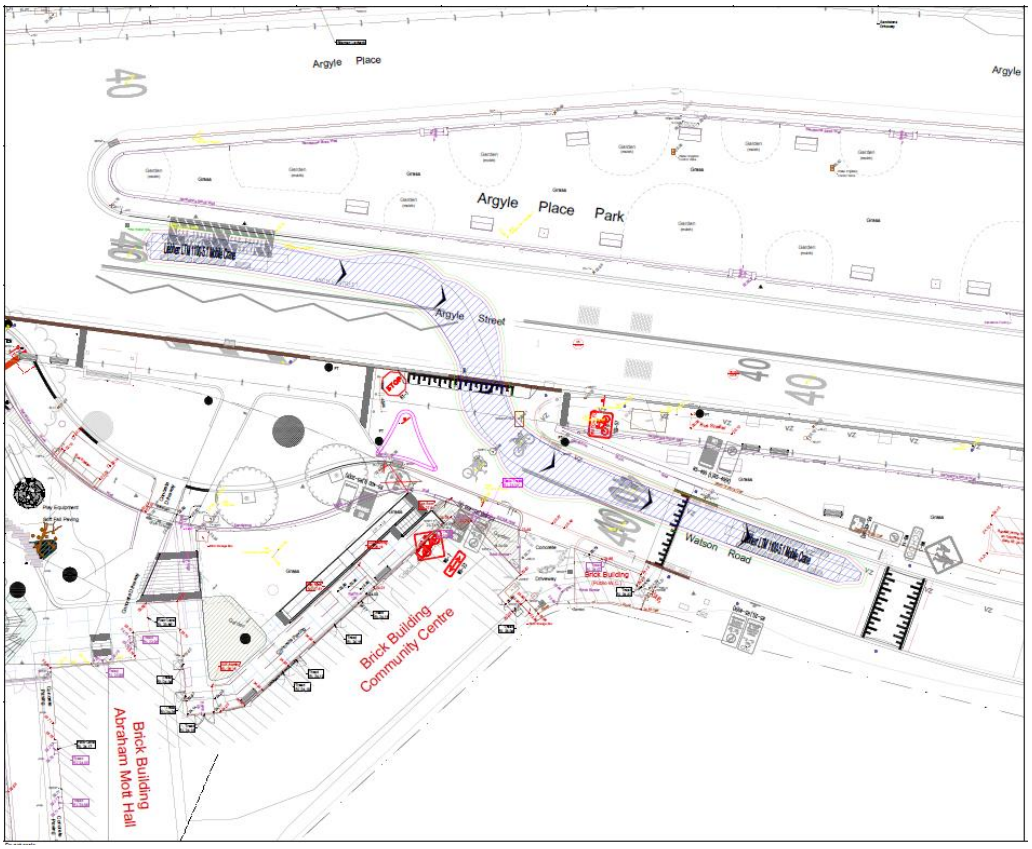


Figure 12: Mobile crane entry from Argyle Street into Watson Road

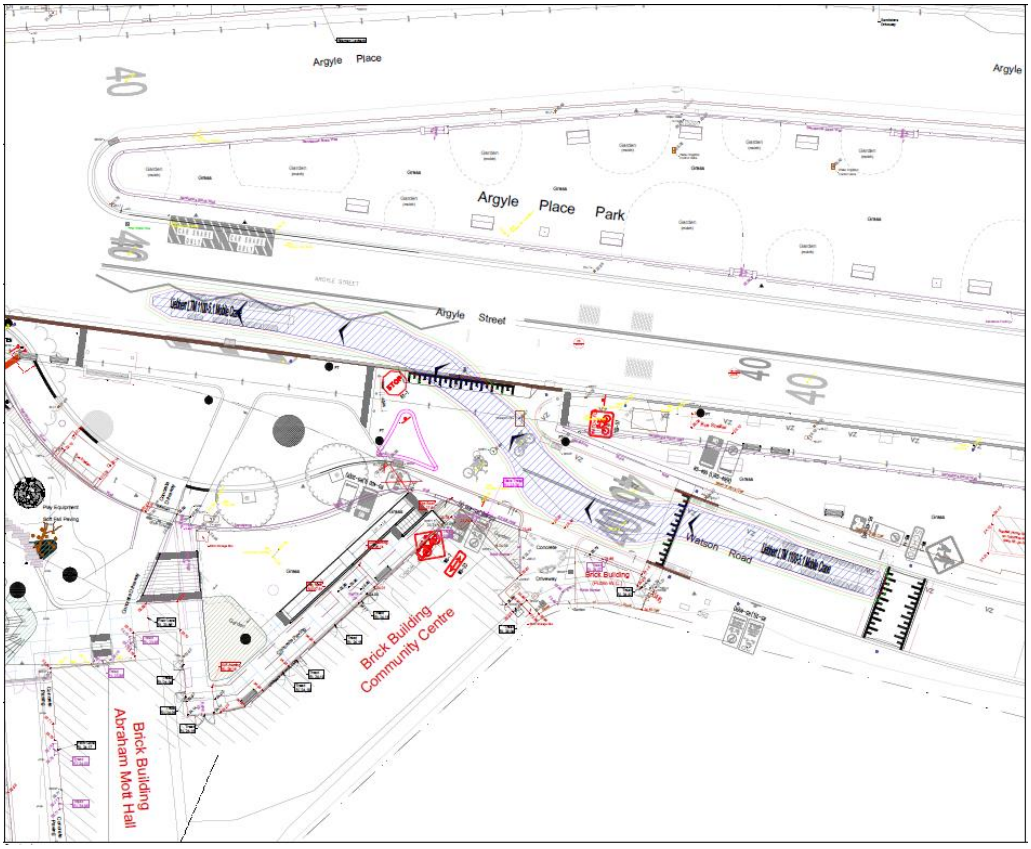


Figure 13: Mobile crane exit from Watson Road to Argyle Street

4.2 SHB temporary shared path diversion

In order to maintain existing connections and to provide both pedestrians and cyclists safe passage during construction, the section of the SHB shared path which runs through the project boundary has been proposed for diversion as shown in Figure 14.

The diversion has been proposed to be constructed in two stages, the first stage consisting of the future permanent concrete cycleway path as part of Phase 1 of the SHB cycleway (shown in grey below). The second stage will connect the Phase 1 cycleway to Upper Fort Street through a temporary concrete shared path shown in the green hatching below. The surface level for both sections will be constructed to align with the levels of the existing service pits and maintain a smooth, trip hazard free surface. Upon completion of construction, the temporary section will be removed and the shared path will divert to Upper Fort Street as per Phase 1 of the FSPS school layout.

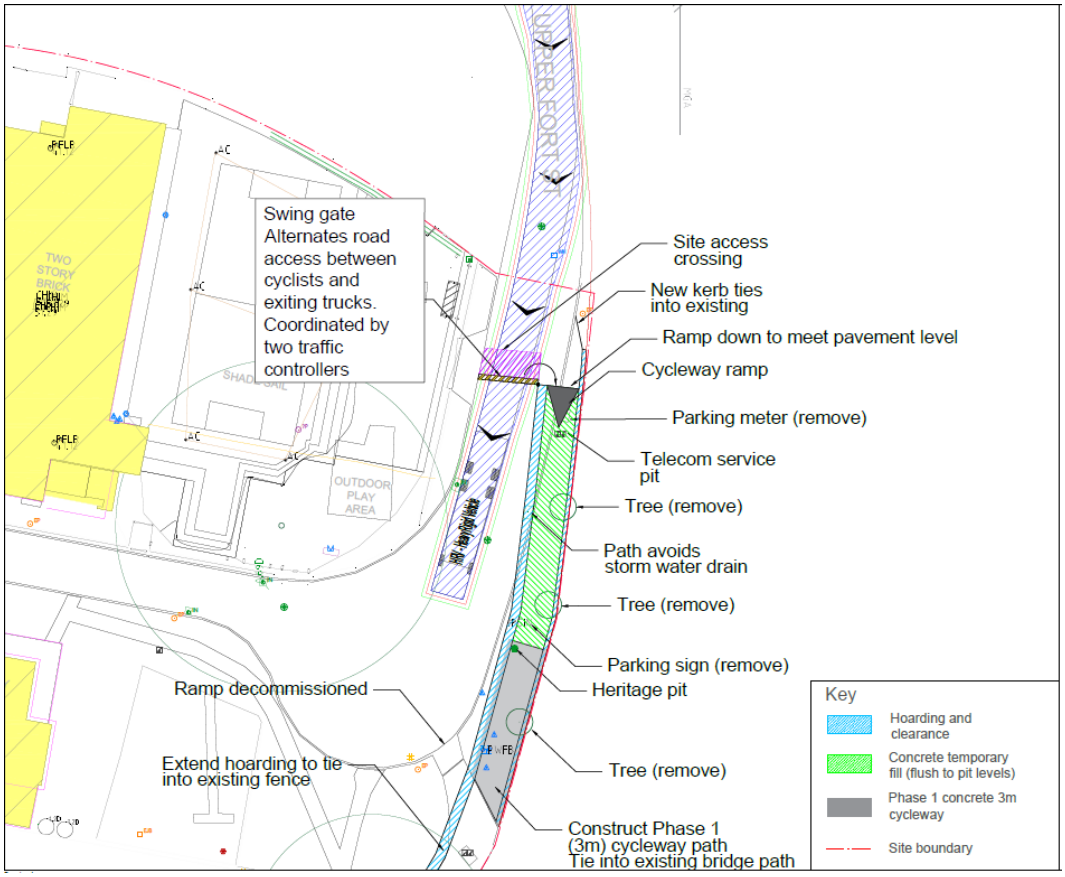


Figure 14: SHB Phase 1 and SHB shared path diversion

Arup have undertaken works to develop a concept plan for diverting the existing SHB shared path. The intention of the design is to minimise impacts to current operations of the shared path whilst controlling interactions between pedestrians, cyclists and construction vehicles. This is a result of Upper Fort Street being proposed as the main vehicle access to site which will be maintained as a shared zone for cyclists, pedestrians and vehicles during construction.

The two-way separated temporary shared path will run along the eastern kerb of Upper Fort Street tying into the existing kerb to the north via a temporary ramp, just south of the pinch point and connecting directly into the existing shared ramp to the south of the site.

Figure 15 provides a plan view of the carriageway south of the pinch point which includes the construction gate line and SHB shared path diversion.

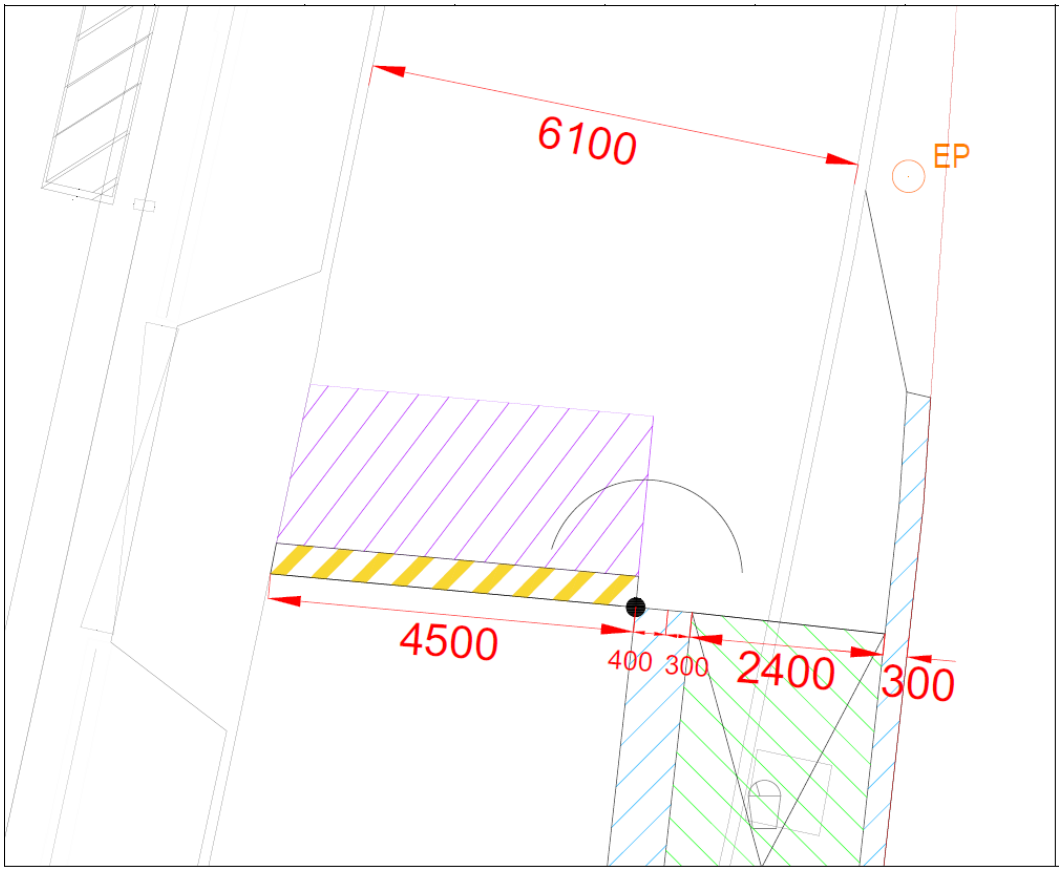


Figure 15: Dimensioned plan view of construction gate line and SHB shared path diversion

The proposed cross section of the SHB shared path diversion is outlined below from left to right and displayed in Figure 16.

- Class A hoarding structure – 400mm;
- Manoeuvring clearance from hoarding structure – 300mm;
- Two-way shared path lane – 2400mm; and
- Manoeuvring clearance from eastern retaining wall – 300mm.

Therefore, the SHB shared path diversion has a total width of 3400mm.

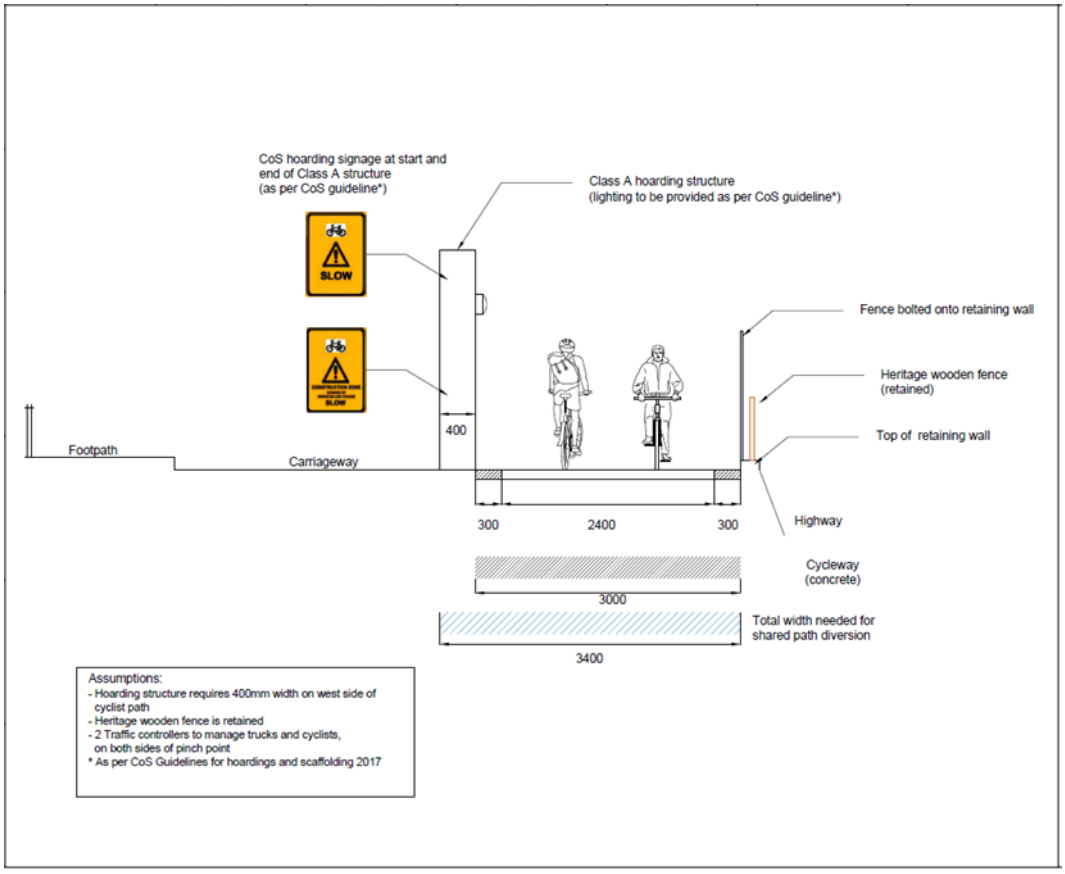


Figure 16: SHB shared path diversion cross section

To manage the interactions between pedestrians, cyclists and construction vehicles along this section the design includes the key following measures:

- Two traffic controllers will manage construction vehicle access north and south of the pinch point on Upper Fort Street to ensure vehicles and pedestrians and cyclists accessing the SHB shared path diversion are able to safely pass each other. The traffic controllers will also be responsible for holding vehicles at a stop in any instances it is not safe to pass and releasing when it is deemed safe to travel;
- Warning signage such as “prepare to stop” will be located at access points to the SHB shared path to provide pedestrians and cyclist adequate notice prior to travelling through the construction area;
- Cycleway approaching and departing the hoarding structure will be provided with line marking S4 and include pavement arrows and pavement shared path symbols;
- Austroads end treatments of a centreline bollard placed to control speed and ensure vehicles do not attempt to use the shared path;
- Construction vehicles will be scheduled to avoid the morning and afternoon peak periods where practical to minimise the interaction between vehicles and cyclists during periods with increased cyclist activity; and

- All drivers must comply with LLB's driver code of conduct which outlines the roles and responsibilities for drivers operating heavy vehicles to meet the requirements of the National Heavy Vehicle Legislation (NHVL). This document stipulates pedestrians and cyclists are to receive right of way during all undertakings.

In the instance where a construction vehicle requires access to the site, the vehicle(s), pedestrians and cyclists accessing the SHB shared path diversion will be managed as follows:

- Construction vehicles accessing the site will first be required to pull into the works zone on Upper Fort Street. At this location they will be held by the traffic controller located to the north of the pinch point;
- The traffic controller located to the south of the pinch point will then open the gate to the site. When fully open the gate will restrict access at the northern end of the hoarding structure, temporarily holding pedestrians and cyclists accessing the SHB shared path diversion from the south;
- The construction vehicle will then proceed to enter the site gate from the works zone. Once the vehicle has cleared the traffic controller will then close the gate and pedestrians and cyclists will then be able to travel through the work site. It should be noted that outside of the site boundary, operation of the SHB shared path will be maintained as that of the existing case.

Figure 17 displays the operation of the SHB shared path diversion within the site boundary.

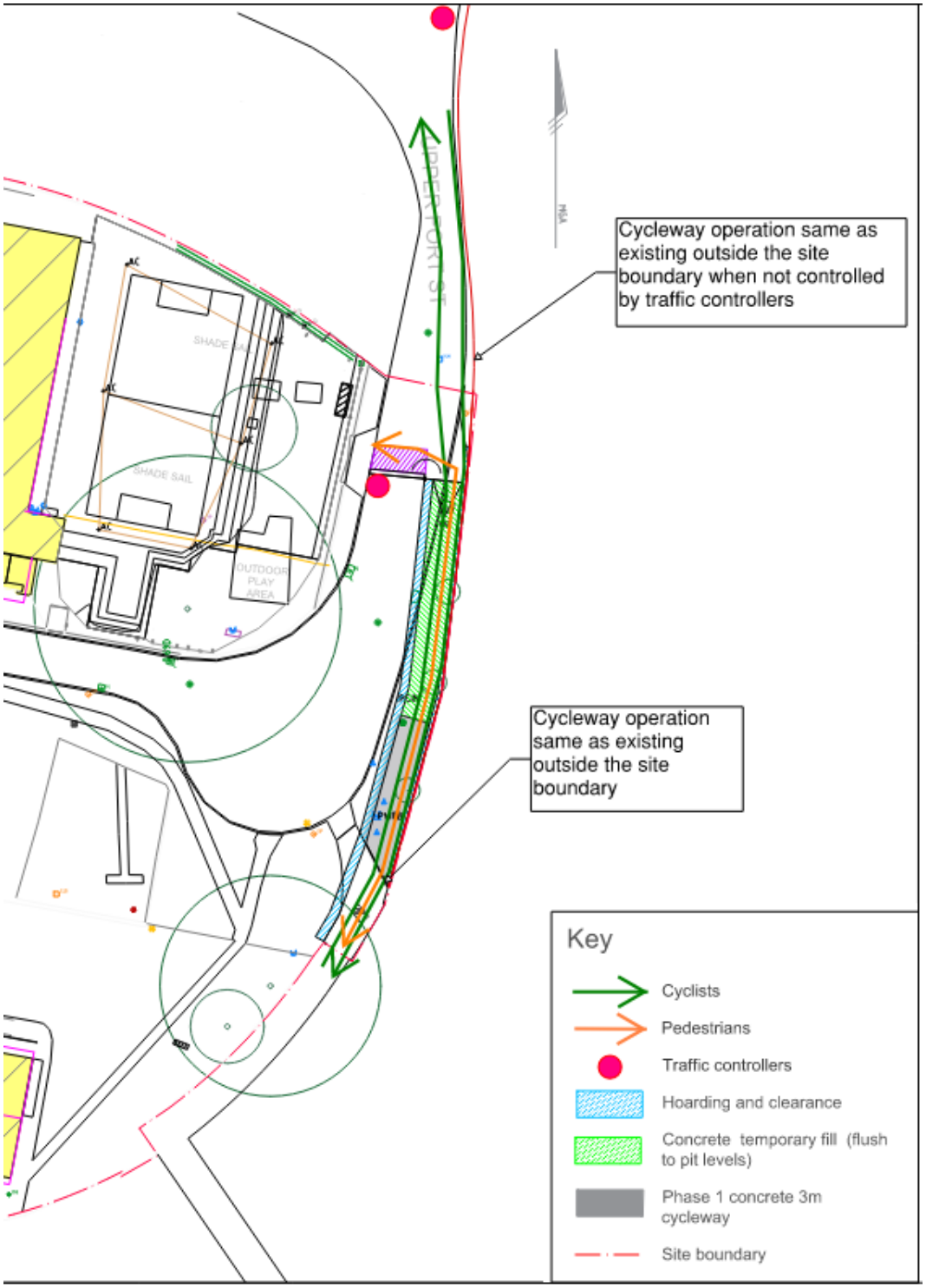


Figure 17: Operation of SHB shared path diversion

4.3 Bradfield Tunnel Services Shed

To maintain access for the shared path past the hoarding while the Bradfield Tunnel Services Shed works are occurring, pedestrians will also be required to walk along the roadway through the pinch point. As a result, this area (shown in Figure 18) has been proposed to operate as a shared zone, with the traffic controller located north of the pinch point responsible for holding pedestrians, cyclists and vehicles at this location.

This would only be required during the works involving the Bradfield Tunnel Services Shed and pinch point widening, or until the hoarding can be moved to the current shed wall and the pedestrian footpath restored.

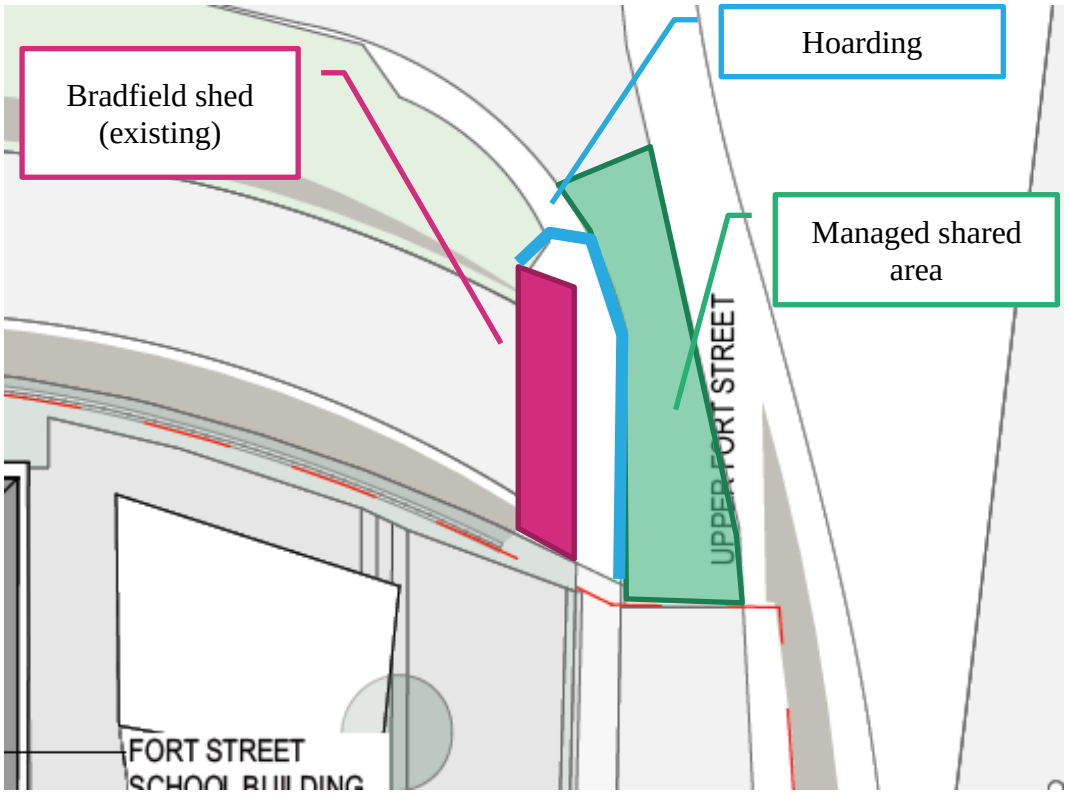


Figure 18: Bradfield Tunnel Service Shed traffic management

4.4 Pedestrians

As outlined previously, traffic controllers will be responsible for managing both pedestrian and cyclist movements around the site. Clear signage will be displayed on Upper Fort Street and at the Western Distributor to notify pedestrians accessing facilities near the site such as the SHB shared path diversion of any potential changes to their route and alternative paths to be taken.

4.5 Public transport impacts

Currently there is a bus stop located on Argyle Street near Watson Road. There will be no impact to bus operations, as this stop will be maintained during the construction works.

4.6 Road network impacts

To reduce the impact of construction traffic on the surrounding network, it is necessary to define routes for construction traffic to and from the site.

Possible truck approach and departure routes are shown in Figure 19 and Figure 20. The routes will be focused on the western side of the Sydney CBD utilising Sussex Street and Hickson Road.

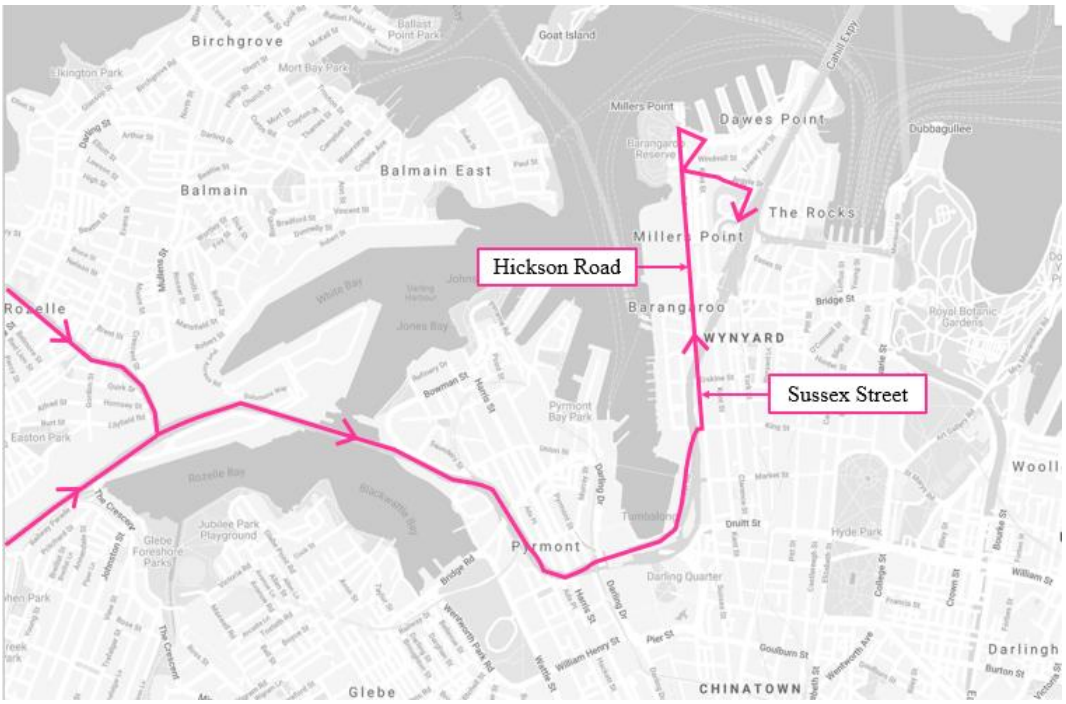


Figure 19: Indicative truck arrival routes

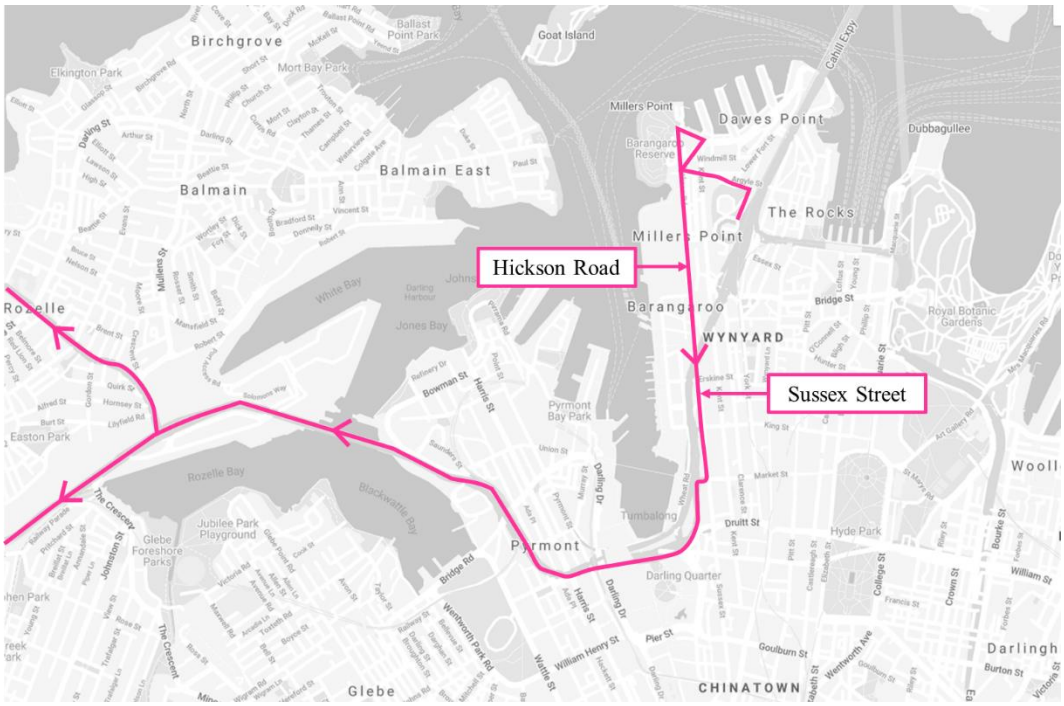


Figure 20: Indicative truck departure routes

4.7 Construction worker transportation strategy

No on-site parking has been proposed for private construction vehicles. Construction vehicles will only be permitted to use works zones and internal circulation routes.

Workers will be required to use the alternative modes to travel to the site as outlined below:

- Surrounding public transport, bus, light rail and train; and
- Walk and cycle.

To encourage construction workers to use active or public transport options, a Travel Access Guide (TAG) should be developed. It should present workers with reasonable transport options aimed to reduce the emphasis on car travel. The TAG should highlight key public transport routes, walking and cycling routes and the location of bicycle parking, carpooling and car share services which can be taken when travelling to or from site. It should be presented in the form of a map within a 2 – 3 km catchment showing relevant bus, train, cycling and walking networks. The TAG will form part of the subcontractor engagement and be included in the site induction.

Additional measures which can be implemented to encourage workers to take public transport/ active transport can include:

- Host active travel events – such as ‘Ride to Work Days’;
- Safe riding days; and
- Communication of benefits and measurements of improvements.

Should workers still wish to drive, they may park at the nearby public car park shown in Figure 21. The nearest car park is located on 55 Harrington Street, The Rocks and provides early bird and all day secure parking at hourly and monthly rates. LLB may organise an internal car-pool scheme where workers can share the cost of parking at the car park by connecting workers with similar shift times and postcodes reducing the amount of car travel related to construction workers. End-of-trip facilities and storage for personal tools should be provided onsite in order to support workers travelling to and from site via the alternative modes of transport.

Figure 21: Public car park location

5 Effects on existing and future developments

The construction site is in proximity to a number of existing developments as shown in Figure 22. In order to minimise impacts to these sites during construction, the CTPMSP has considered potential future developments at these locations as outlined in the section below.

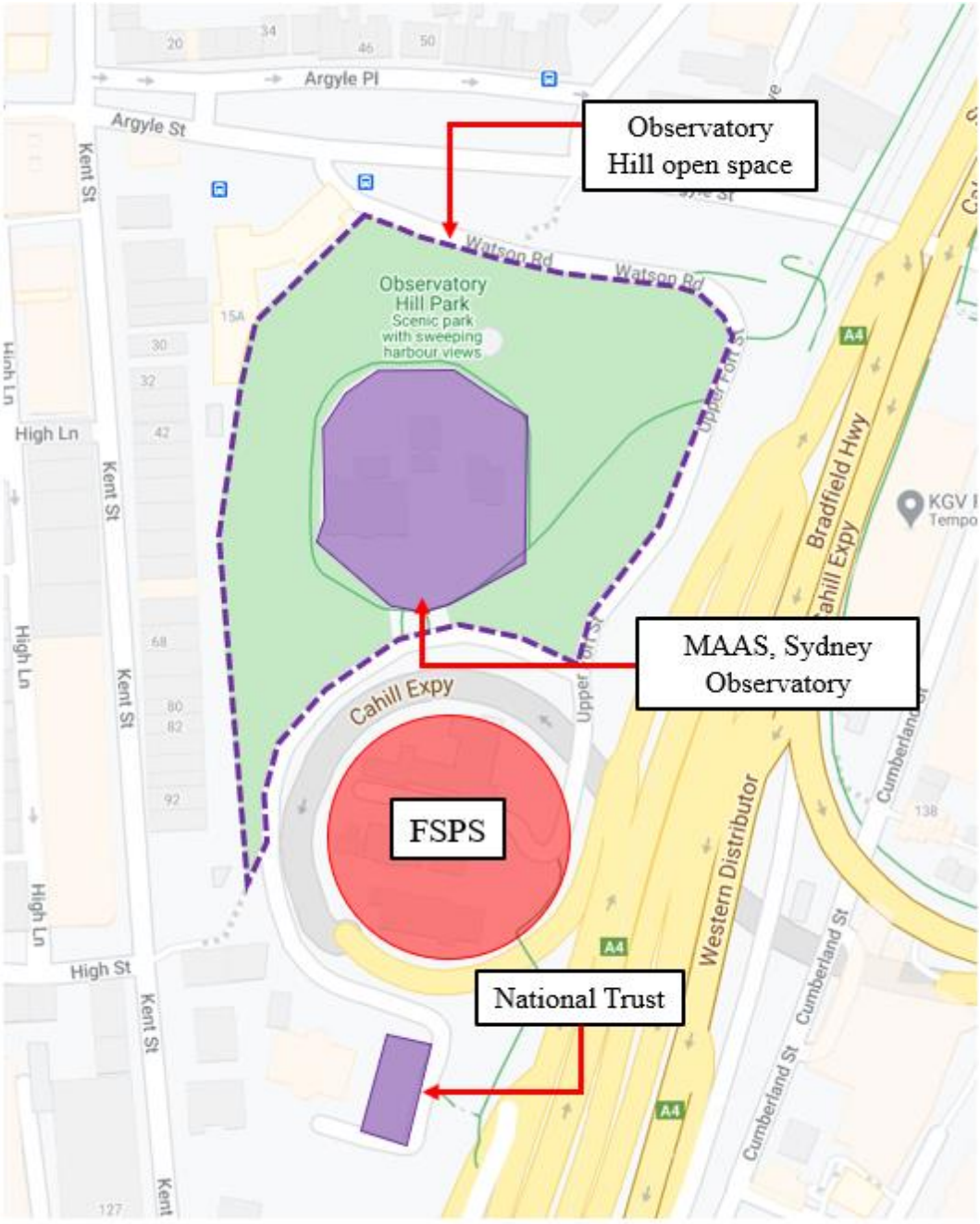


Figure 22: Impacted existing developments near the site

5.1 Museum of Applied Arts & Sciences (MAAS)

5.1.1 Current visitation volume

Average annual visitation is 140,000. 43 % of visitors are from Sydney with the remainder either regional NSW, interstate or overseas visitors.

Current hours of operation and travel:

- Opening hours for general public entry are 10am-5pm, seven days.
- Ticketed tours take place nightly from 6pm-10pm
- Peak times are 10am-1pm, for education groups
- There is general parking and public transport information on the website: https://maas.museum/sydney-observatory/#getting-here
- Event organisers and guests are advised that parking is not available onsite. Visitors using private vehicle can park on Watson Road or Argyle Street and walk up via Watson Road or take public transport and taxis.
- Respondents to visitation surveys conducted in 2017 indicate that 37% of visitors choose to drive and park their car nearby as there is limited short parking on Observatory Hill.

5.1.2 Site access

During construction, site access will be maintained via Watson Road and the Observatory Hill Park. Pedestrians coming from the Agar steps to the west of the site will not be impacted by construction traffic. However, pedestrians travelling via Watson Road and Upper Fort Street will be managed by a traffic controller.

5.1.3 Status of work at MASS

- Scope & aspirations
  - Development of a new Conservation Management Plan
  - Development of a Masterplan which addresses current and future accommodation requirements for MAAS public, education and events programs
  - Development of a Preliminary Business Case to support implementation of the Masterplan (on hold pending finalisation of Masterplan and implementation/funding strategy)
- Current status
  - Masterplan complete to preliminary options – finalisation of masterplanning is pending completion of CMP as of late 2019.
- Timeframes
  - CMP and Masterplan was due for completion late 2019. This is currently still ongoing.

- Masterplan likely to be implemented in phases over 5+ years from 2020, dependent on funding.

- Planning approval strategy
  - Implementation, funding and approvals strategy dependent on scope of development proposed in final Masterplan

5.2 National Trust

The National Trust has published a Strategic Plan for the NSW branch for 2020 – 2024 in order to achieve their vision of 'Bringing the NSW heritage to life for future generations'. This Plan has outlined six (6) key objectives as outlined below and the timeline of completion.

1. Grow, diversify and better engaged members, volunteers, supporters, donors and the wider community;
2. Create a clear property strategy, including investment in a fresh visitor experience;
3. Be a bold advocate and leader;
4. Increase financial strength;
5. Invest in people and systems; and
6. Modernise governance structure.

5.2.1 Site access

During construction, existing access to the site is will be maintained via Upper Fort Street and the access road to the National Trust.

5.3 Observatory Hill Park open space use

Observatory Hill Park is used for occasional events including wedding photographs. Then other key use is daily fitness training sessions. All construction vehicle access on Upper Fort Street will be managed to limit impacts on events. Construction management will include ongoing liaison with CoS regarding booked events and potential limitations on construction activity on these days.

The CoS and the institutions located in the Observatory Hill precinct have been involved in the ongoing Stakeholder Working Group Meetings to date.

5.3.1 Site access

The open space area can be accessed via Upper Fort Street from the east or the Agar steps and through Observatory Hill Park to the west. Both access points will be maintained during construction with traffic controllers located on Upper Fort Street to direct pedestrians around the site where required.

5.4 Sydney CBD North

There are a number of projects either under determination, committed or underway in the northern Sydney CBD as shown Figure 23.

Figure 23: Construction projects in the northern Sydney CBD

The key projects to be considered are the three (3) projects associated with Barangaroo:

- Barangaroo Central;
- Barangaroo South (including Crown Resort); and
- Barangaroo Metro Station.

Construction traffic will be sharing Sussex Street – Hickson Road for access. Circular Quay precinct and Martin Place Metro, amongst other Central Sydney developments may not impact on the FSPS construction access routes. There is also significant construction and refurbishment activity along George Street.

5.5 Sydney Overseas Passenger Terminal

The Sydney Overseas Passenger Terminal at Circular Quay is heavily utilised through the summer cruise season with at least one ship per day visiting and increasing activity likely to result in two ships docking per day at peak operation. This will result in significant provisioning truck activity with the key access route being via Hickson Road. The timing of peak activity will need to be considered when scheduling high activity days at the FSPS site with shared truck access via Hickson Road.

Further details regarding the arrivals and departure schedule at the Sydney Harbour port is provided on https://www.portauthoritynsw.com.au/sydney-harbour/. LLB will review the port schedules on a regular basis for coordination of deliveries.

6 Provisions for emergency vehicles, heavy vehicles and cyclists

6.1 SHB temporary shared path diversion

Refer to Section 4.2 and 4.3 for details regarding provisions for cyclists and pedestrians.

6.2 Emergency vehicles

Existing access will be maintained for fire trucks accessing the SHB emergency breakdown bay.

6.3 Heavy vehicles including oversize or over-mass vehicles and loads (OSOM)

Trucks accessing the site will be subject to a predetermined route to and from site as displayed in Figure 19 and Figure 20 of Section 4.2. Traffic controllers will be stationed at the pinch point on Upper Fort Street to manage vehicles accessing the site.

OSOM vehicles travelling on City of Sydney Council roads will be required to submit an application via the National Heavy Vehicle Regulator (NHVR) portal. This process will incur a route assessment fee of $265. The Council will then have 28 days to make a determination on the NHVR application. OSOM vehicles travelling on State roads will be assessed by TfNSW and will not incur an assessment fee.

Drivers will operate in accordance with LLB's driver code of conduct throughout any undertakings. This document outlines the actions all workers will need to comply with in order to enable safe heavy vehicle operations and meet the requirements of the NHVL. Further details are provided in Section 7.2, with LLB's driver code of conduct provided in **Appendix A.**

Trucks will only be scheduled for standard hours of work. No extended hours of works will be permitted as to not impact the ambient noise levels of the surrounding area as outlined in Section 2.2.

6.4 Pedestrians

Existing access to Sydney Observatory via the Agar steps and Upper Fort Street will be maintained during construction. In the case that changes to the footpath are required, clear signage and a barrier separating pedestrians and vehicles will need to be established. This will be in addition to the traffic controllers whose responsibilities also include directing pedestrians to alternative paths around the site.

7 Measure to ameliorate impacts

The measures proposed to ameliorate the impacts of the construction work are:

- The establishment of a works zone; and
- Traffic control.

Drivers wishing to access the site for any reason will need to report to the traffic controller located north of the pinch point in order to receive instructions and guidance. Scheduling will be the main management method in ensuring minimal multi-vehicle arrivals. The LLB booking and delivery schedule will manage multiple vehicle arrivals and allow for circulation routes around the site.

A traffic control plan has been developed by LLB and is provided in **Appendix D**. This document details measures that will be implemented for traffic control and construction related parking activities during the site establishment and construction works.

7.1 Vehicle movements

Mitigation measures would be adopted during the construction phase to ensure traffic movements have minimal impact on surrounding land uses and the community in general, and would include the following:

- Truck loads would be covered during transportation off-site;
- Establishment and enforcement of appropriate on-site vehicle speed limits (20km/h), which would be reviewed depending on weather conditions or safety requirements;
- Neighbouring properties would be notified of construction works and timing. Any comments would be recorded and taken into consideration when planning construction activities;
- All activities, including the delivery of materials would not impede traffic flow along local roads and highways;
- Materials would be delivered, and spoil removed during standard construction hours. Out of hours works may be undertaken, however, this is will require an application to the relevant authority and will be assessed on a case by case basis as outlined in Section 2.2;
- Avoid idling trucks alongside sensitive receivers;
- Deliveries would be planned to ensure a consistent and minimal number of trucks arriving at site at any one time;
- City of Sydney and Customer Journey Planning will be notified of any future disruption to roadways and footpaths; and
- Construction vehicle access routes will be focussed on the western side of the Sydney CBD utilising Sussex Street and Hickson Road.

7.2 Driver code of conduct

Prior to the operation of any heavy vehicles, drivers will need to be inducted to understand all requirements of LLB's driver code of conduct as shown in **Appendix A**. This document sets out requirements to ensure safe heavy vehicle operations and compliance with the NHVL.

Queuing or marshalling of trucks will only occur in designated and agreed locations. All vehicles must enter and exit the site in a forward direction.

Vehicles entering, exiting and driving around the site will be required to give way to pedestrians and cyclists on the SHB temporary shared path diversion at all times unless under the direction of the traffic controllers.

8 Public transport services affected

No public transport services will be affected by the works as existing operations will be maintained during the construction works.

9 Public consultation

The next stage of the approvals process will involve the submission of the CTPMSP to the CoS Area Traffic Manager and TfNSW for the final approval.

Should temporary road closures be required at any phase during the construction period, the Contractor would be required to obtain a permit in line with the requirements of the relevant road authority. The process for local roads is as follows:

- Completion of application form provided on https://www.cityofsydney.nsw.gov.au/construction-permits-approvals/apply-for-road-closure;
- Development of a site-specific traffic control plan in line with AS1742.43 requirements by a certified Roads and Maritime Services designer. This is to be included in the application; and
- Preparation of a consultation letter to local residents and businesses and a temporary road closure advertisement. This is to be included in the application.

All applications for works zones and temporary road closures will require approval by the Local Pedestrian Cycling and Traffic Calming Committee (LPCTCC). These applications should be submitted at the earliest convenience by the Contractor as upon approval of the CTPMSP, the submitted applications will be referred to the next committee meeting. It should be noted that a two (2) month lead time will apply for applications requiring approval by the committee.

Ongoing consultation will be conducted with the surrounding residents, institutions and businesses by the Contractor in accordance with LLB's communication strategy to ensure all user groups are updated on the construction

of the works. All impacted individuals and groups will be provided with the site manager's direct contact number to resolve any issues which may arise during construction.

Appendix A – Driver code of conduct for heavy vehicle drivers

CHAIN OF RESPONSIBILITY PROCEDURE

DOCUMENT HISTORY

Content Owner	Ross Trethewy

Issue	Change Type	Purpose and Summary of Amendments	Author	Approved by	Date
1.0	Publish new	Initial document	Phill Smith	Ross Trethewy	17/01/2019
1.1	Update	Include reference to CoR provisions into Road Safety legislation in WA and the NT	Phill Smith	Ross Trethewy	05/04/2019

TABLE OF CONTENTS

1.0 INTRODUCTION

Lendlease Building is committed to implementing the National Heavy Vehicle Legislation – Chain of Responsibility (COR) to ensure safe heavy vehicle operations where it is applicable across its business operations and undertakings.

Heavy Vehicle National Law (HVNL) and associated regulations commenced across Australia (except WA and NT) on 10th February 2014. Four regulations exist under the HVNL framework; i.e. Heavy Vehicle (Fatigue Management) National Regulation; Heavy Vehicle (General) National Regulation; Heavy Vehicle (Mass, Dimension and Loading) National Regulation; and Heavy Vehicle (Vehicle Standards) National Regulation. The National Heavy Vehicle Regulator (NHVR) looks after one rule book for heavy vehicles over 4.5 tonnes gross vehicle mass. State and territory police; and authorised officers are appointed to enforce heavy vehicle offences under the HVNL.

Part of the legislation includes Chain of Responsibility requirements. If you consign, pack, load or receive goods as part of your business undertakings you fall under the requirements and must comply with HVNL. That is, even though you have no direct role in driving or operating a heavy vehicle. In addition, corporate entities, directors, partners and managers are accountable for the actions of people under their management or control. This is referred to by the legislation as 'Chain of Responsibility' (COR).

The aim of COR is to make sure everyone in the supply chain shares equal responsibility for ensuring so far as reasonably practicable breaches of HVNL do not occur. Under COR laws if you exercise (or have the capability of exercising) control or influence over any transport task involving a heavy vehicle, you are part of the supply chain and therefore have a responsibility to ensure the HVNL is complied with.

For this reason, under HVNL, each party in the road 'chain' are required to ensure, so far as reasonably practicable that risks to health and safety are managed by:

- eliminating or minimising risks related to transport activities;
- ensuring their conduct does not directly, or indirectly cause, or encourage a driver of a heavy vehicle to breach the Law or exceed a speed limit;
- not causing or encouraging another person, including another party in the Chain of Responsibility, to break the Law;
- not asking, directing or requiring (directly or indirectly) the driver of a heavy vehicle, or a party in the chain of responsibility to do, or not do, something that would have the effect of causing the driver to:
  - exceed a speed limit; or
  - drive a regulated heavy vehicle while impaired by fatigue; or
  - drive a regulated heavy vehicle while in breach of the driver's work and rest hours option.
- the vehicle's load not exceeding the vehicle's overall and per-axle capacity; and
- the heavy vehicle load being properly restrained.

2.0 PURPOSE

To describe the Lendlease Building process for managing compliance requirements under the Heavy Vehicle National Law (HVNL) and 'Chain of Responsibility' by relevant parties, in relation to heavy vehicle movements to and from projects.

3.0 SCOPE

This procedure applies to all Lendlease Building workplaces where it is likely that the use of Heavy Vehicles with a Gross Vehicle Mass of over 4.5tonnes is anticipated.

4.0 RELATIONSHIP TO GLOBAL MINIMUM REQUIREMENTS

This Procedure will assist with achieving compliance with:

- Section 4.3 Vehicle and Plant Incident (Work Sites)
- Section 4.14 Vehicle and Plant Incident (Public Areas)

of the Lendlease Global Minimum Requirements (GMR) for Environment, Health & Safety.

5.0 LEGAL REQUIREMENTS

Heavy Vehicle Transport Legislation applies to all states and territories across Australia except Western Australia and Northern Territory. Although the HVNL has not commenced in Western Australia or the Northern Territory, CoR provisions have been included into existing Road Safety legislation in WA and the NT. HVNL applies equally to vehicles from those jurisdictions when they cross into one of the states or territories where HVNL does apply.

In some cases, drivers may also need to comply with certain aspects of the HVNL before they cross the border (e.g. vehicle log/ work diary requirements). Please refer to Appendix 2 of the Project EHS Management Plan for the current listing of the Heavy Vehicle Legislation (HVNL) in each state or territory.
National Heavy Vehicle Regulator (NHVR) – www.nhvr.gov.au

6.0 RELATED DOCUMENTS

The related documents available for use in conjunction with this Procedure are as follows:

- Contract conditions and EHS Schedule H;
- Lendlease Global Minimum Requirements for EHS;
- Lendlease Building Workplace Delivery Code (WDC);
- National Heavy Vehicle Act and Regulations in each jurisdiction where enacted;
- National Transport Commission - Load Restraint Guide 2018;
- Australian Trucking Association and Australian Logistics Council – Master Industry Code of Practice;

7.0 PROCESS

7.1 Overall approach to compliance with the HVNL

The key chain of responsibility compliance requirements are:

1. **Mass and Dimension**: ensuring the load is not in excess of the heavy vehicle's capacity and that dimension limits are adhered to;
2. **Load Restraint**: ensuring the load is adequately secured to the heavy vehicle;
3. **Speed**: ensuring the driver of the heavy vehicle is not induced or encouraged to speed;

4. **Fatigue**: ensuring the driver of the heavy vehicle is not fatigued when driving; and
5. **Vehicle Standards and Maintenance**: ensuring the heavy vehicle is properly maintained and roadworthy.

Works must be undertaken in accordance with the Lendlease Global Minimum Requirements for Environment Health & Safety, the Project EHS Management Plan, the Project Chain of Responsibility Management Sub Plan and the Lendlease Building Workplace Delivery Code. These documents detail the Lendlease approach and commitment to pro-active and responsible site management.

Projects or other Lendlease Building workplaces must implement the requirements of this Procedure so far as reasonably practicable in relation to the road transport 'chains' arising from their specific project/workplace activities. Compliance verification activities shall be undertaken on a risk-based approach; with attention to:

- service providers performing project haulage (routine) activities;
- those areas of COR compliance within the control or influence of Lendlease; and
- in accordance with industry practices and standards.

8.0 RISK MANAGEMENT

Transport safety risks are to be managed in accordance with LLB EHS Risk Management Procedure. The Impacts & Hazards Risk Assessment (IHRA) documents hazards associated with work activities and as part of this process specific road transport chains must be selected for compliance observation sampling.

Section 3 (planning & control) of the Lendlease Building Chain of Responsibility Management Sub Plan includes examples of COR initiating potential risk events and hazards, including additional factors to be considered during the development of the associated project or workplace related control measures.

Material changes to the IHRA or the Chain of Responsibility Management Sub Plan will be communicated to relevant parties in the 'chain'.

8.1 Contracts / Agreements and Chain of responsibility

Lendlease Building contracts or other supply or carrier agreements must outline compliance with Heavy Vehicle National Law and Chain of Responsibility as a contractual requirement. As part of the tender assessment and contract award phase, subcontractor service provider suppliers or their proposed carriers must demonstrate compliance with HVNL and COR including but not limited to

- Holding accreditation to a National Heavy Vehicle Accreditation Scheme/TruckSafe (preferred); and
- Implementing a system of adequate training of drivers regarding mass, dimension, loading and restraint requirements under HVNL; and
- Implementing a system to verify loads are the correct mass, restrained appropriately and are within dimension limits as prescribed by HVNL; and
- Demonstrating that appropriate fatigue management processes are verified and schedules managed to prevent Driver breach of the HVNL e.g. hours, rest breaks and speed.
- Implementing a system of vehicle standards and maintenance of heavy vehicles

When engaging a Subcontractor/Supplier Service Providers, preference shall be given to engaging those that can demonstrate an understanding of their COR responsibilities and a systematic approach to the above compliance requirements. This can be demonstrated by holding relevant and current accreditation under the National Heavy Vehicle Accreditation Scheme (NHVAS). Accreditations are available for:

- Mass management;
- Fatigue (two different accreditation regimes can apply); and
- Vehicle maintenance.

8.2 Consultation and communication with Service Providers

Consultation with Subcontractor/Supplier Service Providers requires:

- Relevant COR information is shared;
- Reasonable opportunity is provided to express their views;
- Reasonable opportunity is provided to contribute to the decision-making process;
- Views are considered before making a decision; and
- Outcomes are advised in a timely manner.

8.3 Identification of heavy vehicle road transport chains for COR compliance observation sampling

The project/workplace team shall identify road transport chains for compliance observation sampling during each six-weekly review of the Project/Workplace Impacts & Hazards Risk Assessment. Work activities that are selected for sampling will be notated in the IHRA by the lettering 'COR Sampling'. That is, within the control measures nominated for the subcontractor supply/trade activity and its related road transport to or from the workplace.

Compliance observation sampling is carried out with the Enablon Safety Observation App. The 'how to' guide on how to complete COR compliance observation sampling is outlined in Appendix 2 of this Procedure

8.4 Identification of responsibilities within the heavy vehicle road transport chain for compliance observation sampling

The project team will identify observation items for those work activities and related road transport chains identified in the IHRA for 'COR sampling' for incoming and outgoing heavy vehicle transport including:

- **mass and dimension** (the load is observed as not in excess of the heavy vehicle's capacity, axle and dimension limits including bulk loads such as excavated spoil or demolition material);
- **any heavy vehicle packing, loading or load restraint activities** at a project/workplace for departure and transport onto a public road must be carried out by workers that have completed formal HVNL accredited training relevant to these activities; or the activities are completed under the direct supervision of a person(s) formal HVNL accredited training relevant to the activity;
- **load restraint** (the load on arrival or on departure from the project/workplace is observed as adequately restrained, with no shift of goods or materials during transport and ropes/straps/tie downs are taut);
- **fatigue** (the driver when requested can demonstrate adequate rest breaks and a vehicle Work Diary when more than 100klms from home and the heavy vehicle haulage activity is on schedule);
- **Vehicle Standards and Maintenance**: (observation reveals no obvious defects to the exterior of the heavy vehicle and vehicle maintenance logs are verified as current).

9.0 COMPLIANCE WITH MASS, DIMENSION AND LOADING REQUIREMENTS

Loading and Unloading of Heavy Vehicles

LLB will ensure adequate facilities are provided at the workplace for loading/unloading vehicles safely. This may include safe parking, loading and unloading areas, safe tarping capability, amenities, weighing and docking facilities.

Mass, Dimension, Loading & Restraint

Where LLB has influence or control over;

- the mass of components of heavy vehicles or of the mass of the heavy vehicle; or
- the dimension of the heavy vehicle, the components of the heavy vehicle or of the heavy vehicles load.

LLB will take all reasonably practicable steps to ensure compliance with the prescribed mass and dimension requirements. For bulk excavation, remediation or demolition stages of projects weighing and docking facilities, or vehicle telematics including on-board mass measurement, or estimates through Loadrite or other smart scale technology and confirmation through a weigh bridge unloading/delivery destination will be required to ensure the mass of each vehicle leaving a project or other LLB workplace involved with heavy vehicle loading and transport.

All heavy vehicles operating at a workplace must display their maximum load mass. Further detail may also be required to confirm the relevant axle loads for the vehicle (if the axle load exceeds the total allowable mass).

Where LLB has responsibility for the way that a load is placed, secured and restrained on a heavy vehicle, competent personnel trained in COR awareness and responsibilities will undertake reasonable steps to ensure that the load is placed, secured and restrained in a manner that complies with the prescribed loading requirements and HVNL.

Route mapping of local roads and infrastructure to identify any dimensional restrictions for heavy vehicle deliveries to and from site must be undertaken by the relevant service provider.

Heavy Vehicle Safety & Compliance Register

Where heavy vehicles subject to the HVNL are operating continuously at a workplace i.e. not simply for the one-off delivery or pick-up of goods, a Heavy Vehicle Safety & Compliance Register will be used to record heavy vehicle load details. Details of truck and trailer configurations, axle codes, gross vehicle mass, tare weight, load weight and variances to legal weight will be recorded onto the Register. The Register is contained in Appendix 3 of the LLB Chain Of Responsibility Management Sub Plan.

Fatigue & Speed

Regardless of its role in the particular road transport ‘Chain’, Lendlease Building will implement the following principles:

- LLB will not cause, incentivise or encourage any driver to drive while affected by fatigue; and

- Where LLB has direct responsibility for any matter which could impact a Driver's work and rest hours LLB will take reasonable steps to assess and minimise any negative impact of any of its activities, e.g. delivery scheduling, on a Driver's work and rest hours options; and
- LLB will not cause, incentivise or encourage any Driver to exceed speed limits; and
- Where LLB has direct responsibility for a matter which may impact a driver's speed, such as a Driver's schedule, LLB will take reasonable steps to ensure they do not impact on a Driver's ability to drive within the speed limit.

10.0 VEHICLE STANDARDS AND MAINTENANCE REQUIREMENTS

Heavy Vehicle Inspection and Maintenance

Heavy vehicles operating at a workplace will meet the relevant registration and compliance standards and be maintained by the service provider in accordance with the manufacturer's specifications or recommendations.

Maintenance is primarily the responsibility of the heavy vehicle transport service provider. However, LLB will take available steps to observe compliance with HVNL, i.e. by conducting selected compliance observations of maintenance and inspection records.

Pre-commencement requirements

As part of the tender assessment and contract award phase, subcontractor service provider suppliers or their proposed carriers must demonstrate compliance with HVNL and COR.

Prior to undertaking any works for the first time on the Project, the LLB project team will undertake sampling inspections of registration, load capacity, servicing and maintenance records.

All heavy vehicle drivers will hold a copy of the appropriate vehicle class of driver's licence for the heavy vehicle and provide a copy of the current licence at the site induction or provide visual verification where they are not required to attend a site or workplace induction.

Drivers of routine heavy vehicles employed by Lendlease Building may be required to demonstrate competence in their understanding of the COR requirements (including fatigue). Where driver(s) are employed by service providers, LLB requires Service Providers to confirm that training of their personnel is current.

Operators of mobile plant used for loading and unloading of heavy vehicles, must be appropriately licensed, qualified and trained in its safe operation.

Ongoing requirements

All routine heavy vehicle service providers are to conduct regular pre-start checks, inspections and maintenance at a standard that ensures compliance with the Heavy Vehicle National Law and to a standard not less than that recommended by the vehicle manufacturer or servicing agent. Attention must be given to safety critical components such as brakes, couplings, steering and suspension, tyres, lights and mirrors.

Regular pre-start checks and inspections should also include a review of the effectiveness of other components that could affect heavy vehicle roadworthiness and impact the safety of drivers, other road

users and the general public including (but not limited to); structure and body condition, seats and seatbelts, lights and reflectors, windscreen and windows.

Updated maintenance and service records available for compliance observation for heavy vehicles following the most recent maintenance and servicing; or at any other time at the request of the Project.

Where any maintenance deficiencies come to the attention of LLB, the workplace will:

- Seek assurance from the affected Driver that steps have been taken to properly maintain that vehicle, and confirm that any maintenance issues do not affect the whole of the relevant heavy vehicle fleet; and
- Where maintenance deficiencies are observed LLB in consultation with the Driver will consider if the heavy vehicle is fit for purpose to continue with its operations; and
- Report the deficiency in Enablon.

11.0 COMPLIANCE SAMPLING

In the implementation section (4.0) of the LLB Chain of Responsibility Management Sub Plan, there are specific key performance objectives and targets that project /workplace teams are required to implement to monitor compliance. This can include direct observations, but also undertaking and requesting sample inspections of COR related documentation. These can range from maintenance inspections, copies of log books, loading procedures, driver work diary and supplier inspections.

The frequency of sampling via direct observation of heavy vehicles shall be determined by the project team during and outlined in the Impacts & Hazards Risk Assessment and must be based on the load types and frequency of heavy vehicle movements to/from the project. The frequency of sampling should be agreed in consultation with the Business Unit EHS and Operations Manager. Section 8.3 and 8.4 of this Procedure provides further information and sampling and compliance observations.

LLB Project teams are to monitor the implementation of COR in Enablon by generating ‘safe’ observations or ‘at-risk’ observations. Potential COR related observations may relate to any mass, load restraint, maintenance of potential fatigue related.

12.0 TRAINING

At the commencement of a project or at an Lendlease Building workplace, a documented Training Needs Analysis that includes the requirements of COR must be undertaken. Appropriate training must be provided to LLB personnel engaged in the procurement of goods and services transported to/from the project via heavy vehicles greater than 4.5t gross vehicle mass.

Transport service providers may be included in the Lendlease COR training programs to ensure consistency of standards and processes at the project/workplace. Implementation of this training must be determined by Lendlease Building after an assessment of the current level of training of the Service Provider(s).

The following training is to be completed

Course	Modules	Target Audience
COR Awareness Training (Non-accredited)	· Chain of Responsibility Legislation · Target areas and key responsibilities · Risks of Load Restraint · Risks of Mass, Dimension and Loading · Roles and responsibilities within COR Training Link - http://www.lendleasetraining.com/	Those procuring goods & services; loaders, packers, dispatchers, receivers of loads (on Project). LLB Project/Workplace Team – CM/SM/Engineers/Foreman/EHS – additions based on the Workplace Training Needs Analysis (TNA).
COR Load Restraint Training Load Goods and Cargo (TLID2004) – Accredited training	· Gain a basic understanding of load restraint · Understand the danger of poor load restraint · Understand the technical impacts of load restraint; and · Undertake load process inspections and audits.	Loaders, packers of loads (on Projects / Plant Yards). Training undertaken based on the TNA review for the LLB operation or workplace where LLB personnel are required to 'exercise judgement' in packing or loading, or supervising packing or loading, of any heavy vehicle over 4.5t gross vehicle mass.
COR Awareness Due Diligence Training For Executive Officers	· About Chain of Responsibility Legislation · Roles & responsibilities for COR · Multiple transport tasks · Executive Officer key responsibilities · Case Studies · Possible penalties · Systems & controls	Executive Officers; General Managers,

13.0 RECORD KEEPING

COR records generated by Lendlease Building personnel that demonstrate compliance with Heavy Vehicle Transport Laws must be retained as a minimum for the duration of the Project, or not less than 5 years for other non-project related business undertakings. Subcontractor Service Provider/ Supplier COR records are required to be kept by the supplier / service contractor for thirty (30) days. Where a COR breach of

legislation is identified records related to the breach details and its corrective actions must be maintained for not less than five years.

Documents that could be applicable include:

- Supplier/Service Provider works contract and COR requirements;
- Copies of compliance observations;
- Copies of COR incident reports and related corrective actions;
- Copies of the LLB Heavy Vehicle Safety & Compliance Register;
- Any declared breaches.

14.0 BREACH REPORTING

Breaches, fines, notices or other notifications issued for any COR/HVNL regulatory authority alleged/actual offence at a Lendlease Building Project or other LLB workplace must be provided to the Regional EHS Manager and LLB EHS Head Office Service Function within 5 working days.

13.0 KEY DEFINITIONS (COR)

Chain of Responsibility
A policy concept used in Australian transport legislation to place legal obligations on all parties in the heavy vehicle transport supply chain.

Consignee

In a contract of carriage, the Consignee is the entity who is financially responsible (the buyer) for the receipt of a shipment. Generally, but not always, the Consignee is the same as the Receiver.

Consignor

The Consignor, in a contract of carriage, is the person/entity sending a shipment to be delivered whether by land, sea or air. Some carriers use the term "sender" or "shipper" which has the same meaning as a Consignor.

Heavy Vehicle

A vehicle that has a Gross Vehicle Mass (GVM) of more than 4.5 tonnes.

Loader

A Worker who loads or unloads a road transport vehicle.

Loading Manager

A Worker who supervises loading/unloading, or manages the premises where this occurs.

Packer
A Worker who packs goods for transport into any type of container for transport e.g. pallet, stillage, box, freight container and the like.

Parties in the Supply Chain

Any person with an influence and/or control in the transport chain is a 'party' and includes, but is not limited to:

- corporations, partnerships, unincorporated associations or other bodies corporate employers and company directors;
- exporters/importers;
- primary producers;
- drivers (including a bus driver and an owner-driver;)
- prime contractors of drivers;
- the Driver of a vehicle;
- schedulers of goods or passengers for transport in or on a vehicle, and the scheduler of its driver;
- consignors/consignees/receivers of the goods for transport;
- loaders/unloaders of goods; and
- loading managers (the person who supervises loading/unloading, or manages the premises where this occurs).

Scheduler

A worker who schedules or arranges goods or passengers for transport in or on a vehicle, and the scheduler of its driver

APPENDIX 1 – CHAIN OF RESPONSIBILITY AWARENESS TRAINING COMPLETION GUIDE

Completion of the Lendlease Chain of Responsibility Awareness Training is a legislative requirement for all those Lendlease employees, managers and others engaged in the supply and procurement of goods and services to/from our projects or workplaces on heavy vehicles greater than 4.5tonnes gross vehicle mass.

Please note that this is awareness training only (comprising 3 modules and a brief assessment) and is not a nationally accredited module.

Guide to completion

- The course should take approx. 45 mins.

  To be completed by LLB Project Teams – CM/SM/Engineers/Foreman/EHS and National, Regional, SBU EHS Managers, all Plant Yard personnel.

  Note - that General Managers, Operations Managers and others also benefit from completing the training for awareness and Due Diligence purposes.

- Link to the training - **http://www.lendleasetraining.com/**
- **For registration – the PIN code required is 14846532**
- Note the PIN code is to be used for LLB employees and sub-contractors (for LLB projects) and should be used by other Lendlease businesses.
- Registration guidance – refer to the registration **guidance in the explanatory notes.**
- **Preferred internet Browser - Google Chrome**
- It can be completed on a computer or a tablet but not a mobile device.
- There are voice-overs throughout so **headphones will be needed**, or a quiet place to complete it.
- Refreshers - at this stage a 3-yearly refresher is anticipated, however if any significant COR changes (to legislation) occur, the course content will be updated and the need for the awareness training to be completed again will be evaluated by the Lendlease Building Head of Environment Health & Safety.
- Upon completion of the assessment, the participant will be **able to download, or email a completion certificate** and will be able to access the certificate separately, by logging back in.
- Lendlease employees are to save the Certificate to their desktop and have the Certificate on hand in the event of an audit.
- IT / Technical support – if anyone experiences technical issues when completing the course, please don't contact the Lendlease ICT service desk, technical support is provided by the training provider with the following options for obtaining help

  o Click the "Need Help?" button on the right side (within the course) which will you to the troubleshooting page with an explanation on how to solve technical issues and contact support staff through LiveChat or;

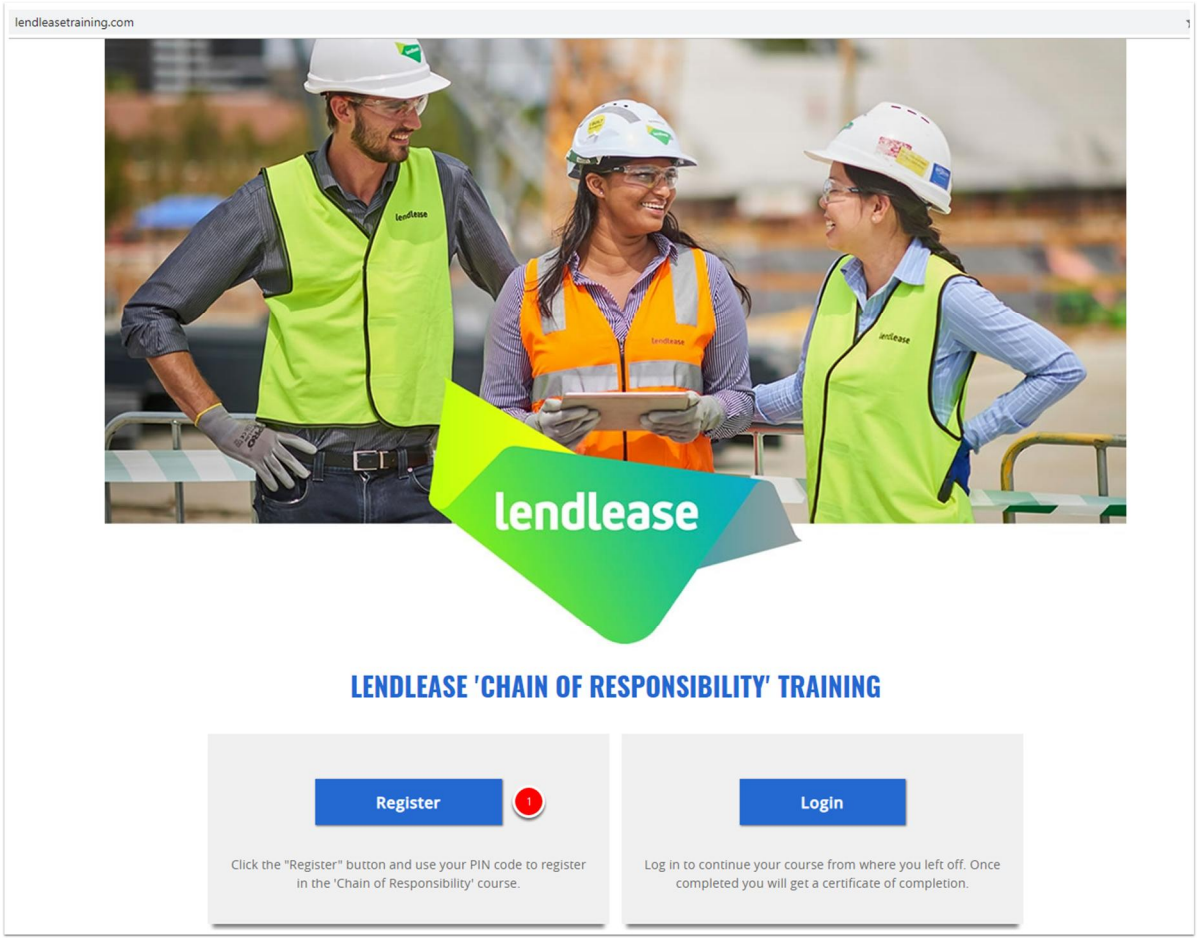
- Call the training providers support line on 1300 886 092 (support team is available Monday to Friday 8am – 5pm AEST)

Completion / Progress reporting

- Reporting capabilities in the back end of the training modules enable the business to track completion. Completion statistics will be shared with projects monthly.
- Project teams will need to report on this training in your 6 weekly project review meetings.

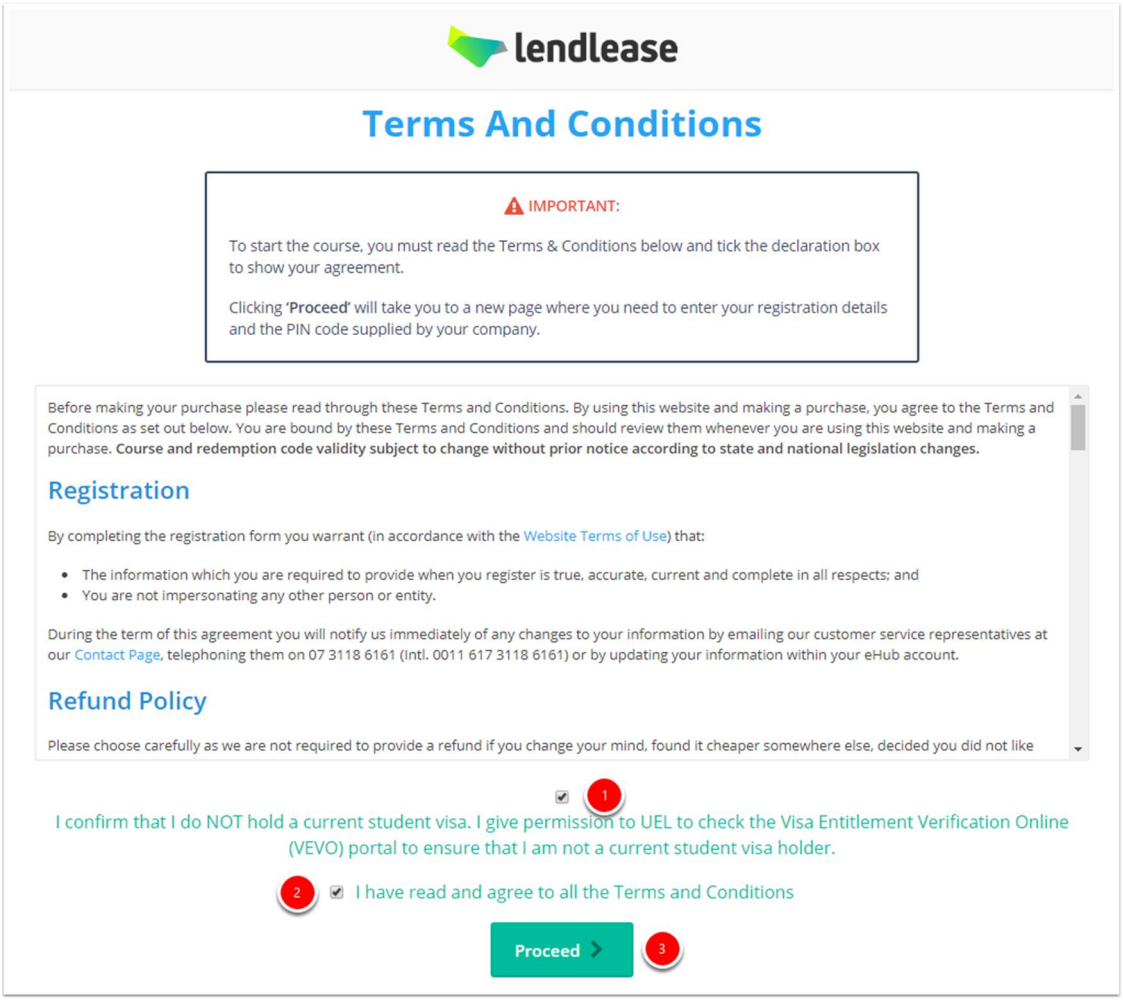
COR online awareness training – registration guidance

In your browser (Google Chrome Preferred) go to http://lendleasetraining.com/ and click on the 'Register' (1) button



Read and Agree to Terms and Conditions

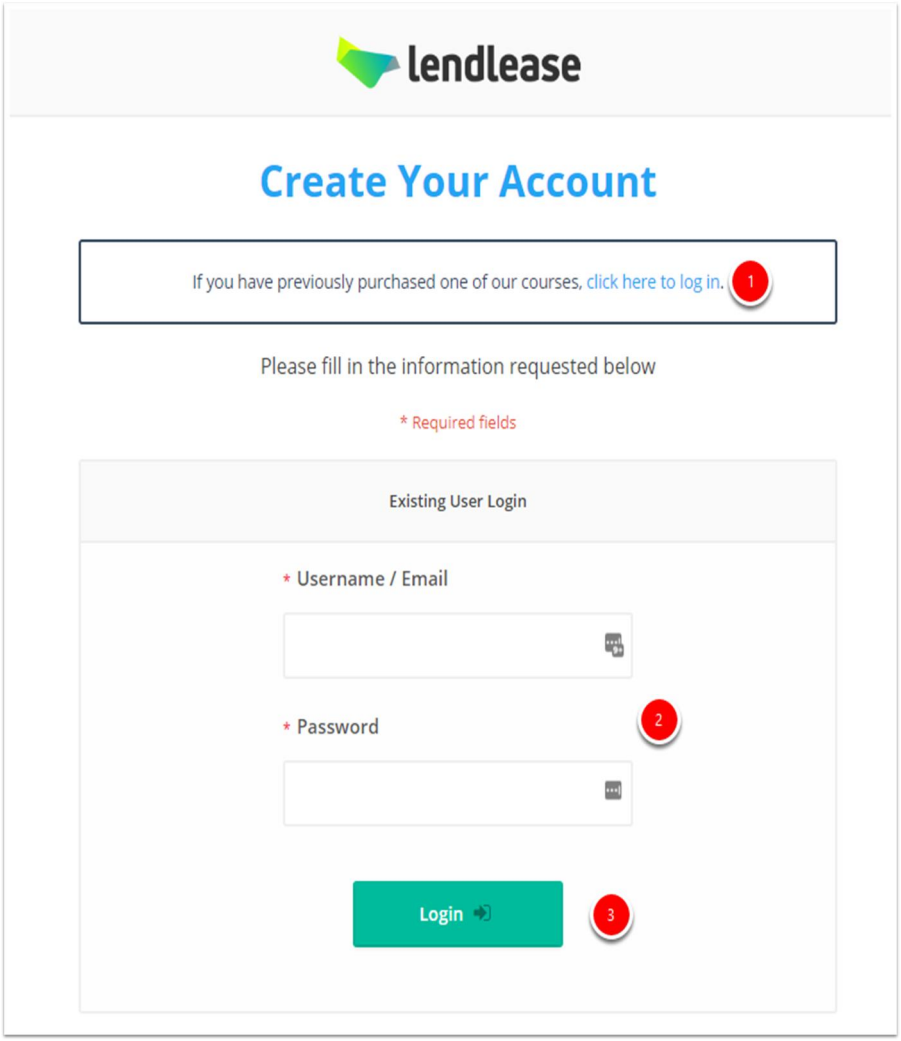
Please read the Terms and Conditions carefully, tick the checkboxes (1) (2) and click the 'Proceed' button (3) to continue to the registration page.



Log in as an existing user

You can log in to the system if you have an existing student account. This will allow you to add the course to your existing account.

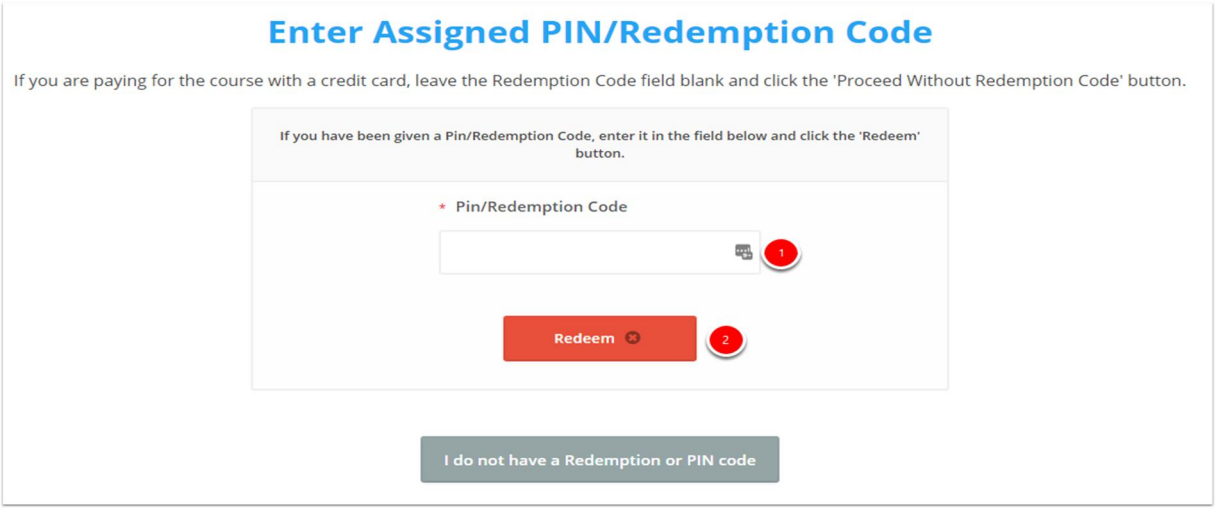
Click the 'click here to log in' link (1) to show the login form, enter your login details (2) and click the 'Login' button (3).



Redeem PIN code

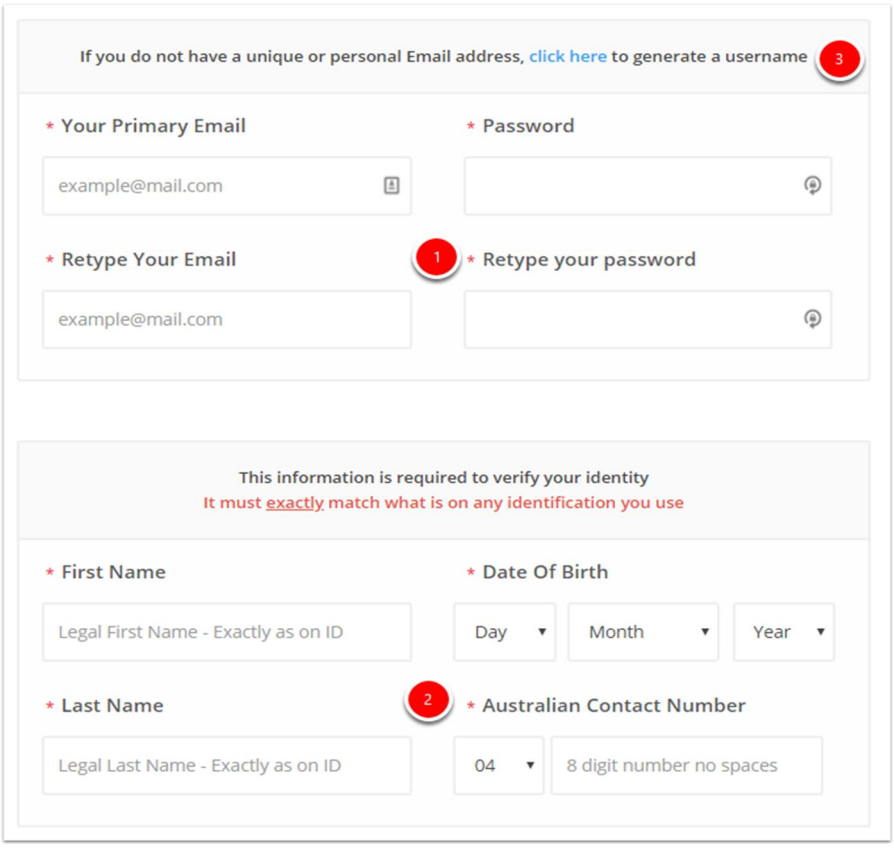
Once you have logged in, you will be able to enter the PIN code (**14846532 for LLB staff and sub-contractors on LLB projects or other LLB workplaces)** and click the 'Redeem' button.

The course will be added to your existing student account and you will be able to start your course.



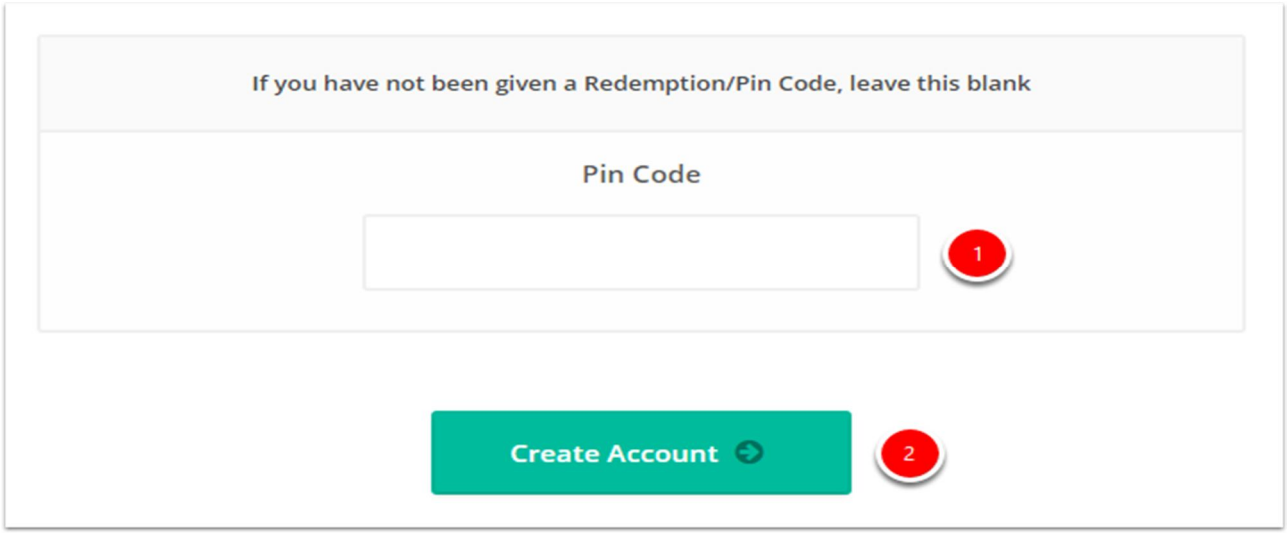
Create a new account with a shared email address

If you do not have a student account and you are using a shared email address: enter email (1), First and Last name (2) and click on the 'click here to generate a username' (3), complete the registration form, enter your PIN and click on the 'Create Account' button (image below).



Create a new account with your own email address

If you do not have a student account: complete the registration form, enter your PIN (1) and click on the 'Create Account' button (2).



APPENDIX 2 - HOW TO GUIDANCE – HEAVY VEHICLES >4.5 (COR) INCIDENT OR COMPLIANCE OBSERVATION REPORTING

Where projects or other workplaces have identified the usage of Heavy Vehicles (>4.5t GVM), have developed and are implementing the Chain of Responsibility Management Sub Plan, a number of objectives and targets have been identified for project teams to perform incident and observation reporting to demonstrate due diligence and compliance with the National Heavy Vehicle Regulations (NHVR).

To assist project teams in completing incident and observation (safe or at risk) reporting relating to Heavy Vehicle (Chain of Responsibility), the activity listing in Enablon has been updated to include specific activities relating to Heavy Vehicles (greater than 4.5 tonnes Gross Vehicle Mass (GVM).

This document has been developed to assist teams to identify examples of what could be a COR related Incident and what could be deemed as a COR related Observation.

When Incidents or Observations are being entered, teams are advised to continue to select the appropriate Circumstance (e.g. Fall of Person, Fall of Material/Object, or Vehicle and plant incident).

COR related incidents or Observations will be identified as such when it comes to selecting the appropriate 'Activity'. That is the means of identifying if the event (incident or observation) relates to Heavy Vehicles (specifically COR), and to also assist with specific COR event trending and analysis.

As with other Enablon event entries, teams are encouraged to insert/include a photo to accompany the photo (noting – where it's appropriate for projects without photography restrictions.)

<u>Enablon Activity Listing Relating to Heavy Vehicles >4.5t (COR)</u>

The following additional activities have been added into Enablon, to be selected (as required) for Incidents or Observations involving heavy vehicles >4.5t.

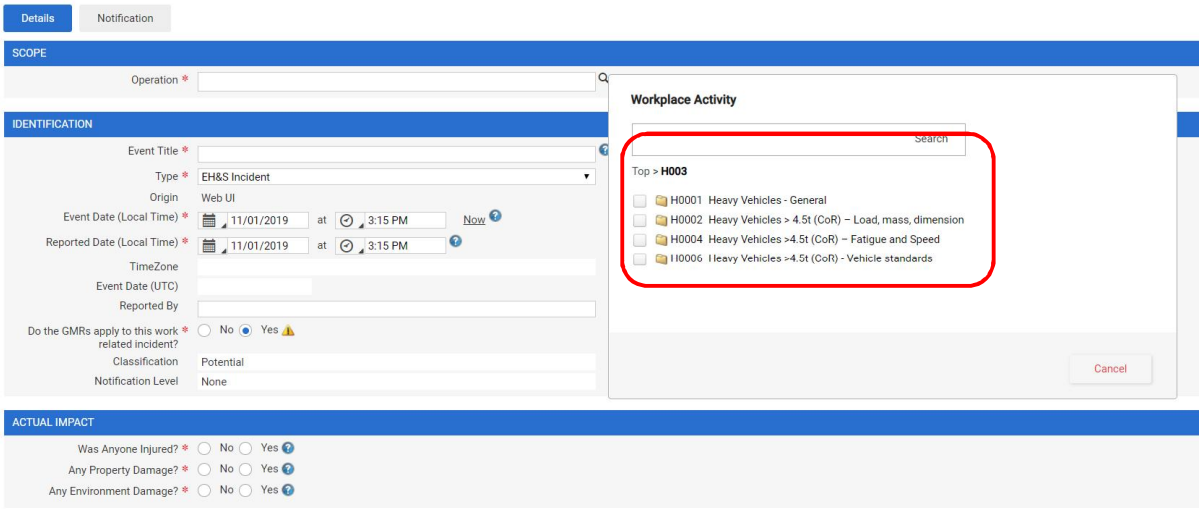
1. **Heavy Vehicles > 4.5t (COR) Load, Mass, Dimension** – where the observation relates to the load (position), the mass of the load or the dimension of the load.
2. **Heavy Vehicles >4.5t (COR) – Fatigue and Speed** – where the observation relates to fatigue and speed related items for the driver
3. **Heavy Vehicles >4.5t (COR) – Vehicle Standards** – where the observation relates to maintenance standards or conditions of the heavy vehicle – including inspection and maintenance implementation for the heavy vehicle (including record keeping)

Heavy Vehicles – COR incident Reporting

Potential examples of Heavy Vehicle COR related incidents could be (but not limited to)

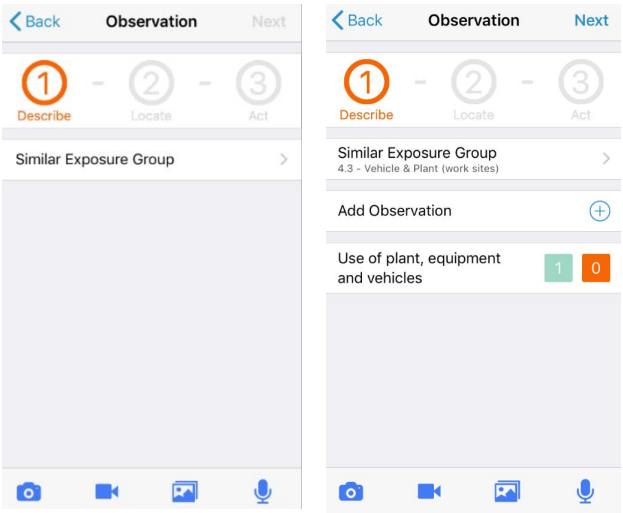
- The loss of a load from a heavy vehicle on a public road due to inadequate load restraint.
- A truck driver is involved in an incident, where the other vehicle was damaged by a load that was extending more than 1.2 metres behind the truck and didn't have a warning signal attached.
- A fatigued driver loses concentration and swerves onto the wrong side of the road, narrowly missing an oncoming car.
- A heavy vehicle driver is stopped and fined by police for exceeding the speed limit.

If the incident relates to Heavy Vehicles – COR, in the 'workplace activity' section search for 'Heavy Vehicles' and you'll see the following activity options;

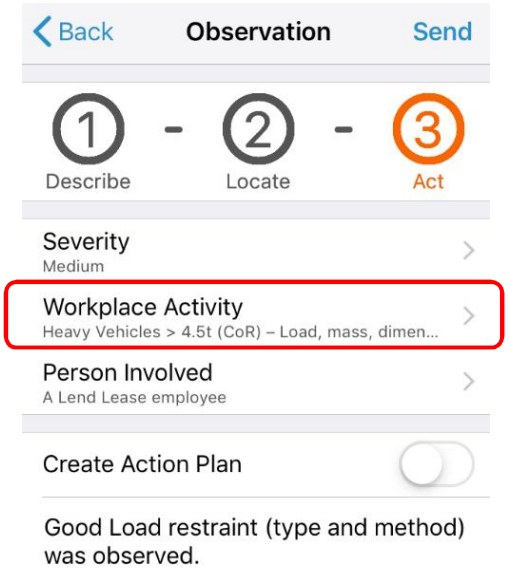


Entering a Heavy Vehicle (COR) related observation in the Enablon Safety App

As with other observations complete steps 1 (Describe) and 2 (Locate)

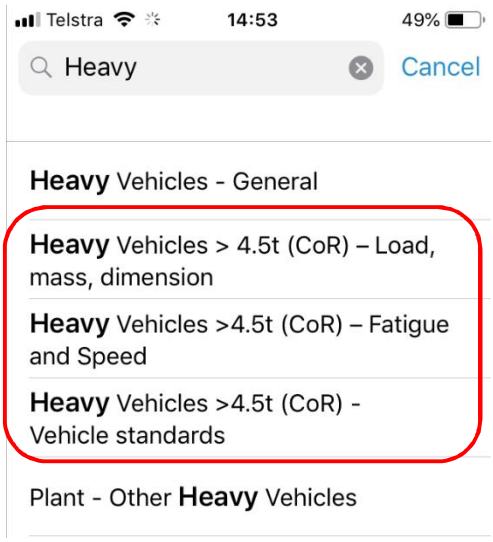


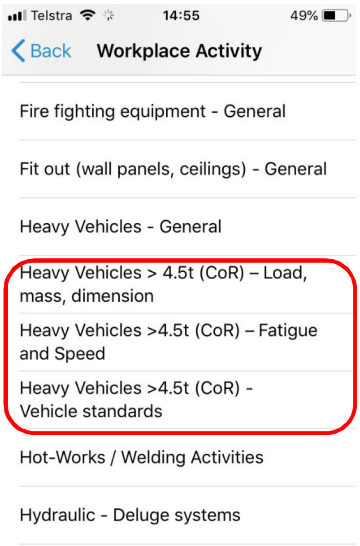
In step 3 'ACT' - If the Observation relates to Heavy Vehicles (COR), the respective activity should be selected.



To find the 'Heavy Vehicle – COR' activity in the listing, either;

1) Start to type 'Heavy' Vehicles in the activity listing (left hand image below) or
2) scroll down the list of activities until you find 'Heavy Vehicles' (Right hand image below)





Observations relating to Loading / Unloading / Mass or Dimension

Heavy Vehicles > 4.5t (COR) Load, Mass, Dimension – where the observation relates to the load (position), the mass of the load or the dimension of the load.

Safe Observations – Potential Examples

- The Heavy Vehicle Driver can demonstrate that the load has been restrained as per the Load Restraint Guide and has a load plan available.

- The Heavy Vehicle driver can demonstrate that they completed National Accredited training (Loading/Packing)
- The Load is visually placed on the centre of the heavy vehicle, with restraints observed to be in good condition and taut.

At-Risk Observations – Potential Examples

- A loader has finished loading a singly heavy item onto a vehicle. They have loaded it onto one side of the vehicle causing it to tilt heavily.
- The load plan is checked and it is noted that the total load mass of the load greatly exceeds the gross vehicle mass for that vehicle and its axle loads.
- Worn or damaged Load Restraints are observed in use.
- The Driver (Loader) can't demonstrate completion of COR training either awareness training or nationally accredited training or other training (i.e. in Loading or Packing)

Observations Relating to Fatigue and Speed

Heavy Vehicles >4.5t (COR) – Fatigue and Speed – where the observation relates to fatigue and speed related items for the driver

Safe Observations – Potential Examples

- A heavy driver can demonstrate (with evidence) that they have observed the required rest breaks.
- A heavy vehicle driver has in their vehicle an electronic diary, that monitors driving hours and rest periods.

At-Risk Observations – Potential Examples

- A Heavy vehicle drivers schedule is sighted, and it is observed that it doesn't include the minimum rest hours.
- A heavy vehicle driver does not complete a driver work diary – where required to driver more than 100km from base.

Observations relating to Vehicle Standards or Maintenance

Heavy Vehicles >4.5t (COR) – Vehicle Standards or Maintenance – where the observation relates to standards or conditions on the heavy vehicle – including inspection and maintenance implementation for the heavy vehicle (including record keeping)

Safe Observations – Potential Examples

- A heavy Vehicle Driver can produce evidence of completing daily pre-start inspections.
- The Pre-start inspections include as a minimum 'safety critical components' and other components such as mirrors, lights, rear signage, seats and seatbelts.
- A heavy vehicle driver or heavy vehicle supplier can demonstrate a documented system for recording, reporting and repairing vehicle faults.

At-Risk Observations – Potential Examples

- A Driver not performing daily pre-start inspections of their heavy vehicle.
- Visible Damage or defects to mirrors, lights, tyres or rear signage.

Example Observations relating to Loading / Unloading / Mass or Dimension

Crown Sydney Hotel Resort - Observation

BBS Details

Title	OBS-AU.CSHR-051218-00496024
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Large

Timeline and Status

Performed By	Phill Smith
Mobile	✓
Observation Date	05/12/18 09:31 am
Workplace Activity	Heavy Vehicles > 4.5t (CoR) – Load, mass, dimension
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	ONESTEEL REINFORCING PTY LTD (ABN:22004148289)
Offline / Contractor / Service Provider	
Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✗	✓	✗		✗	COR - Load restraint inspections

Total

Safe	1	At Risk	0

Description

Description	The driver of the heavy vehicle was asked about loading inspections prior to leaving the depot. An inspection is undertaken in the depot once loaded. The driver then performs an additional inspection before departure, and verbally mentioned that if he's not comfortable with the load restraint or positioning, he won't leave the yard.
Location	Harbour Street - NE

Files

Files: Media1.jpg

Crown Sydney Hotel Resort - Observation

BBS Details

Title	OBS-AU.CSHR-051218-00496054
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Medium

Timeline and Status

Performed By	Phill Smith
Mobile	✔
Observation Date	05/12/18 10:17 am
Workplace Activity	Heavy Vehicles > 4.5t (CoR) – Load, mass, dimension
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	ALIMAK AUSTRALIA PTY LTD
Offline / Contractor / Service Provider	
Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✘	✔	✘		✘	Heavy Vehicle driver -accredited loading training

Total

Safe	1	At Risk	0

Description

Description	A driver (owner) delivering hoist screens was asked what formal loading training he had received. He had completed accredited loading training - sighted the training card.
Location	BARANGAROO Avenue -NE

Files

Files: Media1.jpg

Observations relating to Fatigue and Speed

Crown Sydney Hotel Resort - Observation

BBS Details

Title	OBS-AU.CSHR-051218-00496016
Observation Type	All GMR 4.11-4.20
Severity of Observation	Large

Timeline and Status

Performed By	Phill Smith
Mobile	✓
Observation Date	05/12/18 09:25 am
Workplace Activity	Heavy Vehicles >4.5t (CoR) – Fatigue and Speed
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	ONESTEEL REINFORCING PTY LTD (ABN:22004148289)
Offline / Contractor / Service Provider Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	4.12 - Mental Health and fatigue
Observation Type	Individual

4.11-4.20 GMR Risk Events	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - 4.12 - Mental Health and fatigue	✗	✓	✗		✗	Good fatigue management and break monitoring

Total

Safe	1	At Risk	0

Description

Description	A driver was asked about his fatigue management and rest break processes. He demonstrated the GPS (electronic)work diary included prompts on the screen when rest breaks are needed. - good practice
Location	Harbour street - NW - vehicle offloading

Files

Files: Media1.jpg

Observations relating to Vehicle Standards or Maintenance

Darling Square NE plot - Observation

BBS Details

Title	OBS-AU.DSNEP-061218-00496978
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Medium

Timeline and Status

Performed By	Phill Smith
Mobile	✔
Observation Date	05/12/18 01:15 pm
Workplace Activity	Heavy Vehicles >4.5t (CoR) - Vehicle standards
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	TITAN CRANES & RIGGING PTY LTD (ABN:68109564721)
Offline / Contractor / Service Provider Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✘	✔	✘		✘	CoR - vehicle inspection and fatigue template

Total

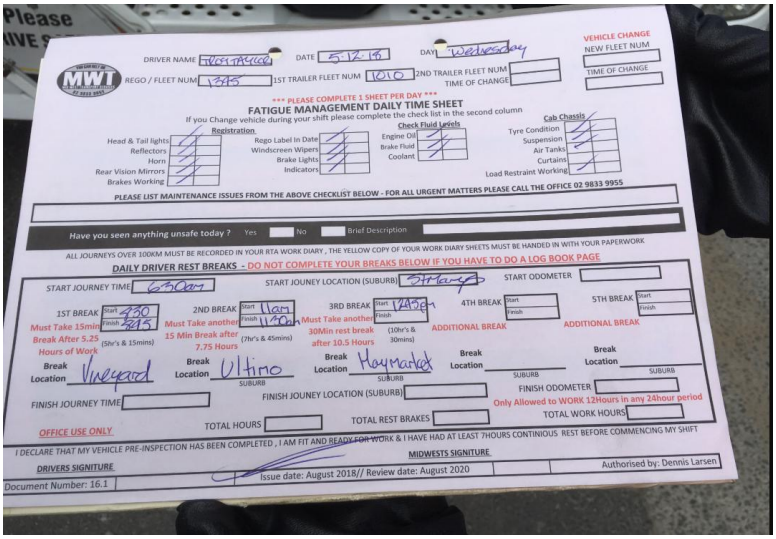
Safe	1	At Risk	0

Description

Description	The driver (for midwestern transport) delivering a load (crane mast section) was asked what vehicle inspections he perfoms (in addition to how fatigue and rest breaks are tracked). He went through the MWT daily fatigue templates that he's required to complete and hands in daily that includes a brief checklist of items to inspect on the vehicle. In terms of loading the vehicle he mentioned that the load that day was pre loaded onto the Titan trailer and he hitched it to the truck for delivery.
Location	Material loading area

Files

Files: Media1.jpg



Darling Square SE Plot - Observation

Filter:
Created by = Phill Smith (Phill.Smith@lendlease.com) {Local Admin EH&S & CSA Contributor}

BBS Details

Title	OBS-AU.DSSEP-061218-00497260
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Medium

Timeline and Status

Performed By	Phill Smith
Mobile	✔
Observation Date	05/12/18 01:45 pm
Workplace Activity	Heavy Vehicles >4.5t (CoR) - Vehicle standards
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	
Offline / Contractor / Service Provider	
Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✘	✘	✔		✘	Heavy Vehicle - Regular Inspections

Total

Safe	0	At Risk	1

Description

Description	During a discussion with a heavy vehicle driver with a delivery of steel , it was observed that the driver didn't record regular vehicle inspections. The supervisor was asked to reinforce to their drivers and suppliers the need to perform vehicle inspections.
Location	GF Loading Zone

Files

Files	

Appendix B – Record of stakeholder consultations

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	City of Sydney, Transport for NSW (TfNSW), RMS,
Consultation type:	Teams Meeting
When is consultation required?	Prior to the commencement of construction and site establishment works.
Why	Condition B23
When was consultation scheduled/held	06/11/2020
When was consultation held	06/11/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) Lisa McGill (TfNSW – Ass Dir. CBD Planning, Transport Coordination) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Dylan Connell (TfNSW – Senior Manager CBD, SELR & WestConnex) Dan Herbertson (SINSW – Senior Project Director) Karissa Kendall (SINSW – Project Director) Shane Lee (SINSW/DoE – Ass. Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Justine Butler (Root Partnerships – Senior Project Manager) Abigail Cohen (Root Partnerships – Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.
What specific matters were discussed?	Overview of Preferred Option: TfNSW summarised the proposal • 2-way cycling lane diverted off Bridge via Watson Road into Kent Street • Temporary cycle lane on Kent Street extends down to Gas Lane • Kent Street becomes one way between Argyle Street and Gas Lane (may be North or Southbound) • High Street: Possible one way north Bound to allow off street parking Fire Brigade Initial Feedback

	• Brigade prefer one-way High Street/one-way Kent Street between Argyle Street and Gas Lane to avoid risk of 'choke point' along High Street • CoS has provided the feedback that speed will be a critical issue on High Street Cycleway Diversion: Project Team feedback Arup • Solution looks reasonable • Scope: some further work needed to resolve scope at crossings and intersections to North and South CoS Feedback • Existing pedestrian crossing zones may also require civil works including removal of planted zones • Parking losses ○ Scheme must aim to replace lost parking, not provide an increased amount overall ○ Parking losses on Kent Street may be regained on High Street ○ Van Le prefers maintaining two-way on High Street with angled parking in the dog-legged section only. Community Engagement TfNSW (DC) • Recommended a 2-week consultation period noting that if community feedback is negative, project may be delayed. CoS has provided the feedback that consultation notification to refer to condition of consent which requires the temporary diversion. • Recommended providing variables for community to express choice, such as voting on which way to run Kent Street
What matters were resolved?	Cost and Scope of Works Arup • Confirmed Arup has capacity to develop and document details of the scope once agreed.
What matters are unresolved?	All parties (TfNSW, CoS, SINSW) to confirm whether Review of Environmental Factors (REF) is required, or whether a Traffic Management Plan (TMP) will be sufficient. All parties (TfNSW, CoS, SINSW) to separately review planning approval requirements with their respective legal / planning teams. Concurrent works CoS (MP)

	• Signalising of the zebra crossing near Gas Lane is underway and will affect the proposed Cycleway Diversion. TfNSW / CoS to review further in offline meeting Cost and Scope of Works Root Partnerships (DH) • Contact TfNSW separately to review scope and distribution of costs for works
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW,
Consultation type:	Teams Meeting
When is consultation required?	Prior to the commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	16/11/2020
When was consultation held	16/11/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Fiona Campbell (CoS – Manager Cycling Strategy) Laurance Johnson (CoS – City Design) Dan Herbertson (SINSW – Senior Project Director) Karissa Kendall (SINSW – Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abigail Cohen (Root Partnerships – Project Manager) Abby Josie (Root Partnerships – Project Manager) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.

What specific matters were discussed?	Temporary Cycleway Diversion: Feedback from Fire Brigade
	• Fire brigade has no objections to the temporary Cycleway Diversion, but prefers Northbound Kent Street for the following reasons
	  ○ Observatory Hill is a key access point to the Harbour Bridge in the event of an emergency there
	  ○ The brigade guarantees a 6-minute response to the CBD and the fastest access is under the Harbour Bridge. The dog-leg corner on High Street creates a delay to the current response profile
	  ○ Fire Brigade confirmed that if the southbound Kent Street is required for safety reasons then the Brigade will accept this solution
	Temporary Cycleway Diversion Design Brief:
	Feedback from CoS
	• Arup (MC) Stepped through the design brief with CoS and TfNSW

	○ The design will be a 2D concept design that shows the parking and intersections and will use the standard CoS design and interfaces ○ Attachment 1 captures the comments received from CoS for the mid-block of Kent Street Feedback from TfNSW • Recommended that SINSW apply a certain level of environment assessment as part of satisfying the condition and to ensure it is not going beyond the SSD approval Planning Approval Pathways • Noted tha the SSD Condition of Consent (B23) already provides approval for the temporary cycleway diversion works. • CoS Traffic Committee approval is not required. However VL recommended the design be issued to the Traffic Committee for information only to notify of the changes as a temporary measure. VL confirmed that this process will not hold up construction of the works. The Committee dates are 19.11.20, 10.12.20, nil of Jan-21 and 18.02.21.
What matters were resolved?	• It was agreed that the design can be summarised through a Transport Management Plan (TMP) that will describe the impacts to the residents and will utilise CoS standards. The TMP will be all the design needs to progress to construction.
What matters are unresolved?	• VL to have offline discussion with DB(TfNSW) regarding approval pathway. • RP to track with TfNSW the status of ongoing TfNSW roadworks as they may delay temporary cycleway diversion program • Signage to be installed on harbour bridge and roads leading to the bridge • RP to develop short-range program for cycleway diversion works • Survey of Gas Lane to be issued by CoS. Completion of works to be tracked • MP/CoS to send through detailed drawings of the modifications to the design as discussed in the meting for all to review • Arup to undertake an assessment for the interface between vehicle movements and the proposed temporary cycleway at High Street and Kent Street.

	• Arup to undertake an assessment of two options as to which direction general traffic will travel on Kent Street
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	• SINSW to review planning approval requirements with their respective legal/planning teams • SINSW to obtain feedback on cycleway design from residents and public • SINSW to provide notifications to public not request for approval • SINGSW to liaise with TfNSW to install signage on Harbour Bridge and roads leading to the bridge.

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	18/11/2020
When was consultation held	18/11/2020
Identify persons and positions who were involved	Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Laurance Johnson (CoS – City Design) Karissa Kendall (SINSW – Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abigail Cohen (Root Partnerships – Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.

What specific matters were discussed?	Temporary Cycleway Diversion Design: Design Development
	• Arup undertook an assessment for the interface between vehicle movements and the proposed temporary cycleway at High Street and Kent Street. Two options from the assessment were presented
	• Arup has recommended Kent Street as one way and northbound for the cycleway diversion and leave High Street as two way. It was noted that Hickson Road will be closed for the metro works during periods and that buses will need to travel down High Street.
	• Issues to resolve with the recommendation are:
	  ○ High Street and Argyle Street intersection pinchpoint at the eastern side of zebra crossing
	  ○ Temporary removal of bus stop of Argyle Street near Watson Street. It was suggested that the bus stop could be relocated to the eastern side of Watson road
	  ○ Temporary relocation of post boxes – CoS and TfNSW to action
	
	Temporary Cycleway Diversion Design:

	Feedback from CoS
	• CoS has no objections with Kent Street being northbound. Consensus is High Street is left as two way. CoS believe the risk is very low in pushing heavy vehicles from Kent Street to High Street.
	• VL noted no requirement to change any line-marking for vehicles turning right from High Street and into Kent Street
	• It was noted that the loading dock for Langham Hotel on High Street. Arup's recommended option may be inconvenient with them regarding deliveries. SINSW to consult with Langham Hotel
	• Temporary removal of bus stop on Argyle Street near Watson Street
	  ○ VL has no objections in taking out parking on the park side of Argyle Street to create extended layover if it will provide a safety measure. Arup to confirm quantum of parking spots.
	Feedback from TfNSW
	• TfNSW has no objections with Kent Street being northbound. Consensus is High Street is left as two way. Good outcome for the community
	• TfNSW is concerned with the High Street and Argyle Street intersection and the pinch point at the eastern side of zebra crossing that will need to be resolved as it is not wide enough.
	  ○ Arup to run MRV or car assessment and this information can be shared
	• Temporary removal of bus stop on Argyle Street near Watson Street. No objections from TfNSW. DB to talk to bus operator and planning about the removal
	  ○ Post Meeting note: DB has received confirmation of no objections (99% confirmed) from State Transit Authority (STA) of the temporary removal of the bus stop. Some infrastructure will need to go.
	  ○ DB noted that this item will need to be included in the community consultation noting that some parking will be lost on Argyle Place
	Road Safety Audit
	• TfNSW offered to undertake the required Road Safety Audit (RSA). DB advised that the design is required to start the process followed by a co-ordination meeting by team and two site visits. The work is anticipated to take two weeks
	• RSA will be conditioned as a detailed design assessment (buildable drawings) and TfNSW will require that level of information to undertake the RSA
	• Progression of design drawings will be undertaken by LL/Arup

What matters were resolved?	N/A
What matters are unresolved?	• LJ has issued road survey of Gas Lane in DWG and PDF. Completion of Gas Lanes works to be tracked • MP/CoS to issue CAD Drawings / surveys of the intersections to assist Arup to validate design. For Example, As Built Drawings of a cycleway attaching to the mixed traffic and the co-kerb design • Arup to prepare a 2nd sketch of the Argyle and High Street intersection with an MRV and a car in various configurations to demonstrate two way access. Arup noted the investigation will be an estimated based on aerial imagery so there will be a margin of error • Arup to assess and determine the quantum of parking spots that will be lost on Kent Street with the diversion
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	Planning Approval Pathways • SINSW has formed a position regarding planning approval requirements (ie SSD Condition B23) and they will supplement evidence where required with a Travel Management Plan (TMP) Road Safety Audit • SINSW to advise TfNSW when the design is ready and then TfNSW will audit it.

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	19/11/2020
When was consultation held	19/11/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Laurance Johnson (CoS – City Design) Karissa Kendall (SINSW – Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.
What specific matters were discussed?	Temporary Cycleway Diversion Design: Design Development • Arup presented sketch designs of the Argyle and High Street intersection pinch point at the eastern side of zebra crossing with an MRV and a car in various configurations to demonstrate two way ac4ess and quantum of parking spots that may be lost on Kent Street with the diversion. The design of the bus stop's removal on Argyle Street near Watson Street was also presented. • Langham Hotel – it was noted that the Hotel are concerned about congestion issue with access in and out of their carpark on High Street. Arup will explore ways to mitigate the congestion issue. Temporary Cycleway Diversion Design: Feedback from CoS • CoS is broadly supportive of the design solution and noted the importance of a high-level diagrammatic design that can be taken to the community while finalising the design in the background • CoS recommended a parking loss assessment be undertaken by Arup so there is an understanding of the

	quantum of lost parking and location with the cycleway diversion ○ VL noted that absolute numbers of parking loss are not required. Rather more general numbers, with a statement that we are attempting to provide, if viable, angle parking in High to recover some of the lost parking. ○ Arup to quantify the expected parking loss on the different streets • It was noted that CoS is supportive of SINSW taking the design current as at 19/11/2020 to the local community Feedback from TfNSW • TfNSW is broadly supportive of the design solution and recommended a parking loss assessment be undertaken • It was noted that TfNSW is supportive of SINSW taking the design current as at 19/11/2020 to the local community, while finalising the design in the background
What matters were resolved?	
What matters are unresolved?	• Cos (LJ) to issue road survey of Gas Lane and the length of Kent Street. Completion of Gas Lane works to be tracked • Arup to develop buildable design to issue to TfNSW for an RSA • CoS (LJ) seeking information from SINSW for a briefing note to be issued to CoS CEO/LM/Councillors prior to any community notification going out
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	02/12/2020
When was consultation held	02/12/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Laurance Johnson (CoS – City Design) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Martin Fenn (Root Partnerships – Project Director) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Christine Eberl (Lendlease – Design Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning) Aimy Nguyen (Arup – Traffic Management, Engineer Transport Planning)
Provide the details of the consultation	The purpose of this meeting was for Arup to present the developed design of the FSPS Cycleway works and specifically the proposed Gas Lane solution and confirm any further design standard requirements.
What specific matters were discussed?	Temporary Cycleway Diversion Design: Design Development • Arup presented the parking design options along Kent Street and High Street which included parallel, 90 degrees and 30 degrees to the kerb. Each option was modelled and the numbers of spaces versus the manoeuvrability into each considering oncoming traffic was explained • The intersection details for Watson Road, Kent/high Street were presented regarding HRV manoeuvring, cycle lane and zebra crossing integration and safety • Arup presented the Gas Lane crossing detail and its interface with the cycle lane and dedicated vehicle turning lanes Temporary Cycleway Diversion Design Brief: Feedback from TfNSW • TfNSW supports the 90-degree (rear to kerb) parking option considering the road centre line, traffic flow and manoeuvrability from the spaces. This option does not satisfy the Australian Standards as vehicles are required to

	cross the centreline when reversing into a car parking bay; however, this option has been agreed upon as traffic volumes are expected to be low on High Street and it also provides additional parking bays compared to parallel parking • TfNSW agreed to remove the dedicated left turn lane and a design that runs the cycleway through the signalised crossing. This allows for the under-construction kerbs to mostly be retained. One lane each way and the cycleway will be provided at this location. • TfNSW requested the relocation of the loading bay from Kent Street to parallel parking bay on High Street. Feedback from CoS: • CoS are in support of the design with consideration to all the above points raised by TfNSW • VL requested to limit line marking as sign posting will be acceptable and edge line needs to be marked. Any parking bays, islands etc. do not need to be marked • MP requested the stormwater storm water pit on Kent street to be relocated due to clash with cycle lane – • VL confirmed that the design can through an out of session for endorsement buy the traffic committee members. If the design is submitted prior to Christmas and an out of session review meeting would likely be in the new year. ○ RP sought clarification from CoS to the endorsement position as the pr4evious minutes of Workshop #2 dated 16/11/2020 state that CoS traffic committee approval is not required
What matters were resolved?	N/A
What matters are unresolved?	• Arup to confirm exact numbers and lengths of parking spaces • Arup to revise the design to include: ○ Watson Road – Arup to check turning path for taxi access to/from Watson Road ○ High Street – reduce driving lane from 3.2m to 3m to increase width of buffer ○ Relocation of loading bay from Kent Street to parallel parking bay on High Street ○ High Street/ Kent Street intersection – shift cycleway transition as north as possible near the existing zebra crossing to minimise safety issues with HRV manoeuvring from High Street. Provide a jersey barrier at this location to mitigate heavy vehicle overrun into the cycleway

	○ Gas Lane crossing – remove the dedicate left turn lane and a design that runs the cycleway through the signalised crossing ○ Relocation of stormwater pit on Kent Street to accommodate cycleway • VL to provide updated drawings of Watson Road, Arup to then look into construction traffic management plan for vehicle code of conduct • Once received Arup to update drawings
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	11/12/2020
When was consultation held	11/12/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) Laurance Johnson (CoS – City Design) Karissa Kendall (SINSW – Project Director) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning) Aimy Nguyen (Arup – Traffic Management, Engineer Transport Planning) Antonio Vilacorta (Arup – Traffic Management, Engineer Road Planning) Rachel Kohan (Arup – Traffic management, Engineer Transport Planning)
Provide the details of the consultation	The purpose of this meeting was for Arup to present the developed design of the FSPS Cycleway Works and specifically the proposed car parking provided on High Street, the draft RSA comments and confirm any further design standard requirements.
What specific matters were discussed?	Road Safety Audit • DB from TfNSW advised that the draft RSA will be issued on 14/12/2020 to SINSW/RP and noted there were no significant road safety items identified • Follow-up RSA review meeting to be scheduled post 14/12/2020 • Arup will confirm program on 02/12/2020 regarding the DD Temporary Cycleway Diversion: Design Development Feedback from CoS and TfNSW • It was noted that the scope of the temporary cycleway has increased by introducing new parking on High Street. • It was noted that CoS will not seek to recover the parking revenue from parking meters that are removed as part of the temporary cycleway diversion. • Arup presented the parking design options along Kent Street and High Street which included parallel, 90 degrees

	and 30 degrees to the kerb. CoS supportive of the 14 angle parking bays on High Street.
	• Kent Street / Argyle Street turn angle to be adjusted to deter vehicles from entering Kent St from Argyle Street
	• VL noted that CoS' comments had been taken on board and provided the following additional feedback:
	  ○ CoS / VL requested Arup's design ensures manoeuvrability regarding driveways. Arup confirmed that this will be addressed, and barriers will be adjusted at key interfacing locations
	  ○ CoS / VL requested Arup's design includes clear markings of existing and proposed parking bays along with details of signage. Details on buffer zone to be provided by Arup once barriers are chosen
	Asset Transfer: handover requirements and maintenance
	
	• SINSW is seeking clarification from CoS on maintenance of the cycleway. It is SINSW's expectations that all works on CoS roads that are actioned by TfNSW would be handed over to the road owner post construction. SINSW's contractor would be responsible for fixing defects, but other maintenance be the responsibility of CoS.
	• VL advised that CoS has no budget to maintain the cycleway diversion.
	• Budget for maintenance over the next 2 years of the cycleway to be reviewed and SINSW and CoS to arrange weekly meeting offline to discuss the maintenance requirements.
	• Milestone for Arup before Christmas to provide details regarding traffic committee.
	CoS Traffic Committee
	
	• Refer to Workshop #5 Minutes R1, Item 4.4 for details
	• CoS is seeking the temporary cycleway diversion design be submitted to the CoS Traffic Committee for endorsement. Submission process and information package: – a presentation is not required only an Information Pack which the Committee will review.
	• Composition of the Committee is 4 voting members: – CoS, Councillor Philip Thalis, TfNSW, Police. Police are concerned about access in case of emergencies.
	• SINSW/RP have consulted with Langham Hotel, community groups such as Observatory Towers, Police, Fire Brigade, and National Trust. These minutes will form part of the information package to be submitted to the Traffic Committee for review and as part of the endorsement process.
	• The team will need to demonstrate to CoS that all the B23 conditions are being satisfied.

What matters were resolved?	N/A
What matters are unresolved?	Arup to final detailed design incorporating the RSA before Christmas shutdown
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Appendix C – CV of suitably qualified and experienced person

Michael Cavallaro

Profession
Transport Engineering

Current Position
Senior Consultant

Joined Arup
2007

Years of Experience
13

Qualifications
Bachelor of Engineering (Civil)
Diploma in Engineering Practice, University of Technology, Sydney

MIEAust CPEng

TCIB PTP

TCIB RSP

Professional Associations
Member, Engineers Australia
Member, ULI Toronto

Michael is a Chartered Transport Engineer (Australia) with skills in transport design and pedestrian/traffic safety. He has diverse range of skills in traffic analysis, modelling, concept design. Michael previously worked in Arup's Doha, Qatar, Dubai, United Arab Emirates and Toronto, Canada offices and has returned to Arup's Sydney office. He provides traffic engineering and design development advice on development projects, comfortably liaising with architects, project managers and contractors.

Michael is an accredited Road Safety Professional (RSP) in Canada and a Level 2 Road Safety Auditor in Australia and has completed numerous road safety audits at the design stage, pre-opening and on existing roads. Michael applies this training to all projects where safe design can be implemented.

Michael's skills cover a broad range of projects that stem from his skills in undertaking Traffic Impact Assessments. He has applied these skills on many projects including residential, mixed use, shopping centres, sporting facilities and major road and rail projects. He believes that the impact of such developments is not limited to vehicles. Pedestrians, bicycles and public transport impacts are equally important.

> We must consider the result of the any project or task before commencement. This allows one to produce a tailored output that suits each project and task.

North King's Town Secondary Plan TMP, Kingston ON

Michael was deputy project manager for this Transportation Master Plan which informs the Secondary Plan for the North King's Town area, north of downtown Kingston Ontario. The project involved consultation with the public, presenting the study at intermediate stages. Michael worked to present active transportation measures as an alternative to new road infrastructure.

01/2018 - 10/2019

Jumeirah Central Masterplan, UAE

Michael was heavily involved in the masterplan design and traffic impact study of this 3.8 million sqm GFA development in Dubai. A mixed-use development, Michael led the team completing the traffic impact study for this development and worked with leading experts in Autonomous vehicles and Aerial Gondola's to develop the transport masterplan which has eight modes of travel planned. This also included a centre running extension of the Dubai Tram and links to the existing and proposed extensions to the Dubai Metro. Michael also liaised with developers, master

planning architects and utility engineers to develop a workable masterplan that considered all aspects of the design with practicality.

02/2016 – 10/2016

Reem Island Sector 4 Masterplan, UAE

Tamouh Investments were completing the masterplan approvals for Reem Island's Sector 4, located on a 120ha peninsula. Sector 4 will have residential population of around 27,000 people. The master plan embraces principles of walkability and human scale, which is made possible by building on the site's ideal dimensions, future public transport infrastructure—such as metro and LRT—and benefitting from the microclimatic context of cooling sea breezes. Michael provided traffic engineering analysis of the strategic and intersection modelling for this area. He also directed concept design of the intersections incorporating safe design solutions and road design best practice.

06/2015 – 08/2016

Msheireb Downtown Doha High Level TIS update, Qatar

Msheireb Properties were completing the masterplan approvals for their 750,000sqm development. Michael assisted in the High Level TIS update for an updated land use plan for the Msheireb project. He summarised the changes to land use and oversaw the modelling to provide an easily digestible assessment of the differences in traffic generation of the new land use plan. Michael also used his road design skills to provide high level sketch designs of mitigations for site junctions impacted by planned changes to Msheireb Street.

09/2013 – 07/2014

Newtown-Enmore Parking Study, Australia

Traffic consultant for a parking study for the Newtown-Enmore precinct. Scope of Arup services included transport and parking advice and analysis to Marrickville Council for their upcoming parking study. Michael provided traffic engineering advice and GIS maps of parking restrictions for this project.

11/2012 – 05/2013

Fort Street Public School, Australia

Schools Infrastructure NSW are upgrading the Fort Street Public School in the Rocks, with the school population increasing three-fold. Michael is project manager for this project and is responsible for delivering the traffic and transport aspects of this project. This includes design advice on the transport facilities adjacent to the site, developing a school travel plan that outlines sustainable means of travel to school and programs to support

this, and developing a construction pedestrian and traffic management plan.

12/2019 – Current

Fort Street Public School Temporary Accommodation, Australia

Schools infrastructure are upgrading the Fort Street Public School in the Rocks and require a temporary accommodation while these upgrades are taking place. Ultimo Public School has recently undergone the same process, using a temporary school within Wentworth Park. FSPS proposes to use these temporary buildings while construction is underway. Michael completed the traffic and transport assessment for the REF amendment which extended the use of the temporary accommodation and considered concurrent operation of FSPS and UPS and the traffic impacts of these.

12/2019 – Current

Lindfield Learning Village, Australia

Working for Schools Infrastructure NSW, Michael is leading the traffic and transportation response to submissions to the application and providing an integrated and connected transport plan for the school looking at modes of travel and accommodating the different users across the site. This State Significant Planning Application (SSDA) with the NSW Department of Planning Industry and Environment is in a constrained location, with limited access and therefore Michael has worked with stakeholders and approval agencies to outline a workable traffic and transport access strategy for the school.

12/2019 – Current

UTS Gehry Building, Australia

Michael was the traffic engineer during the design development and tender documentation phase of the UTS Dr Chau Chak School of Business designed by American architect Frank Gehry. The building included a small basement which presented many challenges to Michael and the design team. Flooding issues on Ultimo affected the design of the ramp, which needed to be finessed with the standards to suit. Structure issues with the complex beams and columns needed for the interesting shape of the building also created issues within the car park which Michael was able to solve, working with both the architect and Arup structural engineers.

08/2011 – 08/2013

Macquarie University Study, Australia

A project that dealt with the traffic surrounding Macquarie University and the effects of additional development on the site of the university. Michael was involved in the micro-simulation

modelling of North Ryde and Macquarie Park. He was responsible for concept design of and modelling of improvement options to evaluate the impact of future traffic volumes.

04/2012 – 08/2012

Blacktown Mt Druitt Hospital, Australia

Michael developed a contraction traffic management plan for the hospital site that was staged over a period of ten years. Michael reviewed the campus and assigned construction accesses and routes that least disrupted normal hospital operations. Michael also designed the multi storey car park and completed design checks for the ramps, entry and exit.

10/2010 – 09/2013

Sutherland Hospital Car Park Demand Study, Australia

Michael developed a survey plan for the parking of this hospital. He then assessed the parking survey results to determine potential paid parking arrangements. He then documented and recommended a paid parking strategy and a parking arrangement when the hospital was developed.

03/2012 – 05/2012

Sydney Gateway Bid Design, Australia

For this bid design for the new Sydney Gateway motorway project from Transport for NSW, Michael was the operational traffic technical lead engineer on this project, coordinating a small team of modellers and providing design advice to the bid design team with a focus of the traffic impacts of these alternate designs. Michael provided advice within the contract requirements and in line with NSW Roads and Maritime Services traffic modelling guidelines.

12/2019 – Current

Road Safety Audits, Australia:

Lane Cove Road, Lady Game Drive to Yanko Road, Australia

Pennant Hills Road and Marsden Road, Australia

Michael was the driving team member of the audit team for the Stage 3 (Detailed Design) Road Safety Audit of these two Arup Civil designs. Michael worked independently from the Civil design team to complete the audit and present the report with Corrective Action Requests.

03/2012 – 06/2013

Commuter car parks Revesby and Woy Woy, Australia

Michael completed Stage 4 Pre-Opening Road Safety Audits on two commuter car parks built adjacent to railway stations in Revesby and Woy Woy Stations in Sydney. The task was to review the car park before use to note safety concerns.

04/2010 – 04/2011

Malvern Avenue, Australia

Remembrance Avenue, Australia

He also completed detailed design audits of intersection upgrades at Malvern Avenue, Chatswood and Remembrance Avenue, Liverpool, completing the site visits and writing the reports.

Urana Road and Merrylands Road, Australia

Michael was part of the Arup team that performed a Stage 5 (Existing Road) Road Safety Audit of Urana and Jelbart Roads for the RTA and another Stage 5 (Existing Road) audit on Merrylands Road for Holroyd City Council. Michael visited the site and noted poor or hazardous situations. Michael wrote the reports of these two road safety audits which detailed the issues observed.

DohAlive Hotel Traffic Impact Study, Qatar

Michael was responsible for the completion and approval of a Transport Impact Study (TIS) for a 235-room hotel and retail development in a constrained location. Working closely with the architect, Michael managed the parking requirements and trip generation impacts of this development against the proposed provision with limited access opportunities. Michael was responsible for all aspects of the TIS including coordinating strategic modelling; completing junction modelling; design of a mitigation plan for the development and collating this into a cohesive Traffic Impact Study Report.

08/2013 – 08/2015

Thredbo Infrastructure Assessment, Australia

Transport consultant for this infrastructure assessment of an extension to the ski village and resort. Michael provided advice on road sizing and layouts for this ski resort to maintain access for appropriate vehicles in ski season. He was also responsible for the demand estimates for trip generation and assessed the road accesses into the village for the expected additional trips, providing concept designs of intersection improvements.

04/2013 – 08/2013

133 Murry Street, Australia

Traffic consultant for this proposed hotel building with 179 rooms, 12 apartments and only two basement levels. Michael designed the basement parking and loading areas. For the apartments, Michael proposed a mechanical parking system to provide two spaces in the space of one. This work also included a traffic impact assessment of the hotel on the Perth CBD.

11/2012 – 01/2013

478 George Street Sydney Construction Traffic Management, Australia

Michael developed a design for a construction access layby for the redevelopment of a mixed-use tower within Sydney's central business district (CBD). Construction traffic is subject to strict rules about timing and queuing of construction vehicles in the CBD area, so Michael developed a plan to manage the layby through radio communication. The layby occupied the pedestrian path, which was remade to suit the construction traffic and then to be repurposed back to pedestrians. In the meantime, Michael designed a pedestrian route through the building that maintained access for pedestrians and construction vehicles.

08/2012 – 01/2013

Wet'n'Wild Sydney, Australia

Traffic consultant for the new theme park in western Sydney, Wet'n'Wild. Michael provided car park and intersection design advice to civil engineers and liaised with the authorities for approval of the new signalised entry to the site. Michael managed the intersection design team, applying project management skills to ensure efficient completion of the intersection design.

04/2011 – 02/2012

Sydney Ports Road Safety Audit, Australia

Michael organised and completed the road safety audit of the three roads of Port Botany in Sydney. These roads experience high truck volumes throughout the day and the night, making safety a primary concern for Sydney Ports. Michael used best practise road safety audit techniques to report approximately 60 issues of varying levels of severity. The team developed several improvement options that aimed to simplify the readability of the road and encourage safe operations in Sydney's busiest port.

06/2012 – 08/2012

Sydney Ports Corporation Truck Marshalling Area, Australia

Traffic consultant for the development of the truck marshalling facility on Bumborah Point Road to address operational requirements for forecast container trade growth at Port Botany, New South Wales. The parking area was designed for over 45 B-double (25m long) trucks and included a ticketing system to call trucks to the ports. Michael providing traffic engineering input to the concept and detailed design of the site.

10/2011 – 01/2012

Relief Line South – Traffic Management, Toronto ON

Traffic Management Lead for the tunneling design of the Relief Line South 30% design for Toronto Transit Commission, which consisted of a 7.5km tunnel from downtown Toronto to Pape Station. Michael was responsible for the traffic management of

construction activities preparing a construction traffic management plan which detailed site operations for the tunnel related sites including two launch shaft sites. This required strong coordination between disciplines such as geotechnics, architecture and civil engineering on the layouts of these sites and how they would need to be serviced. Michael focussed on provided traffic management solutions that maintained access for all modes of travel, aiming to minimise potential disruption within Toronto's busy core.

01/2019 – 07/2019

Finch West LRT – Safety analysis, Toronto ON

Hazard analysis lead for the $1-billion Finch West LRT extension, which is one of Metrolinx's transit priorities as set out in the regional transportation plan known as 'The Big Move'. Arup is the lead designer for the 11-km line which includes 18 stops and stations and is being delivered under a DBFM model. Other key features include a portal, tunnel and underground station at Keele Street, a below-grade guideway. Michael was responsible for a hazard analysis of road vehicle collisions at stops where hazards were identified, assessed through a risk assessment tool and mitigation were developed. Michael presented this analysis to the stakeholder of FWLRT include Metrolinx and TTC for approval of the mitigations, leading several meetings of consultation to obtain all viewpoints and consider these in the analysis.

03/2019 – 09/2019

Finch West LRT – Vissim Model, Toronto ON

Traffic and Transit Modelling Lead for the $1-billion Finch West LRT extension, which is one of Metrolinx's transit priorities as set out in the regional transportation plan known as 'The Big Move'. Arup is the lead designer for the 11-km line which includes 18 stops and stations and is being delivered under a DBFM model. Other key features include a portal, tunnel and underground station at Keele Street, a below-grade guideway. Michael was responsible for the 30% design Vissim model, balancing good traffic flow and rail operations objectives. He was responsible for liaising with Road, Traffic Signals and Track designers to coordinate design aspects and report and present results to clients and stakeholders.

04/2018 – 08/2018

Ottawa Confederation Line LRT Bid Design, Ottawa ON

The Ottawa Confederation Line Stage 2 extended the Stage 1 LRT line to the west and east of the city totalling 24km of exclusive right of way LRT. Michael was responsible for the traffic management planning during construction staging of the main civil works of the line at stations and where the design for

the LRT proposed changes to the road network. Michael also reviewed the extensive OCTranspo bus network and proposed diversions and changes wherever needed.

09/2017 – 11/2018

Edmonton Valley Line LRT - Vissim Model, Edmonton AB

Vissim model lead for the Edmonton Valley Line LRT- Stage 1, which will connect the community of Mill Woods in southeast Edmonton to the city's downtown core. Key features of this $1.8 billion, 13km Valley Line include: 11 stops and 1.5km of elevated guideway structure, an elevated station incorporating a transit centre and park & ride, a transfer point to the existing Capital Line and Metro Line LRT at Churchill Square, a tunnel connecting downtown Edmonton to the River Valley, a new river bridge crossing the North Saskatchewan River and an operations and a maintenance facility. Arup is leading the design team providing multidisciplinary engineering services. The project is being procured using a DBFOM and vehicle supply P3 procurement model.

Michael was responsible for reviewing the model outputs and managing the priorities of the modelling process. He worked with modellers offering scenarios and alternative methods to solve client relevant issues. Michael also modelled bicycle lanes in Vissim for five downtown intersections, modelling a two-way bicycle lane interacting with signalised intersections and normal traffic lanes.

10/2016 – 03/2019

Edmonton Valley Line LRT – Traffic Signal Operation Design, Edmonton AB

Traffic signals operations task lead for the Edmonton Valley Line LRT- Stage 1, which will connect the community of Mill Woods in southeast Edmonton to the city's downtown core. Key features of this $1.8 billion, 13km Valley Line include: 11 stops and 1.5km of elevated guideway structure, an elevated station incorporating a transit centre and park & ride, a transfer point to the existing Capital Line and Metro Line LRT at Churchill Square, a tunnel connecting downtown Edmonton to the River Valley, a new river bridge crossing the North Saskatchewan River and an operations and a maintenance facility. Arup is leading the design team providing multidisciplinary engineering services. The project is being procured using a DBFOM and vehicle supply P3 procurement model.

Michael was responsible for developing the design of the Transit Signal Priority (TSP) operation for the LRT, liaising with the LRT signalling infrastructure team to produce a robust design that allowed for LRT priority when needed but also did not overly impact road traffic. Michael was responsible for writing the

operational specification for the traffic signals. This specification also required the development of signal timing plans.

10/2016 – 03/2019

Edmonton Valley Line LRT - Safety, Edmonton AB

Grade Crossing Hazard analysis task lead for the Edmonton Valley Line LRT- Stage 1, which will connect the community of Mill Woods in southeast Edmonton to the city's downtown core. Key features of this $1.8 billion, 13km Valley Line include: 11 stops and 1.5km of elevated guideway structure, an elevated station incorporating a transit centre and park & ride, a transfer point to the existing Capital Line and Metro Line LRT at Churchill Square, a tunnel connecting downtown Edmonton to the River Valley, a new river bridge crossing the North Saskatchewan River and an operations and a maintenance facility. Arup is leading the design team providing multidisciplinary engineering services. The project is being procured using a DBFOM and vehicle supply P3 procurement model.

Michael conducted the Grade Crossing Hazard Analysis, utilising his road safety experience to the review and improve the design at crossings of the LRT. Michael worked with the road designers to work on the best solutions for improving safety for pedestrians at the grade crossings.

10/2016 – 03/2019

Niagara Region GO Rail Station Area Plans, Niagara Region, ON

Deputy project manager for the concept design of four GO stations in the Niagara Region: Grimsby, Beamsville, St Catherines (Mobility Hub) and Niagara Falls. The purpose of the study was to seek planning approvals for the stations. Arup's role was to produce concept designs for the stations in support of secondary plans for the station areas prepared by the lead consultant, Dillon.

Michael led the technical team to delivered four station area plans to concept level. The stations were designed to the local GO Design Requirements Manual and the Regions Transport impact study of the stations. Michael also included green initiatives for the site, utilising Arup's expertise in green infrastructure to provide a framework document of what could be provided in the parking areas of the station given the specific issues at each site.

12/2016 – 04/2017

Rail Maintenance Facilities in Sydenham and Sutherland, Australia

Lead traffic consultant for this infrastructure led project to re-design two maintenance areas for Railcorp. Michael assessed the site layouts for suitability and provided advice on the vehicular access needs. Michael consulted with the future operators of these

sites to develop the site layout. Michael also let the traffic and transport assessment of these sites for the REF.

02/2013 – 08/2013

DAMAC Akoya Golf Community Traffic Impact Study, UAE

Michael was responsible for the day to day delivery of the traffic impact study for this 4sqkm development south of Sports City in Dubai. The development generated over 10,000 trips in the AM peak and consisted of mainly residential land uses. Michael was responsible for developing the methodology of the study, managing the strategic modelling and the SYNCHRO junction modelling of the study area.

02/2014 – 09/2014

George and York Building, Australia

Transport planner for a high-rise residential building. This building had a very small car park which required the design of car and truck lifts. Michael tested the design of these lifts to determine the sizes needed and tested the layout of the basement so that cars and trucks could execute the required manoeuvres successfully.

04/2010 – 09/2010

Retail:

CF Fairview Mall, Toronto ON

As part of its ongoing program to evolve its suburban shopping centre portfolio to a more urban form that is better integrated with its neighbouring communities, Cadillac Fairview (CF) commissioned Arup to provide services for site development and design, along with transportation planning and engineering, in support of a zoning by-law amendment application. Our services at CF Fairview Mall included contributing to the site design for the intensification of surface parking lots into high-rise residential, office, and hotel towers, designing improvements for pedestrian and cycling access and connectivity, and completing transportation impact and origin-destination studies in support of the planning application.

Michael provided traffic engineering advice as a consultant for this project including concept design of a pickup/drop-off area and a transportation impact study.

03/2018 - 10/2019

CF Masonville Place, London ON

As part of its ongoing program to evolve its suburban shopping centre portfolio to a more urban form that is better integrated with its neighbouring communities, Cadillac Fairview (CF) commissioned Arup to provide services for site development and design, along with transportation planning and engineering, in

support of a zoning by-law amendment application. Our services at CF Masonville Place included contributing to the site design for the intensification of surface parking lots into high-rise residential towers, designing improvements for pedestrian and cycling access and connectivity, and completing a transportation impact study in support of the planning application.

Michael provided traffic engineering advice as a consultant for this project including concept design of a pickup/drop-off area and a transportation impact study.

03/2018 - 10/2019

Transport Review Reporting, Australia

Arup was commissioned to provide expert traffic and transport review of sensitive project proposals put forward to the Department of Planning. Michael was responsible for the review of a proposal for a >30,000m² increase in retail floor area of Westfield Parramatta, the largest shopping centre in Sydney. Michael reviewed the traffic reports prepared by the proponent and submissions to the Department from local councils, RMS and the general public. He coordinated expert modelling reviews within the Arup team and provided clear advice to the Department on the gravity of issues raised in submissions by the local councils and roads authority.

05/2013 – 08/2013

Newcastle Central GPT, Australia

Michael was responsible for the development of a vehicle trip generation model to simulate the vehicle kilometres travelled (VKT) by shoppers to shopping centres in and around Newcastle. The model was used to assess the total amount of VKT of any given number of shoppers and therefore assess the carbon footprint of the centre.

10/2007 – 12/2007

Science and Industry:

Sports:

Lusail Stadium, Qatar

Transport Planner for the iconic 2022 world cup stadium in Doha Qatar. Designed by Fosters and Partners, Arup was responsible for all engineering including traffic planning and design. Michael was responsible for the completion and approval of the Transportation Impact Study for this project. This included detailed strategic modelling of the area around the site, and creation of a Vissim model of the event, to model buses providing arrival and drop-off services for the 80,000 spectators.

12/2015 – 04/2016

New Doha Tennis Stadium at Khalifa Sports Park, Qatar

Transport consultant for master plan and concept design of the 52Ha sport park including a 13,000-seat stadium. Michael developed a spreadsheet model for trip generation for various events at the stadium and in the masterplan. He then provided design advice to the architects for the loading bay and car park. Finally, he was a key member of the Traffic Impact Study of the site. Due to the event-based land uses, the typical TIS process was not able to be followed. Michael modified the methodology and process in agreement with Ministry of Transport to define and complete the study.

08/2014 – 08/2016

Netball Central, Australia

Michael provided traffic engineering design advice for the new ramp and car park access from Olympic Boulevard in Sydney Olympic Park. Michael also prepared a Traffic Impact Assessment for submission to the Department of Planning and for review by Sydney Olympic Park Authority (SOPA), which was approved for development.

09/2011 – 06/2012

Tall Buildings:

UTS Gehry Building, Australia

Michael was the traffic engineer during the design development and tender documentation phase of the UTS Dr Chau Chak School of Business designed by American architect Frank Gehry. The building included a small basement which presented many challenges to Michael and the design team. Flooding issues on Ultimo affected the design of the ramp, which needed to be finessed with the standards to suit. Structure issues with the complex beams and columns needed for the interesting shape of the building also created issues within the car park which Michael was able to solve, working with both the architect and Arup structural engineers.

08/2011 – 08/2013

Transport and Mobility:

Newtown-Enmore Parking Study, Australia

Traffic consultant for a parking study for the Newtown-Enmore precinct. Scope of Arup services included transport and parking advice and analysis to Marrickville Council for their upcoming parking study. Michael provided traffic engineering advice and GIS maps of parking restrictions for this project.

11/2012 – 05/2013

RBA Car Park and Loading Area Safety Audits, Australia

Arup completed safety audits similar to Road Safety Audits for all Reserve Bank of Australia facilities across NSW, ACT and Victoria. Michael led the study, coordinating across offices to arrange for the completion of audits in Victoria and undertaking the NSW and ACT audits. Michael then completed audit reports for all 6 sites, making recommendations for improvements to the facilities.

05/2012 – 06/2012

Redfern Waterloo Authority Transport Study, Australia

Michael was involved in preparing GIS maps of the Redfern Waterloo Authority (RWA) summarising all reports completed within the RWA in recent times. This included mapping pedestrian walkability, journey to work, cycleways, buses and intersection levels of service.

06/2010 – 10/2010

Sydney Olympic Park Accessibility Plan, Australia

Michael was the GIS analyst for the accessibility study conducted over the SOPA area. This involved analysing and presenting maps for pedestrian walkability, journey to work, cycleways, bus routes and bus frequencies.

Appendix D – Traffic control plan

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FORT STREET PUBLIC SCHOOL
TRAFFIC AND PARKING MANAGEMENT SUB PLAN

19/03/2021 | Revision No: 3

Sub Plan Revision Status				
Date	Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/03/17	2	General update including LLB GMR and legislative amendments	Tracey Wallbridge	Brian Falls
08/12/2020	DRAFT	DA DRAFT	N/A	N/A
19/03/21	Rev 03	Update Figures	CE	AP

*Note that all printed paper/hard copies of this document remain uncontrolled. The controlled copy of this document is found either in the project collaboration tool, within the Project Management Plan section, or other project specific database/server approved by the Regional EHS Manager / Head of EHS Integrated Project.

1. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	This Traffic and Parking Management Sub Plan provides details of the measures that will be implemented for traffic control and construction related parking activities on and around the project site during site establishment and construction. Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how the EHS Sub Plans form part of the Lend lease Building (LLB) EHS management system. NOTE: The requirements of the local council and/or road authority must be met. Additional approvals for road occupancy, the establishment of construction zones etc may also be required. Details must be incorporated into this Sub Plan as relevant.
Objectives of the Sub Plan	• To avoid or minimise potential conflicts between construction traffic, motorists, project neighbours and pedestrians. • To protect the public from injury and incident associated with the operation of construction vehicles and plant. • To prevent moving plant injuries to workers on site. • To avoid creating traffic congestion and delays as far as practical.
Scope of Works	This Sub Plan has been prepared based on the following scope of works: **Site preparation, demolition and excavation** • Site remediation • Demolition of the southernmost school building, the garage and storage shed west and east of the Bureau of Meteorology Building (the Met/the Met Building), and the toilet block adjoining the main school building. • Selective removal of various elements of the main school building, as well as minor and insignificant elements of the Met Building and the Messenger's Cottage to facilitate refurbishment and future use of these buildings. • Bulk excavation works to facilitate the new southern buildings and onsite detention. • Tree removal. • Installation of hydraulic and electrical services. **Construction of New buildings** • Construction of one new building on the western part of the site for a staff room. • Construction of two new, interconnected school buildings on the southern third of the site. • Construction of a new communal hall and canteen building. **Landscaping** • Retention of the existing large fig tree.

	• Landscaping works throughout the site, including construction of a new amphitheatre, new central plaza, and a multi-purpose forecourt. • Landscaping of roof gardens on top of the new southern buildings and the existing Met Building. **Other works** • Works to the existing entrance road, including alterations to the Bradfield Tunnel Services Building • Modifications to existing pick-up / drop-off arrangements. • Provision of signage zones. • Installation of on-site detention.
Key Issues and Risks	Construction related traffic and parking issues are expected to be mainly associated with: ● Worker numbers adding to existing pressures on public parking; ● Construction vehicle movements adding to existing traffic congestion; ● Noise from heavy vehicles using local streets; ● The delivery of materials to site during approved work hours where this occurs from a road frontage; ● The entry and queing of heavy vehicles at the site for continuous deliveries eg concrete; ● The delivery of oversized plant outside of normal hours; ● Collection and replacemet of waste skips; ● Confusion and/or frustration over traffic direction, diversions, lane closures etc. Interaction with existing operational facilities at or adjacent to the site; ● The Cahill Expressway is a barrier to the pedestrian permeability of the school ● The school is relatively well connected to the City of Sydney bike network, with a number of cycle routes surrounding the Site. ● The nearest railway stations to the school are Wynyard Station and Circular Quay Station which are both approximately a 10 minute walk away. ● Circular Quay is the main Ferry terminus for a large number of services within Sydney Harbour as well as the Barangaroo Wharf. Vehicle movements and parking requirements for the various stages of construction have been estimated as follows: ● The construction vehicles accessing the site will mainly comprise of Medium and Heavy Rigid vehicles (MRVs and HRVs). During certain stages of construction, mobile cranes and concrete pumps will also be used onsite. A construction zone will be established onsite to enable deliveries to be safely received at the site with minimal impact on existing traffic conditions. ● The longest construction vehicle has been identified as the HRV with a length of 12.5m. The vehicle dimensions are shown in Figure 2. (LLB to confirm size of mobile crane to determine if HRV or crane is the longest vehicle for swept path analysis).

	Deliveries in cars or vans may be undertaken during Sydney CBD extended hours of work. These hours are applicable for activities defined as quiet works where ambient noise levels do not increase more than 5 decibels (dB). The extended hours of worked are outlined below. o Monday to Friday – 6:00pm to 7:00pm; and o Saturday – 1:00pm to 4:00pm. Applications for 'out of hours' works will be considered on a case by case basis. All out of hours applications will need to be approved by the relevant authority. Reasons for out of hours work may include but not limited to the following; o As a result of an emergency; o The works create a hazardous environment; o Plant break down have delayed works; or o Minimise impact to the surrounding community. ● The construction works will require 20m of existing kerbside space to establish a 24/7 works zone adjacent to the work site to allow for two (2) truck waiting bays. ● **Refer to Arup's Construction Traffic Pedestrian Management Sub Plan** Compliance with the Project EHS Plan and this Sub Plan is intended to mitigate the risks and potential impacts of construction traffic and parking on the community and adjacent facilities. If appropriate controls and monitoring are not implemented, the potential exists for: ● Traffic incidents; ● Worker or public injury; ● Motorist frustration; ● Operational impacts on local businesses and facilities; ● Complaints; ● Fines; and ● Non-compliance with permits and approvals.
Legislation, Project Approval and Guidelines	**Federal/National:** Australian Standard AS1742.3-2009 'Manual of Uniform Traffic Control Devices – Traffic control for work on roads'. **State:** Traffic Control at Work Sites manual, Roads and Maritime Services, July 2018

	Road Authority Traffic Management Requirements: Roads and Maritime State Road **Local:** City of Sydney Bicycle NSW, Roads and Maritime Services **Lendlease requirements:** • Global Minimum Requirements (GMRs) • Workplace Delivery Code (WDC)
Summary of Site Controls	Works must be undertaken in accordance with the Lendlease GMRs, the Project EHS Plan, this Sub Plan and the Lendlease Building WDC. These documents detail Lendlease's approach and commitment to pro-active and responsible project management. Site specific controls, monitoring, reporting and performance measures have been identified in this Sub Plan to minimise the potential conflicts and impacts of construction traffic on the community, neighbours, motorists and workers. These include but are not limited to: ● Ensuring that relevant information on changes to traffic arrangements including lane closures and details are clearly displayed or provided to relevant stakeholders in advance of the change; ● Installing clear and concise signage on local roads being used by construction traffic; ● Separating construction traffic and workers within the site using barriers and signage; ● Controlling construction vehicle access and egress to the site; ● Refer to Traffic Management plan prepared by Arup ● Evaluating the effectiveness of traffic measures. Traffic management requirements, access restrictions, road authority requirements and general site rules related to parking and start times, must be included in relevant specifications, contract agreements, quality assurance documents, and subcontractor work method statements. Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the EHS Plan and the following implementation table.

2. IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Planning and Site Establishment					
Obtain details of existing traffic conditions/vehicle numbers etc, and copies of any existing local road and traffic management plans.	During design. Prior to works commencing	Review existing data and assess existing conditions to determine the potential impact of construction related activities. Identify the requirements of the relevant road authority and incorporate into the design of the site setup and project documents.	CM SM	IHRA includes an assessment of traffic and is updated monthly. Complaints are logged and a response provided.	Agreement on traffic arranagements achieved. Relevant permits and approvals obtained.
Include information in the Site Induction about traffic and parking locations, restrictions and site rules.	Prior to construction	Revise Lendlease induction package to include site specific information.	CM SM	Subcontractor WMSs address traffic and deliveries.	Site induction delivered to all workers on site.
Prepare a Construction Traffic Circulation Environmental Management Diagram (EMD) identifying each stage of the project and likely traffic conditions.	Prior to commencing works	Prepare EMD (Appendix 1) in accordance with road authority and project approval requirements and in a manner consistent with existing TMPs/assessments. Address traffic movements, routes, parking etc internally and external to the site. Where possible, design the site access, delivery and collection areas, and internal roads so that vehicles are moving in a forward direction at all times. Communicate the requirements to key personnel.	CM SM Engineers	Review of EMD prior to works commencing Revised monthly during construction	Diagram prepared and containing all relevant details.

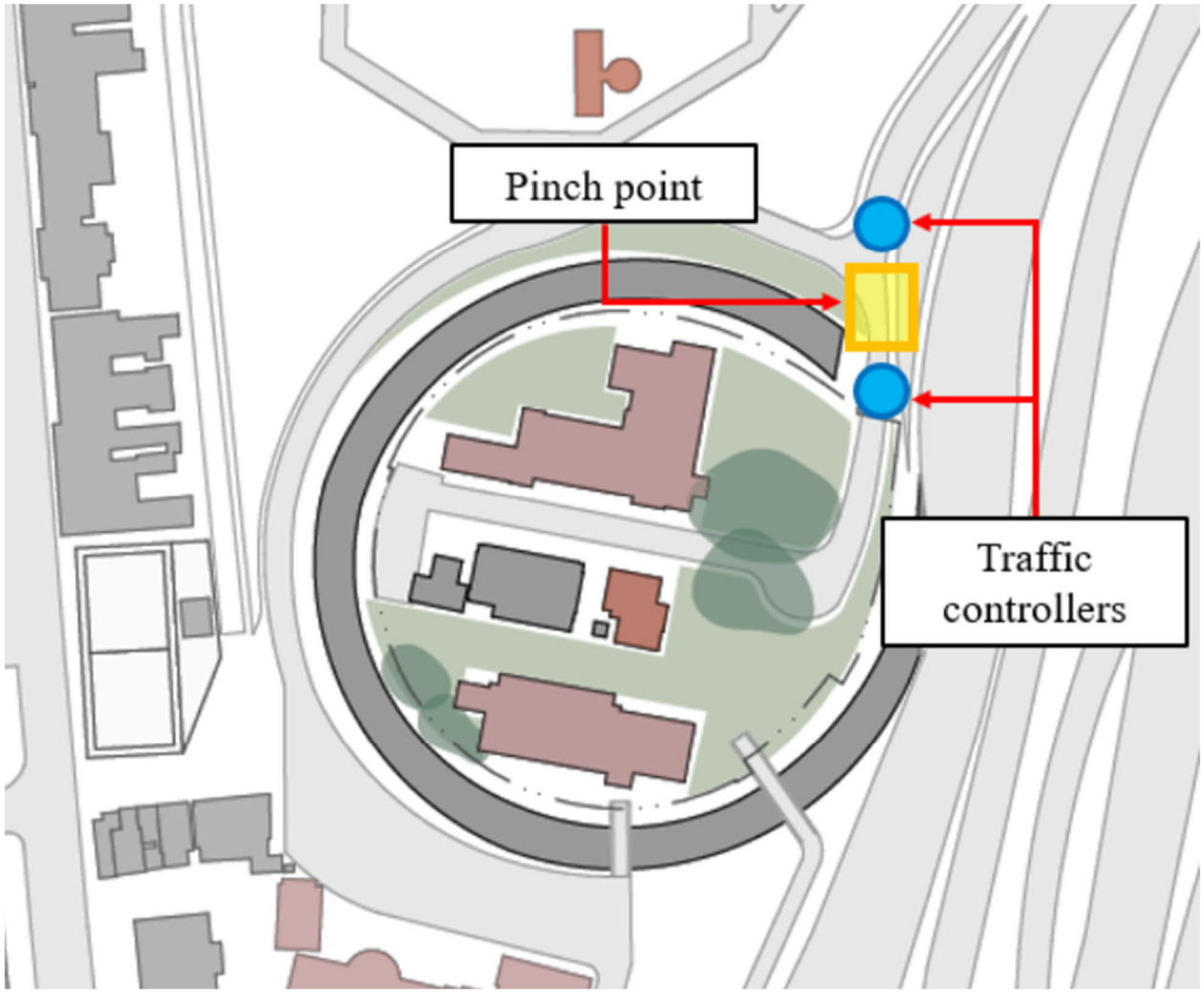
During Construction					
Control vehicle and human access into and within the site.	At all times	Install gates and signage to prevent unauthorised access to the site. Ensure that delivery drivers remain in their vehicle (unless they are inducted) and are instead instructed by the relevant supervisor. Provide visitor and worker parking (where possible) and clearly delineate these areas.	SM	Include in subcontractor WMS. Include on EMD (Appendix 1). Document approved routes. Monitor site entry and local road use. Check site signage.	No unauthorised access identified. Signage in place and maintained.
Control construction traffic and plant movements and deliveries within and external to the site.	At all times	Establish physical barriers and signage to control traffic direction, speed (20km/hr) and movements to/within the site. Ensure construction traffic uses approved/controlled site access points only. Identify locations and restrictions for vehicle parking and queuing. Mandate that construction traffic uses approved road routes only during approved times only. For concrete pours, provide a traffic controller to oversee trucks reversing to hoppers. Isolate the pump and surrounding area. Address the requirements of the relevant road authority and project approval in all WMS and TMPs.	SM Engineers Sub-contractors	Monitor vehicle movements. Monitor compliance with authority requirements.	No non-conformances against regulatory requirements. No complaints or fines. No plant-personnel impact incidents.

Schedule deliveries and waste collection at times that minimise the impact of the activity on local traffic conditions.	At all times	Identify appropriate delivery times and communicate these to supplies/service providers. Identify suitable locations for delivery trucks to park (away from moving vehicles) so that contact can be made with the relevant site representative for access.	SM Sub-contractors	Monitor deliveries and pick ups.	Impacts minimised. No complaints.
Vehicles moving direction	At all times	All vehicles moving on site will move in a forward direction If reversing is necessary the subcontractor will ensure suitably trained person will give direction and keep other persons from entering the area. Detailed and instructed in the Site induction and included in contractors SWMS	All	Monitor compliance.	No unguided reversing.
Prevent the tracking of soil/mud off-site by construction vehicles.	At all times	*Refer to the Stormwater, Erosion and Sediment Control Management Sub Plan.* Site may require a wheel wash or shaker facility to be installed. All loads covered by contractor.	SM Sub-contractors	Condition of site access monitored and maintained.	No tracking. No spillage of material. No complaints or fines.
Ensure all vehicles entering site are road registered and being maintained in good condition.	At all times	Subcontractors must undertake daily inspections. Gate keeper to monitor construction vehicle registration and condition. All operators must hold appropriate certification of competency and/or be trained and supervised (as relevant).	SM Foreman	Monitor compliance. Address in subcontractor WMS. Review and retain plant inspection records.	No non-complying plant used on site. No unqualified operators identified. No plant related incidents (spillage).

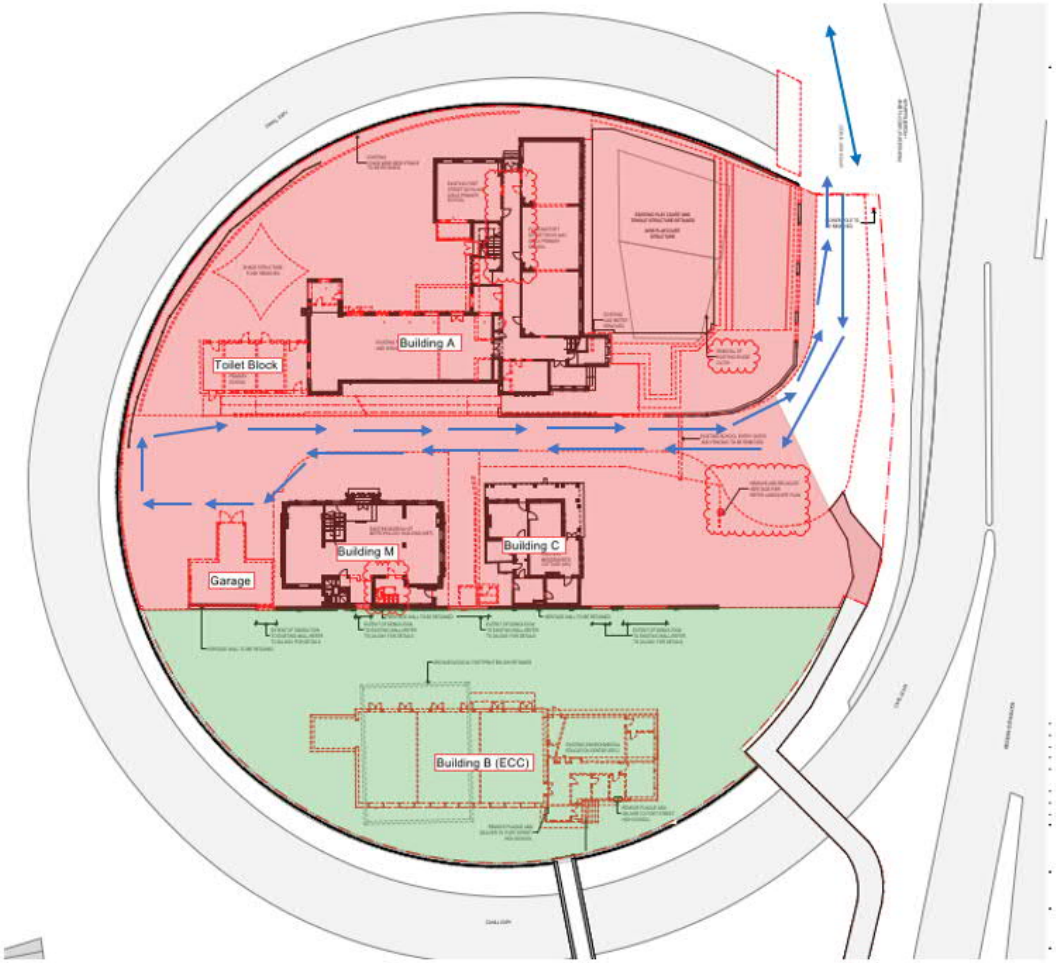
APPENDIX 1: TRAFFIC PLAN – TO BE DEVELOPED DURING CONSTRUCTION PHASE

The main vehicle access to the site will be on Upper Fort Street which provides a connection to the Argyle Street via Watson Road.

Propsed traffic control diagram – Figure 1



Proposed Vehicle movement – Figure 2



FORT STREET PUBLIC SCHOOL

CHAIN OF RESPONSIBILITY MANAGEMENT SUB PLAN

6/07/2022 | Issue No: 1.5

Document Issue Status				
Date	Document Issue (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
06/02/2019	1.0	Initial document	Phill Smith	Ross Trethewy
21/07/2020	1.1	Minor amendment in section 4 to replace reference to daily sampling with sampling frequency aligned to the IHRA review of COR activities	Phill Smith	Ross Trethewy
05/02/2021	1.2	Update of Heavy Vehicle Compliance Register to address an Internal Audit Findings	Phill Smith	Ross Trethewy
25/05/2021	1.3	Updated to COR requirements regarding verification of GVM	Brooke Brittain	Ross Trethewy

*Note that all printed paper/hard copies of this document remain uncontrolled. The controlled copy of this document is found either in the project collaboration tool, within the Project Management Plan section, or other project specific database/server approved by the Regional EHS Manager / Head of EHS Integrated Project.

Project Revision Status				
Date	Project Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
24/09/2021	1.1	Change of Issue No, Added Appendix 4	Taylor Moroney	Arthur Panagopolous
17/12/2021	1.2	Periodic Review	Taylor Moroney	Nick Bergholcs
18/01/2022	1.3	Addition of Driver CoC requirements	Taylor Moroney	Nick Belgholcs
02/03/2022	1.4	Periodic Review – No Changes	Taylor Moroney	Nick Bergholcs
06/07/2022	1.5	Addition of B22 conditions to ensure compliance	Taylor Moroney	Nick Bergholcs

SCOPE OF PROJECT AND SUB-PLAN

Background	Heavy Vehicle National Law (HVNL) and associated regulations commenced across Australia (except WA and NT) on 10th February 2014. Four regulations exist under the HVNL framework; Heavy Vehicle (Fatigue Management) National Regulation; Heavy Vehicle (General) National Regulation; Heavy Vehicle (Mass, Dimension and Loading) National Regulation; and Heavy Vehicle (Vehicle Standards) National Regulation. The National Heavy Vehicle Regulator (NHVR) looks after one rule book for heavy vehicles over 4.5 tonnes gross vehicle mass. State and territory police, and authorised officers are appointed to enforce heavy vehicle offences under the HVNL.
	
	Part of the legislation includes Chain of Responsibility requirements. If you consign, pack, load or receive goods as part of your business, you fall under the requirements and must comply with even though you have no direct role in driving or operating a heavy vehicle. In addition, corporate entities, directors, partners and managers are accountable for the actions of people under their control. This is referred to by the legislation as 'Chain Of Responsibility' (COR).
	
	The aim of COR is to make sure everyone in the supply chain shares equal responsibility for ensuring breaches of the HVNL do not occur. Under COR laws if you exercise (or have the capability of exercising) control or influence over any transport task involving a heavy vehicle, you are part of the supply chain and therefore have a responsibility to ensure HVNL is complied with.
	
	For this reason, under HVNL, each party in the road 'chain' are required to ensure, so far as reasonably practicable that risks to health and safety are managed including:
	
	• eliminate or minimise risks related to transport activities;
	• ensure their conduct does not directly or indirectly cause or encourage the driver of the heavy vehicle to breach the Law or exceed a speed limit;
	• not cause or encourage another person, including another party in the Chain of Responsibility, to break the Law;
	• not ask, direct or require (directly or indirectly) the driver of a heavy vehicle, or a party in the chain of responsibility to do, or not do, something that would have the effect of causing the driver to:
	  ○ exceed a speed limit; or
	  ○ drive a regulated heavy vehicle while impaired by fatigue; or
	  ○ drive a regulated heavy vehicle while in breach of the driver's work and rest hours option.
	• the vehicle's load does not exceed the vehicle's overall and per-axle capacity; and
	• the heavy vehicle load is properly restrained.

Project Planning Details

Commitment to CoR Objectives of the Sub Plan	Lendlease Building is committed to implementing the National Heavy Vehicle Regulation – Chain of Responsibility to ensure safe heavy vehicle operations where it is applicable across it's business undertakings. To outline the Lendlease Building process to ensure the requirements under the Heavy Vehicle National Law (HVNL) and Chain of Responsibility (COR) legislation are met by relevant parties, in relation to heavy vehicle movements to and from Lendlease Building construction projects. **Compliance Sampling** The project/workplace team shall identify road transport chains for compliance observation sampling during each six-weekly review of the Project/Workplace Impacts & Hazards Risk Assessment. Work activities that are selected for sampling will be notated in the IHRA by the lettering 'COR Sampling'. That is, within the control measures nominated for the subcontractor supply/trade activity and its related road transport to or from the workplace. Compliance observation sampling (safe or at-risk observations) is carried out with the Enablon Safety App. The 'how to' guide to assist Lendlease project teams to complete COR compliance observation sampling is outlined in Appendix 2 of the LLB Chain of Responsibility Procedure. The project team will identify observation items for those work activities and related road transport chains identified in the IHRA for 'COR sampling' for incoming and outgoing heavy vehicle transport including: • **mass and dimension** (the load is observed as not in excess of the heavy vehicle's capacity, axle and dimension limits including bulk loads such as excavated spoil or demolition material); • **any heavy vehicle packing, loading or load restraint activities** at a project/workplace for departure and transport onto a public road must be carried out by workers that have completed formal HVNL accredited training relevant to these activities; or the activities are completed under the direct supervision of a person(s) formal HVNL accredited training relevant to the activity; • **load restraint** (the load on arrival or on departure from the project/workplace is observed as adequately restrained, with no shift of goods or materials during transport and ropes/straps/tie downs are taut); • **fatigue** (the driver when requested can demonstrate adequate rest breaks and a vehicle Work Diary when more than 100klms from home and the heavy vehicle haulage activity is on schedule); • **vehicle standards and maintenance**: (observation reveals no obvious defects to the exterior of the heavy vehicle and vehicle maintenance logs are verified as current). In the implementation section (4.0) of this sub-plan, there are specific KPIs that project teams are required to develop and implement to monitor compliance. This can include direct observations, but also undertaking and requesting sample inspections of COR related documentation. These can range from maintenance inspections, copies of log books, loading procedures, and supplier inspections.

	The frequency of sampling (and who among the project team conducts them) via direct observation of heavy vehicles shall be determined by the project team during and outlined in the Impacts & Hazards Risk Assessment and must be based on the load types and frequency of heavy vehicle movements to/from the project. The frequency of sampling should be agreed in consultation with the Business Unit EHS and Operations Manager.
Scope of the Sub Plan	**The application of this Chain of Responsibility Management Sub-Plan is for Lendlease Building workplaces (construction projects) where vehicles with a Gross Vehicle Mass (GVM) of greater than 4.5 tonnes is anticipated.** Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how EHS Management Sub Plans form part of the Lendlease Building (LLB) EHS Management System. Material changes to the Chain of Responsibility Management Sub Plan will be communicated to relevant parties in the 'chain'.
Scope of Works	This Sub Plan has been prepared based on consideration of the following scope of works and significant heavy vehicle transport tasks: Fort Street Public School redevelopment including the demolition and refurbishment of existing buildings, construction of new low rise school buildings, including bulk excavation and external works. Significant Heavy Vehicle transport activities are anticipated for the following activities; • Demolition; bulk excavation; piling, formwork, steel reinforcement; facade, structural steel, internal linings; masonry; mechanical and electrical; waste management requiring multiple heavy vehicle movements to/from the project with a Gross Vehicle Mass (GVM) of greater than 4.5t. • other bulky once off: crane supply and removal to/from site (oversize elements); personnel and materials hoist supply/removal from site. The following heavy vehicle road transport chains apply to this project that require management under HVNL: • Lendlease Building is the Consignor (i.e. LLB engages a heavy vehicle operator through an agent or other third party to transport its goods to a Consignee). • Lendlease Building is the Consignee (i.e. LLB receives goods after completion of their road transport through an agent or third party). • Lendlease Building is the loader/unloader (i.e. LLB personnel engage in the process of loading/unloading a heavy vehicle or any container that is part of its load). • Lendlease Building has a Load Manager (i.e. LLB has an appointed supervisor with control or organisational oversight of heavy vehicle movements including loading/unloading at the project). Lendlease Building engages in packing goods (i.e. LLB personnel engage in the process of placing goods into packaging or assemble goods in packaging for a heavy vehicle load or any container that is part of a heavy vehicle load). **Site preparation, demolition and excavation** • Site remediation. • Selective removal of various elements of the main school building, as well as minor and insignificant elements of the Met Building and the Messenger's Cottage to facilitate refurbishment and future use of these buildings. • Bulk excavation works to facilitate the new southern buildings and onsite detention.

	• Tree removal. • Installation of hydraulic and electrical services. **Construction of New buildings** • Construction of one new building on the western part of the site for a staff room. • Construction of two new, interconnected school buildings on the southern third of the site. • Construction of a new communal hall and canteen building. **Landscaping** • Retention of the existing large fig tree. • Landscaping works throughout the site, including construction of a new amphitheatre, new central plaza, and a multi-purpose forecourt. • Landscaping of roof gardens on top of the new southern buildings and the existing Met Building. **Other works** • Works to the existing entrance road, including alterations to the Bradfield **Tunnel Services Building** • Modifications to existing pick-up / drop-off arrangements. • Provision of signage zones. • Installation of on-site detention. Significant Heavy Vehicle transport activities are anticipated for the following activities; • Mobile crane activites; Demolition; bulk excavation;, formwork, steel reinforcement; facade, structural steel, internal linings; masonry; mechanical and electrical, waste management requiring multiple heavy vehicle movements to/from the project with a Gross Vehicle Mass (GVM) of greater than 4.5t. The following heavy vehicle road transport chains apply to this project that require management under HVNL: • Lendlease Building is the Consignor (i.e. LLB engages a heavy vehicle operator through an agent or other third party to transport its goods to a Consignee). • Lendlease Building is the Consignee (i.e. LLB receives goods after completion of their road transport through an agent or third party). • Lendlease Building is the loader/unloader (i.e. LLB personnel engage in the process of loading/unloading a heavy vehicle or any container that is part of its load). • Lendlease Building has a Load Manager (i.e. LLB has an appointed supervisor with control or organisational oversight of heavy vehicle movements including loading/unloading at the project). • Lendlease Building engages in packing goods (i.e. LLB personnel engage in the process of placing goods into packaging or assemble goods in packaging for a heavy vehicle load or any container that is part of a heavy vehicle load).
Key Issues and Risks (COR content	To assist with the completion of the Impacts & Hazards Risk Assessment (IHRA), the following COR initiating potential events and hazards, including additional factors to be considered during the development of the associated project related control measures, will trigger reference to 'CoR Sampling' against the activity or heavy vehicle delivery stream within the IHRA.

within the IHRA)	• **Scheduling with potential to impact driver and fatigue or an incentive to speed** – schedule changed from planned/agreed, site conditions or delays in loading/unloading / potential for traffic or other delays to/from site not originally scheduled / fatigue management plan not implemented / distance to/from site / site working hours / driver behaviour / access to suitable rest areas enroute or at site / realistic timeframes scheduled • **Non-compliant load mass, distribution or size** scheduled to arrive at the project – oversize or unusual element / requirement for transport permit / frequency / route / low structures on route / viscosity of material / site conditions for loading / unloading / no accurate system or accurate methodology to confirm mass / vehicle type and condition / driver accredited in load restraint for the Heavy Vehicle / load distribution of the containerised element(s). • **Uncontrolled movement of load during transport** – failure to restrain the load / incompatible heavy vehicle and/or load restraint equipment / restraint failure due to excessive wear and tear / loading/unloading area not adequate / oversized or unusual element / vehicle type and condition / load restraint design / driver accredited in load restraint for HV / site conditions for loading/unloading. • **Breach of fatigue and speed requirements** – delay in unloading or loading operations due to weather, road or site conditions / site delays / driver error / driver arrives at work unfit for work / driver working multiple shifts/jobs. • **Mechanical failure of heavy vehicle** – Poor maintenance or servicing / failure of mechanical components / overloading / deterioration of mechanical parts / modification of vehicle / non-compliance with conditions of a defect notice / Age and condition of vehicle / maintenance record of vehicle / known and accredited mechanic for inspection.
Legislation and Guidelines	**Please refer to Appendix 2 of the Project EHS Management Plan for the current listing of the Heavy Vehicle Legislation (HVNL) in each state or territory.** Note: Although the HVNL has not commenced in Western Australia or the Northern Territory, CoR provisions have been included into existing Road Safety legislation in WA and the NT. HVNL applies equally to vehicles from those jurisdictions when they cross into one of the states or territories where HVNL does apply. In some cases, drivers may also need to comply with certain aspects of the HVNL before they cross the border (e.g. vehicle log/ work diary requirements) National Heavy Vehicle Regulator (NHVR) – www.nhvr.gov.au **Other External guidance** • National Transport Commission – Load Restraint Guide 2018 • Australian Trucking Association and Australian Logistics Council – Master Industry Code of Practice **Fort St Public School Planing Condition B22** • (a) minimise the impact of earthworks and construction on the local & regional road network • (b) minimise conflicts with other road users • (c) minimise road traffic noise; and • (d) ensure truck drivers use specific truck routes. **Lendlease Requirements:** • Contract conditions and EHS Schedule

	• Lendlease Building Workplace Delivery Code (WDC) • Lendlease Building Chain of Responsibility Procedure Note: Breaches, fines or other notifications issued for any COR/HVNL alleged/actual offence on site are to be issued to LLB for further distribution to the LLB HoEHS service function.
Summary of Site Control Measures	Works must be undertaken in accordance with the Lendlease Global Minimum Requirements for Environment Health & Safety, the Project EHS Management Plan, this Sub Plan and the Lendlease Building Workplace Delivery Code. These documents detail the Lendlease approach and commitment to pro-active and responsible site management. Site specific controls, monitoring, reporting and performance measures have been identified in this Sub Plan to manage the requirements of the Chain of Responsibility (HVNL) legislation. These include: Site Specific Requirements: ● Contract conditions and the related EHS Schedule within the Contract includes HVNL and COR compliance requirements. ● As a means of demonstrating compliance with HVNL and CoR, contractors with National haulage carriers should be accredited or are in process of gaining accreditation to a module of the National Heavy Vehicle Accreditation Scheme (NHVAS) orTruckSafe, note this is preferred but not mandatory. ● Lendlease project personnel (procurement/package managers/environment, health and safety/receiver of goods/loaders/unloaders have undertaken formal recognised awareness training specific to roles and responsibilities and any HVNL interface. ● Prior to contract award, sub-contractors to provide evidence that they have roles and responsibilities that includes NHVL/ CoR content for; o Their own staff (with CoR) who have roles within 'the chain' such as schedulers, consigning, loading, operating heavy vehicles o Their sub-contractors / heavy vehicle service provider / operators of heavy vehicles. ● Sampling is undertaken of heavy vehicle transport arrivals and departures at project level to verify compliance with HVNL and recorded as a *'safe'* observation in Enablon e.g. accreditation scheme log displayed; load adequately restrained; driver work diary (compulsory if >100klms from depot) available for inspection; or where unsafe conditions are identified; e.g. load shifted during transport; trucks turned away due to weather or other environmental factors; inadequate load restraint; or truck overloaded; these are recorded as an *'unsafe'* observation. ● Where an unsafe condition has been observed relating to a heavy vehicle leaving the project for onward travel on a public road (e.g. an unstable load, inadequate load restraint method or inadequate positioning of the load), either by the Lendlease project team, the contractor, or the driver, the unsafe condition must be rectified by the contractor and driver, before it is sent back onto a public road. ● The Heavy Vehicle Safety & Compliance register (or a sub-contractors own equivalent template) within Appendix 3 of this sub-plan is to be completed by the Heavy Vehicle Driver, and counter signed by the respective contractor they are engaged by. To monitor that the register is being completed, monitoring should be undertaken by; o The contractor engaging the heavy vehicle driver to conduct routine inspections of the accuracy of the information. o The Lendlease project team will also conduct direct sampling (observations).

- Inspections of heavy vehicles prior to travelling to (daily pre-start inspections) or from the project are to be completed by the sub-contractor / Heavy Vehicle service provider as a means of monitoring compliance to NHVR and CoR Requirements. Sampling of the pre-start inspections will be reviewed by the Lendlease project team.
- Internal independent EHS audit includes HVNL compliance verification sampling.
- Contractor Independent Audit of CoR compliance - Where the Lendlease project team have observed a number of non-conformities e.g. 'At-Risk' Chain of Responsibility related Observations against a specific contractor, they may as a preventative action determine that the contractor is to engage an independent CoR / Heavy Vehicle auditor to conduct an audit of CoR compliance.
- Driver declaration and HVNL review is completed for heavy vehicle transport departures loaded at the project, e.g. spoil, waste, formwork, scaffolding, tower crane, mobile plant and hoist.
- Verifying the Contractor appointed for waste removal (including bulk excavation, remediation and demolition) has an accurate way of demonstrating that the loaded Heavy Vehicle is within the legal permissible Gross Vehicle Mass, contained appropriately and within dimension limits as required by Heavy Vehicle (and COR) legislation.

  As a primary measure this should involve determining the heavy vehicle mass at the point of loading or pending departure from site using: in vehicle telematics including heavy vehicle on-board mass measurement scales; OR the provision and use of a weighbridge; OR the use of portable axle load scales at random intervals, OR the use of scales on loading equipment such as excavators.

  As a secondary measure confirmation through a waste facility weighbridge unloading/delivery destination (i.e. dockets) is required to verify the mass of each heavy vehicle that has departed a project or other LLB workplace.
- Where an overweight load is identified through dockets or scales the event must be recorded as an incident in Enablon and an Action Plan assigned to the subcontractor to address the overweight load issue and verified in Enablon as closed by Lendlease.

IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibility for overseeing implementation	Monitoring and Reporting	Performance Measurement
Training in COR					
COR Awareness Training	Ongoing/Project Commencement	Those procuring goods & services; loaders, packers, dispatchers, receivers of loads (on Project). LLB Project team – CM/SM/Engineers/Foreman/EHS – additions based on the Workplace Training Needs Analysis (TNA). Training Link - http://www.lendleasetraining.com/	CM	Monthly review	All nominated personnel complete the training. Certificate of Completion (verify training and provider)

Load Restraint Training Accredited training - Load/Unload Goods and Cargo (TLID2004) – OR EQUIVALENT	Ongoing/Project Commencement	Loaders, packers of loads (on Projects / Plant Yards) to complete nationally accredited 'Loader' training where required to exercise judgement in the packing or loading, or supervising packing or loading, of any heavy vehicle over 4.5t gvm , that intends to transport the packed and loaded goods on a public roadway. Training undertaken based on the TNA review for the LLB Operation. Non Lendlease - Loaders, packers of loads to complete nationally accredited 'Loader' training where required to exercise judgement in the packing or loading, or supervising packing or loading, of any heavy vehicle over 4.5t GVM. that intends to transport the packed and loaded goods on a public roadway.	CM Contractors / Operators / Heavy Vehicle service providers	Monthly review Random surveillance	All nominated personnel complete the training. Certificate of Completion
Loading/unloading with load handling machinery (telehandler/manitou, forklift, crane)	At all times	Personnel involved with the unloading of a heavy vehicles are appropriately qualified and trained in the operation of the mechanical machinery. If unloading on site or within the site delivery zone COR does not apply, therefore standard competencies apply, e.g. dogging, rigging, forklift operator. When loading materials, plant or equipment on site for transport onto a public road to another destination the loader or supervisor of the loading must be trained in COR and load restraint.	CM/SM Contractors / Operators / Heavy Vehicle service providers	Random surveillance	Loaders to be qualified and trained in COR and load restraint by completing a nationally accredited course. A copy of the NTC Load Restraint Guide 2018 to be retained on each site.

Control Measure	Timing	Methodology	Responsibility for overseeing implementation	Monitoring and Reporting	Performance Measurement
CONTRACT / AGREEMENTS and COR					
Tender	Prior to commencing procurement	Contracts, Professional Services Agreement, supply agreements with the Supplier or Carrier outlines compliance with Heavy Vehicle National Law and Chain of Responsibility	CM	Included within contract/PSA/ Purchase Order/supply procurement document	All contracts/PSAs/Purchase Order / or other supply procurement documents include HVNL and COR requirements.
Award of contract	Award before commencing deliveries	Subcontractor Supplier or Carrier can demonstrate compliance with HVNL and COR including but not limited to: • Are accredited or in the process of gaining accreditation to a module of the National Heavy Vehicle Accreditation	CM	Tender Interview	Evidence of accreditation to NHVAS or TruckSafe Completed Tender Interview.

		Scheme (NHVAS) orTruckSafe, (note this is preferred but not mandatory). • Records or evidence or any audits or assessments of the effectiveness of controls that manage the vehicle standards risks. • System of adequate training of drivers in respect of mass, dimension, loading and restraint requirements under the HVNL has been undertaken; and • System to accurately verify loads are the correct mass, restrained appropriately and within dimension limits as prescribed by the HVNL. • System to verify that heavy vehicles used on a road comply with heavy vehicle standards (including the provision of 'safety critical' items) • Appropriate fatigue management processes are verified and schedules managed (by LLB where appropriate, or otherwise the Service Provider) to prevent driver breach of the NHVL e.g. hours, rest breaks and speed.			Subcontractor Supplier or Carrier system documents. Signed and executed contract or other supply procurement document with HVNL & COR clauses
Driver Fatigue	At all times	Project teams do not alter contract schedules of the driver / or carrier that may result in, encourage, or provide an incentive to cause the driver to drive whilst fatigued. This could include making a demand for an urgent delivery or to expedite deliveries on a project.	CM	Monitor Compliance	No adverse changes of schedule which could result in incidents of driver fatigue.

Control Measure	Timing	Methodology	Responsibility for overseeing implementation	Monitoring and Reporting	Performance Measurement
MASS, DIMENSION AND LOADING REQUIREMENTS – LOADING AND UNLOADING ARRIVAL AND DEPARTURE COR					
Unloading – (Load moves during transport)	At all times	A workplace specific process (method and location) must be developed prior to unloading where it is identified that the load has moved during transport and cannot be safely unloaded. If the load is to be returned to the Consignor it must be appropriately restrained if it is to be sent back onto a public road.	CM/SM Loaders/Unloaders	Surveillance random selection of loads in/out of projects.	No incidents related to the movement of loads during transport. Enablon Observations of random sampling.
Loading – Load restraint (before	At all times	Loads are to be properly restrained and the accuracy of load positioning to be confirmed by the driver prior to departure	CM/SM	Heavy Vehicle Safety &	No incidents related to incorrectly positioned or inadequate load

leaving the Project)		from site. Sample visual inspections to be undertaken by the LLB project team (Gateman / Logistics co-ordinator, other member of the team) and the LLB Heavy Vehicle Safety & Compliance Register (Appendix 3) to be completed by the driver / sub-contractor to assist with monitoring of COR standards. A subcontractor equivalent template can also be used. Loading / Unloading to be undertaken as per the requirements of the National Transport Commission – Load Restraint Guide 2018	Contractors / Drivers / carriers	Compliance Register Monitor Compliance (Safe or At-Risk Observations) Frequency determined during IHRA reviews.	restraint. Completed Heavy Vehicle Safety & Compliance Register or equivalent available on request by Driver. A copy of the National Transport Commission Load Restraint Guide 2018 to be retained for reference on each site.
Loading and unloading - facilities	At all times	LLB to provide adequate facilities at the workplace for loading/unloading vehicles safely, (i.e. parking, loading and unloading areas, safe tarping capability and amenities. Weighing and docking facilities may be required for bulk excavation stages of a projects or metering of bulk excavation machine loads to ensure the accuracy of vehicle loading.	CM/SM	Project establishment Routine inspections	Adequate loading and unloading facilities at the project. Adequate bulk loading weight facility to ensure against overloading.

Control Measure	Timing	Methodology	Responsibility for overseeing implemntation	Monitoring and Reporting	Performance Measurement
MASS, DIMENSION AND LOADING REQUIREMENTS – LOADING AND UNLOADING ARRIVAL AND DEPARTURE COR					
Load Mass (Loaders only)	At all times	All heavy vehicles must display their maximum load mass. Further detail may also be required to confirm the relevant axle loads for the vehicle (if the axle load exceeds the total allowable mass).	CM/SM Carriers contractors	Monitor Compliance (Safe or At-Risk Observations) Frequency determined	Display of maximum load mass. Completed Heavy Vehicle Safety & Compliance Register or equivalent available on request by Driver.

				during IHRA reviews.	
Load Mass	At all times	Randomly selected heavy vehicle drivers are able to demonstrate that the load complies with the mass requirements applying to the vehicle. Where a heavy vehicle has been fitted with an onboard mass gauge, drivers and contractors are to conduct inspections to verify that prior to departure from the project, the load doesn't exceed the mass requirements to the heavy vehicle.	CM/SM Contractors Drivers / Carriers / Heavy Vehicle service providers	Monitor Compliance (Safe or At-Risk Observations) Frequency determined during IHRA reviews.	Sampling of mass controls / measurements Completion of Heavy Vehicle Safety & Compliance register
Load Mass	At all times	For waste transport including bulk excavation, remediation and demolition stages, Heavy Vehicle Operators (including Drivers), must have an accurate way of demonstrating that the loaded Heavy Vehicle is within the legal permissible Gross Vehicle Mass (as required by Heavy Vehicle (and COR) legislation). As a primary measure this should involve determining the heavy vehicle mass at the point of loading or pending departure from site using: in vehicle telematics including heavy vehicle on-board mass measurement scales; OR the provision and use of a weighbridge; OR the use of portable axle load scales at random intervals, OR the use of scales on loading equipment such as excavators. As a secondary measure confirmation through a waste facility weighbridge unloading/delivery destination (i.e. dockets) is required to verify the mass of each heavy vehicle that has departed a project or other LLB workplace.	CM/SM Contractors Drivers / Carriers / Heavy Vehicle service providers	Monitor Compliance (Safe or At-Risk Observations) Secondary measure confirmation of mass (i.e. dockets)	Sampling of mass controls Secondary review of confirmation of mass (i.e. dockerts) Overmass load event must be recorded as an incident in Enablon and an Action Plan assigned to the subcontractor to address the overweight load issue and verified in Enablon as closed by Lendlease.

Control Measure	Timing	Methodology	Responsibility for overseeing implementation	Monitoring and Reporting	Performance Measurement
VEHICLE STANDARDS / MAINTENANCE REQUIREMENTS COR					

Pre-start checks and inspections	At all times	All heavy vehicle service providers conduct daily pre-start checks, inspections (conducted by trained and competent persons). Particular attention must be given to safety critical matters such as tyres, lights, brakes. Maintenance and service records in place for heavy vehicles following maintenance and servicing.	CM/SM Carriers / Heavy Vehicle service providers	Monitor Compliance (Safe or At-Risk Observations) Frequency determined during IHRA reviews.	Pre-start checks and inspections verified as completed. No visible damage or defects to tyres, lights or other visible components Maintenance and services records verified for randomly selected heavy vehicles.
Heavy Vehicle Standards	At all times	All heavy vehicles used on a road comply with heavy vehicle standards including the provision of 'safety critical and other components that can affect roadworthiness and the safety of road users and the public (structure and body condition / seat and seatbelts / lights and reflectors/mirrors/rear warning signage. Heavy vehicle service providers and drivers have in place a procedure that includes checking requirements to make sure heavy vehicles meet heavy vehicle standards.	CM/SM Carriers / Heavy Vehicle service providers	Monitor Compliance (Safe or At-Risk Observations) Frequency determined during IHRA reviews.	Inspection, Audits or assessment records for randomly selected heavy vehicles. No visible damage or defects to tyres, lights or other critical safety components.
Heavy vehicle drivers licence	At all times	All heavy vehicle drivers will hold a copy of the appropriate class of driver's licence for the heavy vehicle and provide a copy of the current licence at the site induction.	CM/SM Contractors / Drivers / Carriers	Monitor Compliance (Safe or At-Risk Observations) Frequency determined during IHRA reviews.	Randomly selected drivers hold the correct driver's licence for the class of vehicle operated.

Control Measure	Timing	Methodology	Responsibility for overseeing implementation	Monitoring and Reporting	Performance Measurement
FATIGUE AND SPEED					
Driver Fatigue and speeding	At all times	Project teams do not alter schedules of the driver / or carrier that may result in, encourage, or provide an incentive to cause the driver to drive whilst fatigued or exceed the speed limit.	CM	Monitor Compliance	No incidents of driver fatigue determined of interstate loads or

		This could include making a demand for an urgent delivery or to expedite deliveries on a project.			loads from greater distance of 100klms. No instances of schedule changes which could adversely affect the driver
Driver fatigue	At all times	Drivers maintain (and have available) a National Driver Work Diary (log book) that can either be an electronic, or a paper version.	CM	Monitor Compliance	Drivers randomly selected of interstate loads or loads from greater distance of 100klms verified as having (or maintaining) National Driver Work Diary (NDWD). NDWD compulsory for fatigue regulated vehicles (i.e. more than GVM of 12t) and those who drive 100klm or more from their home base.

APPENDIX 1 – KEY DEFINITIONS

Chain of Responsibility
A policy concept used in Australian transport legislation to place legal obligations on all parties in the transport supply chain.

Consignee
In a contract of carriage, the consignee is the entity who is financially responsible (the buyer) for the receipt of a shipment. Generally, but not always, the consignee is the same as the receiver.

Consignor
The consignor, in a contract of carriage, is the person/entity sending a shipment to be delivered whether by land, sea or air. Some carriers use the term "sender" or "shipper" which is synonymous with consignor.

Frequent Heavy Vehicle
A frequent Heavy Vehicle (as defined on the Sydney Metro (NSW) program) are;

- All heavy vehicles removing excavated materials (i.e. spoil removal). All concrete Mixer vehicles (e.g. concrete agitators).
- All heavy vehicles over 4.5 tonnes GVM either supplying or removing equipment, plant and/or materials or people from a site, making five or more round trips in any 12 month period to any Sydney Metro workstie for any part of the program.

Heavy Vehicle
Any vehicle over 4.5 tonnes gross vehicle mass (GVM) required to operate on public roads.

Loader
A Worker who loads or unloads a road transport vehicle.

Loading Manager
A Worker who supervises loading/unloading, or manages the premises where this occurs.

Packer
A Worker who packs goods for transport into any type of container for transport e.g. pallet, stillage, box, freight container and the like.

Parties in the Supply Chain
Any person with an influence and/or control in the transport chain is a ‘party’ and includes, but is not limited to:

- corporations, partnerships, unincorporated associations or other bodies corporate employers and company directors;
- exporters/importers;
- primary producers;
- drivers (including a bus driver and an owner-driver;)
- prime contractors of drivers;
- the operator of a vehicle;
- schedulers of goods or passengers for transport in or on a vehicle, and the scheduler of its driver;
- consignors/consignees/receivers of the goods for transport;
- loaders/unloaders of goods; and
- loading managers (the person who supervises loading/unloading, or manages the premises where this occurs).

Scheduler
A worker who schedules or arranges goods or passengers for transport in or on a vehicle, and the scheduler of its driver.

APPENDIX 2 – HEAVY VEHICLE SAFETY & COMPLIANCE REGISTER

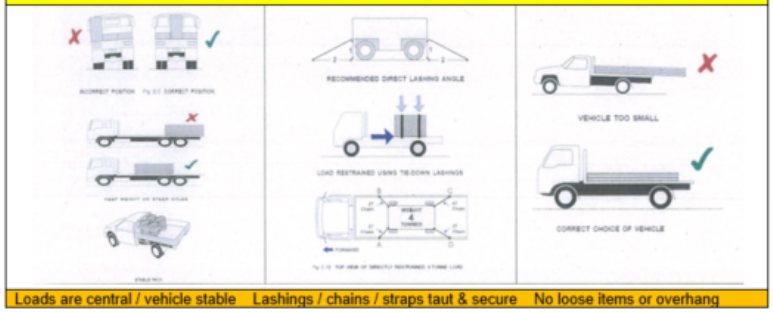
(to support the use of the Heavy Vehicle Safety & Compliance Register)

lendlease	Heavy Vehicle Safety & Compliance Register Guidance	Operation Name		Issue	Date	Pages
						1 of 1

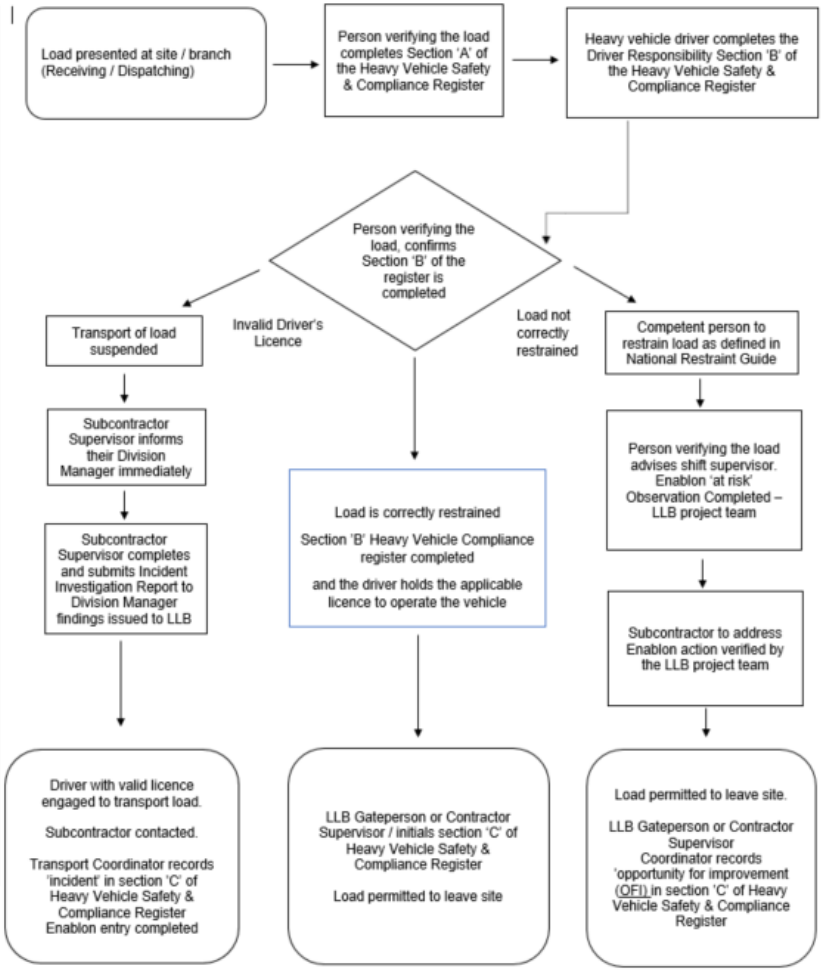
Responsibilities

#	Major Step	#	Key Points	Reason to follow key point
1	Driver Responsibility	1	**Licence** The driver must hold a valid driving licence for the class of vehicle selected to transport the intended load.	Safe use of heavy vehicle and compliance with HVNL
		2	**Fit to Drive** • Driver is not impaired by drugs, alcohol or fatigue • Driver has taken sufficient rest breaks • Driver has complied with load and road traffic laws • Driver confirms heavy vehicle is roadworthy and well maintained	
		3	**Heavy Vehicle Fatigue Management** Comply with relevant fatigue management work and rest laws and procedures to implement them including National Driver Work Diary.	
		4	**Load Management** The driver is responsible for restraining the load to the requirements of the National Restraint Guide. • Loads do not exceed vehicle mass or dimension limits • Goods carried on your behalf are appropriately secured • Load is placed so it does not become unstable, move or fall off the vehicle. If the driver is **not competent** to restrain the load as defined in the National Restraint Guide then assistance shall be provided by a Competent Person to perform the task, before the load can leave the Project.	Load is restrained
2	Person Verifying the Responsibility (contractor supervisor)	-	Validate that the driver has completed all of section 'B' of the Heavy Vehicle & Safety Compliance Register.	Validate the driver and load comply to this procedure

THE NATIONAL RESTRAINT GUIDE MUST BE AVAILABLE ONSITE



Loads are central / vehicle stable Lashings / chains / straps taut & secure No loose items or overhang



APPENDIX 3 – HEAVY VEHICLE SAFETY & COMPLIANCE REGISTER

Note – The register Template is also available on ‘Source’ as a standalone template – Currently not in use due to COVID 19

HEAVY VEHICLE SAFETY & COMPLIANCE REGISTER
(National Transport Commission – Load Restraint Guide)

lendlease

PAGE 1 of 1 | ISSUE DATE: | REVIEW DATE:

Date	.... /.......... /..........
Person Verifying Load	
Project Site	

Transport Coordinator / Contractor Supervisor Inspection Criteria

Load Visual Inspection

- Loads are central / vehicle stable?
- Lashings / chains etc. taut & secure?
- No loose items or overhang?

Driver Declaration

Load is Restrained Correctly

I understand my responsibility to comply with the Load Restraint Guide.

I declare the load being transported has been restrained in accordance with the above requirements.

I confirm that the Loaded Heavy Vehicle is within the Legal GVM limits for the vehicle

Fit to Drive

I am not impaired by drugs or alcohol;

I am not affected by fatigue;

I have had sufficient rest break prior to the commencement of my work shift;

(A) Load Summary												(B) Driver Declaration											
Date	Time	Load (Tick) In	Load (Tick) Out	Vehicle Type: Utility	Vehicle Type: Rigid Truck	Vehicle Type: Semi-Trailer	Description of Load	Load Waste Classification (N/A if not applicable)	Subcontractor	Transport Company	Vehicle Registration Number	Name	Drivers Licence No.	Licence Class Suitable for Vehicle (Circle)	Fit to Drive (Circle)	Inspection (Driver to Tick): Correct Vehicle Choice and Maintained	Inspection (Driver to Tick): Load Position	Inspection (Driver to Tick): Suitable Restraint	Inspection (Driver to Tick): Enough Restraint	Inspection (Driver to Tick): Total GVM (must be less than the legal GVM	Inspection (Driver to Tick): Allowable Legal GVM for the HV	Driver Initials	Person Verifying Compliance
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								
														Yes / No	Yes / No								

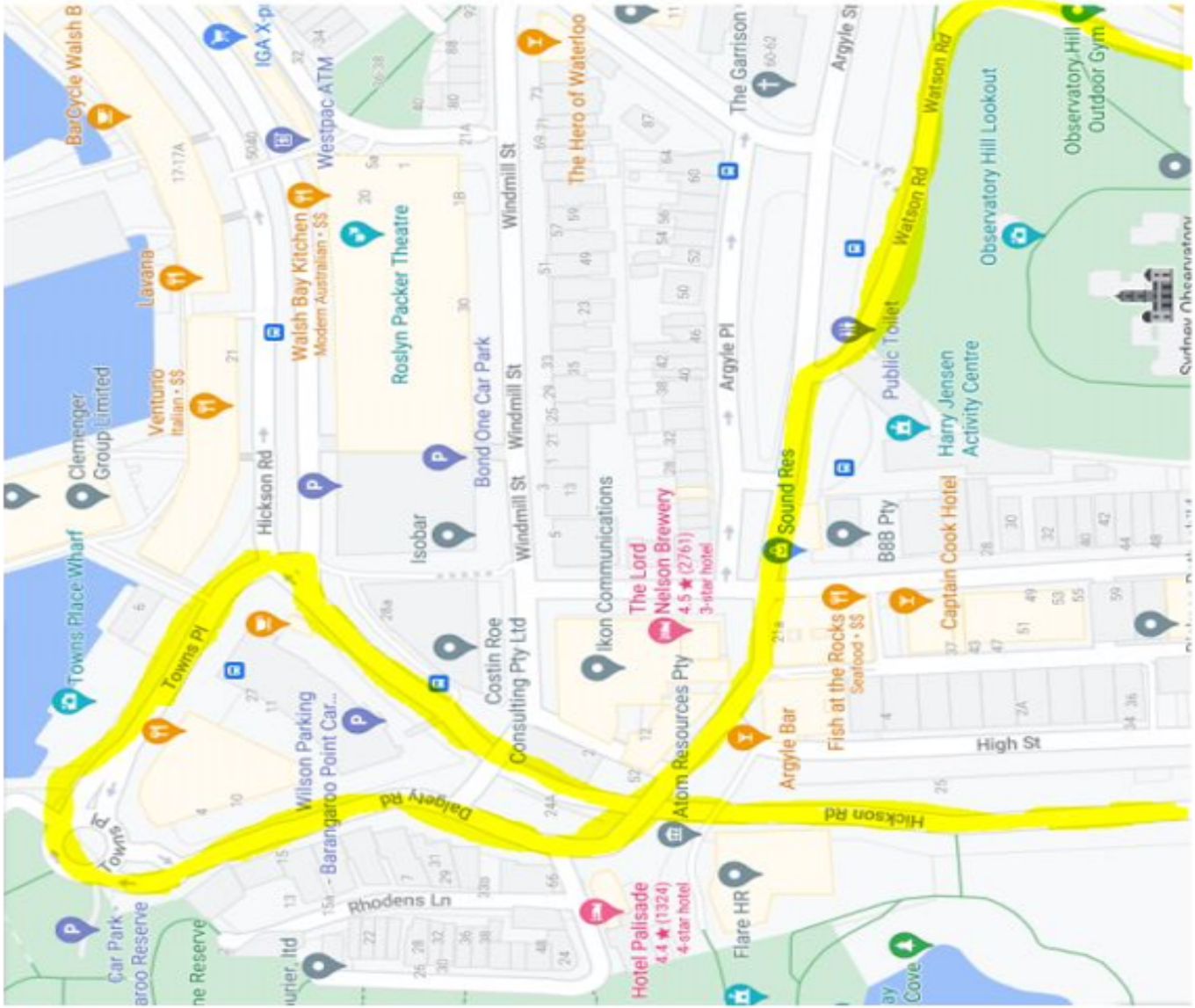
ISSUE NO: 1.1 | ISSUE DATE: 3/02/2021 | PROJECT REVISION NO: 00
LENDLEASE BUILDING MANAGEMENT SYSTEM

APPENDIX 4 – HEAVY VEHICLE ENTERING AND EXITING SITE ROUTE

lendlease

TRUCK TRAVEL PLAN ENTERING & LEAVING FSPS

1. You are to follow this approved plan **AT ALL TIMES** when entering & exiting the Fort Street Public School Site
2. You **should** be entering & exiting site following the **YELLOW HIGHLIGHTED** route.
3. You are **NOT** to be parked on **ARGYLE PLACE OR WATSONS ROAD** and you are **NOT** to use these roads for turning around **AT ANY TIME.**
4. If you are asked to leave site due to being early/late etc. please continue to follow this plan to its full effect and **DO NOT** park on Argyle Place or Watsons Road while waiting for your allotted time slot.
5. If you disobey this plan then you risk action being taken from the FPSP Lendlease site team.



Appendix D – JBS&G Construction Soil and Water Management Sub-Plan

Lendlease

Construction Soil and Water Management Plan/ Dewatering Management Plan

Fort Street Public School
Upper Fort Street, Observatory Hill
Millers Point, NSW

30 September 2021

59861/134281 (Rev 6)

JBS&G Australia Pty Ltd

www.jbsg.com.au

Lendlease

Construction Soil and Water Management Plan/ Dewatering Management Plan

Fort Street Public School
Upper Fort Street, Observatory Hill
Millers Point, NSW

30 September 2021

59861/134281 (Rev 6)

JBS&G Australia Pty Ltd

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Abbreviations

Term	Definition
AHD	Australian Height Datum
CEMP	Construction Environmental management Plan
CoS	City of Sydney
CSWMP	Construction Soil and Water Management Plan
DMP	Dewatering Management Plan
DPIE	Department of Planning, Infrastructure and Environment
JBS&G	JBS&G Australia Pty Ltd
OSD	Onsite Stormwater Detention
PAH	Polycyclic Aromatic Hydrocarbons
RAP	Remedial Action Plan
SINSW	School Infrastructure New South Wales
TRH	Total Recoverable Hydrocarbon

1. Introduction

1.1 Introduction and Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Lendlease Building Pty Ltd (the client), to prepare a Construction Soil and Water Management Plan (CSWMP) / Dewatering Management Plan (DMP) for the proposed Fort Street Public School Development, located on Upper Fort Street, Observatory Hill, Millers Point, NSW (the site). The site location and site layout are presented on **Figures 1** and **2**, respectively. The site covers an area of approximately 6,200 m^2.

Previous contamination investigation activities undertaken at the site identified the presence of fill material underlying the site reported to be impacted, chiefly with polycyclic aromatic hydrocarbon (PAH) and heavy metals. A remedial action plan (RAP) (JBS&G 2020[1]) was subsequently prepared to document the procedures and standards to be followed in order to address the contamination impacts at the site, ensuring the protection of human health and the surrounding environment, such that the impact is remediated/managed in a manner as to make the site suitable for the proposed land use.

Lendlease has been appointed by School Infrastructure NSW (SINSW) as the principal contractor for the project delivery. By review of the development consent conditions (DPIE 2020[2]), it is understood that a Construction Environmental Management Plan (CEMP), including a CSWMP is required to be prepared for the project. Condition B21 stipulates the requisite aspects of the CSWMP which provided following.

"The Applicant must prepare a Construction Soil and Water Management Plan (CSWMP) and the plan must address, but not be limited to the following:

1. *Be prepared by a suitably qualified expert, in consultation with Council;*
2. *Describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';*
3. *Provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);*
4. *Detail all off-Site flows from the Site; and*
5. *Describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI."*

It should be noted that no groundwater dewatering is required to facilitate redevelopment of the site. The dewatering procedures outlined within this CSWMP/DMP relate only to sediment and erosion controls, as well as dewatering and associated testing of stormwater accumulated in excavations and general management of stormwater at the site during the construction phase.

1.2 Objectives

The purpose of this CSWMP/DMP is to provide a description of the measures to be implemented to mitigate potential soil erosion and resulting water quality impacts on land and water resources within and beyond the site during demolition and site redevelopment works.

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1 JBS&G (2020) *Remedial Action Plan – Fort Street Public School, Upper Fort Street, Millers Point, New South Wales*. JBS&G Australia Pty Ltd

2 DPIE (2020) *SSD-10340 Development Consent*. Issued under Section 4.38 of the *Environmental Planning and Assessment Act 1979*. Department of Planning, Industry and Environment dated 7 October 2020.

This CSWMP/DMP has been designed to ensure, via the implementation of a number of monitoring and management measures pertaining to sediment and erosion controls on site, that the risks to the surrounding environment are negligible.

1.3 Overarching Approach Considered in the CSWMP

The overarching approach outlined within this CSWMP for the management of sediment, erosion and stormwater is as follows:

1. Stormwater that falls and is captured on 'clean areas' of the site (i.e. building rooves, sealed and/or stabilised areas) can be directed directly to stormwater infrastructure on the site.
2. Stormwater runoff from disturbed areas (i.e. areas of exposed soil) will be managed through regularly monitored/updated erosion and sediment controls and will be permitted to run off the site without being captured and retained within onsite stormwater infrastructure.
    a. Should the Principal Contractor and/or site team determine that in a particular rainfall event that pollution prevention is best achieved through additional stormwater management controls including the excavation of a temporary sediment basin or provision or a temporary storage tank, the plan outlined herein permits this approach.
3. Stormwater that is captured onsite within excavations and/or temporary stormwater structures will be subject to testing prior to discharge.

The procedures applicable to achieving the above approaches are outlined in **Appendix A**.

1.4 Requirements for Soil and Water Management Plan

This CSWMP/DMP has been developed in accordance with the following documents:

- *SSD-10340 Development Consent* (DPIE 2020);
- City of Sydney Development Control Plan (DCP) 2012 Section 3 – General Provisions[3]; and
- Managing Urban Stormwater – Soils and Construction (Landcom 2004[4]).

The CSWMP/DMP has been prepared to address the specific requirements of condition B21 (DPIE 2020), as well as C24 and C26 of SSDA-10340.

DPIE (2020) separately identifies the requirement for the applicant to prepare a CEMP, unexpected finds protocol for contamination, unexpected finds protocol for heritage, waste classification and validation for contaminated site media, construction traffic and pedestrian management sub-plan, construction noise and vibration management sub-plan, and a construction waste management sub-plan. Where these sub-plans may intersect with works managed under this CSWMP/DMP, they will be identified and referenced herein.

1.5 Relevant Activities

Development plans for the site are provided in **Appendix B**. Activities which have the potential to generate soil, sediment, erosion and/or water during development are summarised following:

- Demolition of site structures and hardstand pavements;
- Installation of an onsite stormwater detention (OSD) drain, stormwater chamber and rainwater tank in the eastern portion of the site (**Appendix B**);

[3] No general or specific provisions for the management of soil and water management during construction are described in this DCP.
[4] *Managing Urban Stormwater – Soils and Construction Volume 1, 4th Edition*, Landcom, March 2004.

- Excavation and installation of a lower ground level basement in the southeast site portion (**Appendix B**);
- Excavation of lift wells underlying the proposed northern building and library (**Appendix B**); and
- Advancement of piles, foundations and/or other *in-situ* support structures (**Appendix B**);
- Installation of new *in-situ* services;
- Installation of soil and/or hardstand capping as required by the RAP (JBS&G 2020);
- Landscaping activities, including any removal of existing flora, preparation of surfaces, importation and placement of soils; and
- General site activities (dust control, vehicle washout, use and maintenance of internal roads and site access/egress).

1.6 Application and Responsibilities

The period of application of this CSWMP is from the commencement of construction works (including early works, site preparation, remediation activities, construction of permanent (underground) stormwater structure, etc) until the cessation of works that have the potential to significantly disturb the site surface or site structures.

Construction works at the site will be undertaken under the guidance of the Principal Contactor (Lendlease). The Principal Contactor will be responsible for the implementation of the majority of procedures provided in the CSWMP/DMP. It is noted that where the specific procedures are technical or complex in nature then the Principal Contactor may appoint appropriately qualified agents (i.e. competent person[5]/environmental consultants) to fulfil the requirements of the procedure or advise the appropriate implementation of the procedure.

A formal list of procedures to the CSWMP/DMP based on an assessment of potential environmental emissions from anticipated site works required for the project is provided in **Appendix A**. Specific responsibilities are nominated for the implementation of these procedures.

Prior to commencement of any activities listed in **Section 1.5**, the Principal Contractor, and relevant contractors and consultants, should refer to the Environmental Management Procedures presented in this plan. The list of activities outlined in **Section 1.5** is not intended to be exhaustive and an assessment should be made prior to the commencement of works by the Principal Contractor regarding whether those works are likely to involve the handling of soils (either site based or imported), amendment to hydrological site condition (e.g. hardstand removal), or introduction of construction related waters to the site.

1.7 Environmental Procedures

A number of environmental procedures have been provided in **Appendix A**. These procedures cover general site activities, as well as specific site activities, including controls require to be implemented to mitigate sediment/erosion and stormwater runoff during rainfall events, and specific requirements for water quality testing to enable active stormwater discharge from accumulated stormwater (e.g. excavation pump-out).

The procedures in **Appendix A** have been separated into two broad categories to enable implementation of this plan on site, they are:

1. General Sediment and Erosional Control Measures; and

[5] Competent Person means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

2. Active Stormwater Discharge Requirements.

These procedures must be followed to ensure the objectives of the CSWMP (**Section 1.2**) are achieved during the project.

The Principal Contractor should review the environmental procedures prior to the commencement of works on site and consider these procedures in the development of safe work practices.

1.7.1 Environmental Procedures for Wet Weather

The procedures outlined in **Appendix A** document the control measures for managing stormwater/sediment during construction and rainfall events that are required to be implemented at the site during the construction phase.

During rainfall periods, the control measures/procedures outlined in **Appendix A** are required to be audited by the Principal Contractor to assess whether the stated objectives of each control measure/procedure are being achieved. Where this is not the case, the controls outlined in **Appendix A** are required to be reassessed and appropriate mitigation measures are to be applied (e.g., additional sediment bunding, covering of stockpiles and/or equipment).

A construction phase stormwater plan outlining minimum storage requirements for the construction phase (temporary) OSD structures on site (cumulative total) has been developed for the site by SEEC based on stormwater modelling of the 5-year average recurrence interval (ARI), as required by Condition B21 (e). The plan is provided in **Appendix C**. A statement of proficiency from SEEC has also been provided in **Appendix C**. The storage capacity can be achieved by utilising one, or multiple, of the following:

1. Permanent OSD structure (to be constructed as part of site works);

2. Temporary sediment/stormwater tanks; and

3. Temporary excavations/berm areas.

1.8 Consultation with City of Sydney Council

The CSWMP/DMP documented herein was submitted to the City of Sydney (CoS) as part of the consultation/review process. CoS have indicated that there are no comments which require to be addressed. Correspondence to this effect from CoS has been provided as **Appendix D**.

2. Summary of Site Condition

2.1 Site Location and Description

The site details are summarised in **Table 2.1**. A plan showing the location of the site is provided as **Figure 1**, and a plan showing the boundaries of the site is provided as **Figure 2**.

Table 2.1: Site Identification

Lots / DPs	Lot 2 of DP 244444 Lot 2, 3, 4 and 9 of DP 732592 Lot 106 of DP 748340 Lot 107 of DP 748340 Lot 108 of DP 748340 Lot 5 of DP 258013
Site Address	Upper Fort Street, Observatory Hill, Miller Point, NSW, 2000
Local Government Authority	City of Sydney
Site Area	Approximately 6,200 m^2
Approximate MGA Coordinates (MGA 56)	As shown on **Figure 2**
Site Zoning	Metropolitan Centre (B8)
Current Use	Education
Previous Use	Education
Proposed Use	Education

2.2 Site Condition

The following site inspection is abstracted from documentation recently prepared as JBS&G (2020). A detailed site inspection was undertaken on 4 June 2019, by one of JBS&G's trained and experienced field scientists.

The site was observed as a flat, circular shaped parcel of land located approximately 800 m southwest of the Sydney Harbour Bridge. The site is situated at the top of Observatory Hill and is bound by a portion of the Cahill Expressway which is cut into the underlying sandstone, such that the site forms an 'island', as seen in **Figure 2**.

At the time of writing this plan, the site is accessed via a gated accessway from Upper Fort Street. Several structures exist at the site, including Building A and associated toilet block, a style cottage building, garage (materials storage), Building B (EEC Building) and the MET Building. A large portion of the site is covered by hardstand including asphalt, concrete and astro-turf areas such that access to underlying soils is limited. Grasses cover a lesser extent of the site, largely in the southern portion of the site and surrounding the MET Building and Cottage. Several trees and small shrubs are present within the southern portion of the site, and a large, old-growth tree is located immediately to the east of Building A. Playground areas including an astro-turf area, mini sports field (astro-turf) and a newly constructed raised timber decking are present within the northern portion of the site.

2.3 Surrounding Land-Use

The current land uses of adjacent properties or properties across adjacent roads are summarised below.

- North – Cahill Expressway, beyond which lies Sydney Observatory;
- East – Major road infrastructure including the Western Distributor and Cahill Expressway;
- South – Cahill Expressway, beyond which lies infrastructure including a fire station, National Trust, cafes and art gallery; and
- West – Cahill Expressway, beyond which lies residential housing and the Barangaroo Redevelopment Precinct.

2.4 Site Natural Setting

The environmental setting is detailed in JBS&G (2019) and summarised below.

Table 2.2: Summary of Environmental Characteristics

Environmental Aspect	Characteristics
Topography	Review of published regional topographic information obtained from the Photomaps tool hosted by Nearmap (2019[6]) indicates the site is generally flat, with the approximate elevation of 40 m Australian Height Datum (AHD). The site is situated atop Observatory Hill and as such, the surrounding land generally dips to the north, east and south, beyond the Cahill Expressway.
Meteorology	A review of average climatic data for the nearest Bureau of Meteorology monitoring location (Observatory Hill[7]) indicates the site is located within the following meteorological setting: • Average minimum temperatures vary from 8.1 °C in July to 18.9 °C in February; • Average maximum temperatures vary from 16.4 °C in July to 26.0 °C in January; • The average annual rainfall is approximately 1215.7 mm with rainfall greater than 1 mm occurring on an average of 100.0 days per year; and • Monthly rainfall varies from 67.8 mm in September to 133.2 mm in June.
Hydrology	The following provide a summary of the sites hydrological condition as of the drafting of this plan. Works to be completed in preparation for the development will change the hydrological condition of the site. Due to the site's topography and geographic isolation, precipitation falling in areas surrounding the site are not likely to influence the hydraulic condition of the site. At the site, precipitation is anticipated to fall onto buildings and precipitation falling on asphalted/paved areas will flow into engineered drainage lines and the local stormwater system. In areas unconfined by hardstand (e.g. garden beds, unpaved areas across the school grounds), rainfall is likely to penetrate soils and migrate to the water table where it may be released as seepage water on the Cahill Expressway, and/or flow into stormwater infrastructure in heavy rain events. Sydney Harbour (marine water environment) is the closest receiving water body to the site, located 250m west of the site (at its closest). Review of existing stormwater plans (provided by CoS via DBYD enquiries) and review of topographical maps for the site and surrounds indicate that stormwater is likely to discharge to Sydney Harbour (marine water environment) via Circular Quay.
Geology and Soils	Based on the Sydney Geological Map[8], the site is located in the vicinity of the Triassic aged Hawkesbury Sandstone, typically comprising medium to coarse-grained quartz sandstone with minor shale and laminate lenses. Observations of the exposed geology of the Cahill Expressway cutting made during the site inspection indicate that sandstone is present at relatively shallow depths beneath the site surface (i.e. within 2m below ground surface (m bgs), consistent with Curio (2019). During the site investigation, 18 boreholes were advanced across the site, in which fill overlying natural materials was encountered from beneath hardstand (0.15 m bgs) to 2.7 m bgs. Natural materials encountered were observed to comprise sandstone. A summary of soil contamination is provided in **Section 2.5**. Based on information provided on the NSW Environment and Heritage Soil and Land Information web application[9], the site is situated in the Gymea Erosional environment – characterised by shallow to moderately deep (30-100 cm) yellow earths and earthy sands, on crests and inside of benches; shallow (<20 cm) siliceous sands on leading edges of benches; localised Gleyed Podzolic Soils and Yellow Podzolic Soils on shale lenses; shallow to moderately deep (<100 cm) siliceous sands and leached sands along drainage lines. Based on a review of the Salinity Potential Map of Sydney (DIPNR 2003), soils at the site are not considered to be saline.

[6] *'Photomaps'*, Nearmap, Accessed 22 July 2019, Nearmap (2019) https://www.nearmap.com.au/

[7] http://www.bom.gov.au/climate/averages/tables/cw_066062.shtml, Commonwealth of Australia, 2013 Bureau of Meteorology, Product IDCJCM0028 prepared on 22 July 2019 and accessed by JBS&G on 22 July 2019.

[8] Sydney, 1:250,000 Geological Series Sheets S156-5, 3rd Edition, 1965

[9] www.environment.nsw.gov.au/eSpadeWebApp (viewed 23 August 2016)

Environmental Aspect	Characteristics
Acid Sulfate Soils (ASS)	Review of the *1:25 000 scale Prospect Paramatta Acid Sulfate Soil (ASS) Risk Map* (DLWC 1997[10]) indicates that the site is located within an area of 'no known or expected occurrences of acid sulfate soils (ASS) materials'. Based on review of geology maps, soil maps, site topography and site observations, it is unlikely that actual and/or potential acid sulfate soils would be present on-site. Based on the site's elevation, the reported geology, the ASS Risk Map classification and observations made during the intrusive investigations, as documented herein and in JK (2017), no further consideration for the assessment/management of acid sulfate soil is required.
Hydrogeology	A total of thirty-eight registered groundwater wells fall within a 1.0 kilometre radius of site, and are located largely toward the northwest, west and southwest of the site. These wells were installed within the years 2008 – 2011 for water monitoring purposes and have reported drill depths between 3 and 17 metres below ground surface (m bgs). No data regarding standing surface water levels were reported within any of the wells.

2.5 Site Contamination Status

The RAP (JBS&G 2020) presents the contamination condition at the site. The contamination condition, as relevant to the controls required to be implemented to achieve the objectives of this plan, are summarised following:

- Soil at the site are generally impacted by the presence of heavy metals (principally lead, nickel and zinc), total recoverable hydrocarbons (TRHs), polycyclic aromatic hydrocarbons (PAHs) including benzo(a)pyrene and naphthalene. An isolated instance of chlordane in soil was identified at a single location at the site; and
- Groundwater was not encountered to depths of greater than 5 m below the current ground level. Given the preclusion of water infiltration over the majority of the site, depth to groundwater and absence of substantial soluble impacts to site soils, potential groundwater impacts were considered unlikely.

During site redevelopment it is anticipated that hardstand removal, bulk and detailed excavation works will intersect and/or uncover contaminated soils. Interaction with contaminated soils presents the potential for the generation of sediment, soil erosion and impacted construction waters. The requisite controls are presented as procedures to be adopted during the site works as summarised in environmental management procedures provided as **Appendix A**.

The health and safety controls associated with interaction between site personnel and these soils will require to be documented in a separate plan.

[10] *Prospect Paramatta Acid Sulfate Soil Risk Map* (Edition 2), NSW Department of Land and Water Conservation (DLWC 1997)

3. Environmental Criteria

3.1 Soil and Sediment Disposal

The RAP (JBS&G 2020) stipulates the requirements for the assessment and lawful disposal of soil and sediment from the site. These requirements shall be followed in any instance of site works which require disposal from the site of excess soil or sediment build up.

3.2 Excavation Pump-out and Accumulated Stormwater Disposal

3.2.1 Regulator Considerations

Prior to disposal of accumulated stormwater from excavation pump-out and/or significant over-land flows to Council infrastructure (stormwater), or other stakeholder (e.g. Sydney Water) owned assets, appropriate permissions and approvals are required to be obtained by the Principal Contractor.

Prior to the discharge of accumulated stormwater on the site, analytical data must be obtained and compared to the water quality targets outlined in **Section 3.2.2.** Where analytical data is below the adopted water quality targets, the accumulated water may be discharged from the site with appropriate records maintained and in accordance with the procedures outlined in **Appendix A**.

3.2.2 Water Quality Targets

Stormwater collected within the site (including excavation pump-out) requires to be tested prior to any discharge off-site.

Review of the site's location indicates that Sydney Harbour (a marine water environment) is the closest receiving water body to the site, located 250m west of the site (at its closest). Review of existing stormwater plans (provided by CoS via DBYD enquiries) and review of topographical maps for the site and surrounds indicate that stormwater is likely to discharge to Sydney Harbour (marine water environment) via Circular Quay. As such, the *Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters* (ANZGC, 2018) guidelines have been utilised to establish a set of accumulated stormwater disposal criteria for the site, which have been outlined in **Table 3.1**.

The ANZGC (2018) default guideline values (DGVs) for protection of marine water ecosystems have been adopted as a basis for the assessment of the environmental suitability of water for discharge to stormwater and are summarised in **Table 3.1.** The DGVs presented in **Table 3.1** are based on the known soil contaminants (see **Section 2.5**) and conditions which may impact stormwater collected on the site.

Table 3.1: Stormwater Disposal Criteria (Marine Water, 95% Species Protection DGVs (ANZGC 2018))

Parameter Type	Analyte	Discharge Criteria
Physical Parameters	pH	6.5-8.5 (pH units)[1]
	Turbidity/Suspended Particulate Matter (SPM)	10 NTUs[2]
	Oils and Grease	No visible
	Litter	No visible
Metals and Metalloids	Arsenic (Total) (Filtered)	13 µg/L[3]
	Cadmium (Filtered)	5.5 µg/L
	Chromium (Total or VI) (Filtered)	4.4 µg/L[4]
	Chromium (III) (Filtered)	27 µg/L
	Copper (Filtered)	1.3 µg/L
	Lead (Filtered)	4.4 µg/L
	Mercury (Inorganic) (Filtered)	0.4 µg/L
	Nickel (Filtered)	70 µg/L
	Zinc (Filtered)	15 µg/L
Polycyclic Aromatic Hydrocarbons	Anthracene	0.4 µg/L[3]
	Benzo(a)pyrene	0.2 µg/L[3]
	Fluoranthene	1.4 µg/L[3]
	Naphthalene	70 µg/L
	Phenanthrene	2 µg/L[3]
Aromatic Hydrocarbons	Benzene	700 µg/L[3]
	Ethylbenzene	80 µg/L[3]
	m-xylene	75 µg/L[3]
	o-xylene	350 µg/L[3]
	Toluene	180 µg/L[3]

Footnotes

1: pH range was adopted from Table 3.3.2 of ANZECC/ARMCANZ 'default trigger values for physical and chemical stressors for south-east Australia for slightly disturbed ecosystems' estuary waterbodies. The closest receiving water body is Sydney Harbour (Circular Quay), a marine water environment.

2: Criterion for turbidity has been adopted with reference to the turbidity criterion of 10 NTUs, as outlined in Table 3.3.3 of ANZECC/ARMCANZ 'default trigger values for physical and chemical stressors for south-east Australia for slightly disturbed ecosystems' for estuarine and marine waterbodies on the basis that the closest receiving water body is Sydney Harbour (Circular Quay), a marine water environment, located in south-east Australia.

3: This is a low reliability trigger level (ANZGC 2018).

4: Trigger level applies to valence state (Cr VI). If exceeded, speciation of the subject sample may permit assessment against Cr III and Cr VI for direct comparison;

Prior to any off-site release of accumulated/captured stormwater, a suitably trained and experienced environmental consultant shall be engaged to confirm suitability of the site's water for off-site disposal in accordance with **CSWMP03** (**Appendix A**).

4. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures

Legend:

Approximate Site Boundary

JBS&G

Job No: 59861	
Client: Lend Lease	
Version: R01 Rev 0	Date 3/12/2020
Drawn By: RF	Checked By: RH
Scale 1:7,500	

0 80 160

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SITE LOCATION

FIGURE 1

File Name: \\JBSG-NSW-FS01\Company Data\Projects\Lend Lease\59861 - FSPS CSWMP\GIS\Maps\R01 Rev 0\59861_01_SiteLoc.mxd

Legend:

Approximate Site Boundary

JBS&G

Job No: 59861

Client: Lend Lease

Version: R01 Rev 0	Date 3/12/2020
Drawn By: RF	Checked By: RH

Scale 1:750

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SITE LAYOUT

FIGURE 2

File Name: N:\Projects\Lend Lease\59861 - FSPS CSWMP\GIS\Maps\59861_02_SiteLay.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019

Appendix A Environmental Procedures

CSWMP Control Implementation - Weekly Sediment Control Plan		CSWMP01
Responsibility:	Principal Contractor (Lendlease) (See **Section 1.5**)	
Duration:	Entire project.	
Frequency:	Weekly.	
Objective:	Sediment and erosion controls to be reviewed weekly in conjunction with planned works to minimise the volume of accumulated stormwater requiring active discharge, and, to manage stormwater on site such that potential for sediment laden stormwater discharged from the site is minimised .	

Procedure

A review of erosion and sedimentation controls applied on site (e.g. sediment bunds surrounding stormwater inlets and/or sediment/erosional controls) shall by undertaken weekly by the Principal Contractor and responsible person.

The Principal Contractor will be required to prepare a weekly plan of the site (topographic map, or similar) which considers the works planned for the upcoming week (e.g. cut and fill plans) and the various sediment and erosional controls to identify where controls are required to be placed in order to:

- Isolate any excavations as far as is reasonably practical to reduce the volume of stormwater that may accumulate within excavations and be subsequently require to be assessed and actively discharged from the site;
- To reduce the rate of stormwater flow across disturbed areas (exposed soils) to minimise the amount of sediment that may be displaced by fast flowing overland stormwater flows;
- To identify specific sediment controls to delineate/isolate specific works areas across the site to enable management of 'sub-catchments' within the site.

As part of this weekly plan, the Principal Contractor will be required to look-up the weather forecast for the upcoming week to assist in determining the required sediment/erosional controls for the upcoming week.

Sediment/erosional controls must be consistent with the Landcom 'blue book' and include, but are not limited to the following:

1. Sediment socks;
2. Sandbags;
3. Sediment fencing; and
4. Bunding/berms (soil or other materials).

The following sediment/erosional controls are required that are to be considered and implemented (if required) in the weekly plan:

- Partitioning of the site's works areas based on on-site topological crests utilising temporary sediment/erosional controls to partition the site into smaller and more easily manageable areas (referred henceforth as a 'sub-site management area');
- Erection of temporary sediment/erosional controls to delineate areas of hardstand vs disturbed areas (exposed soils) to minimise stormwater cross-flows between the hardstand/disturbed areas of the site;
- Erection of temporary sediment/erosional controls to divert stormwater away from open excavations and redirect water across exposed soils of the site in disturbed areas, or, to stormwater infrastructure in non-disturbed/hardstand areas of the site;
- In weeks where heavy rainfall is forecast and works are unlikely to progress, erection of sediment/erosional controls perpendicular to the slope of the site (within a sub-site management area) to slow the speed of over-land stormwater flows;
- In periods of heavy rainfall, placement of geofabric across exposed soils to minimise interaction of rainfall and exposed soils;
- In periods of heavy rainfall and where the abovementioned sediment/erosional controls do not appear to be stopping sediment laden stormwater run-off from leaving the site, potential excavation of soils in a down-gradient area (within the sub-site management area) to form a temporary depression/excavation where water can accumulate for future discharge.

The weekly plan is a 'working document' and can be updated as required to show where controls are implemented on site. The weekly plan shall form part of the 'record keeping' requirements, as outlined in **CSWMP09**.

Excavation Dewatering		CSWMP02
Responsibility:	The Principal Contractor (refer to **Section 1.5**)	
Duration:	Main Works Phase, until receipt of Occupation Certificate.	
Frequency:	As required.	
Objective:	To ensure that all stormwater captured within excavations and within temporary stormwater detention areas is appropriately managed to mitigate the risk of uncontrolled overland flows to offsite areas.	

Requirement

During bulk earthworks, it is not anticipated to encounter groundwater. However, there remains the potential to encounter perched water lenses (overlying relatively impermeable soil lenses) and for rainwater to accumulate in excavations following periods of heavy rainfall.

This CSWMP will be applied during the 'Early Works' and 'Main Works Phase'.

Procedure

Where excavations are required to be dewatered to facilitate site works, an assessment of the water quality shall be undertaken on the basis of visual and olfactory observations by the Principal Contractor/competent person. Where accumulated stormwater is required to be contained and discharged from the site, it shall be subject to assessment, treatment and disposal in accordance with **CSWMP03**.

Where excavation dewater is identified to exhibit indicators of gross contamination, it shall be managed under the UFP presented in the RAP (JBS&G 2020), which is provided as **CSWMP06**.

Accumulated Stormwater Assessment and Disposal	CSWMP03
Responsibility:	The Principal Contractor (refer to **Section 1.5**)
Duration:	Main Works Phase, until receipt of Occupation Certificate.
Frequency:	Detailed below.
Objective:	To ensure that accumulated stormwater disposed from the site during construction works is appropriately assessed prior to treatment and/or disposal.

Requirement

Accumulated stormwater may be impacted by conditions and/or contaminants which make it unsuitable for disposal to stormwater.

Where accumulated stormwater is required to be discharged from the site (i.e. cannot be utilised for dust suppression or dispersed across the site) it is required to be assessed and, where water is found to be impacted, remediate captured water prior to its disposal to stormwater assets. The water is required to be demonstrated as environmentally suitable (see **Table 3.1**) for disposal from the site.

Procedure

Frequency

Where discharge of accumulated stormwater is required at inconsistent intervals (i.e. following rainfall events), the Principal Contractor shall arrange for testing of the accumulated water as required to facilitate disposal of the accumulated water.

Where discharge of stormwater is required over a long period (i.e. during periods of extended heavy rainfall), the Principal Contractor shall arrange for the testing of the accumulated water prior to discharge, and then up to a maximum of twice per week for the period of discharge.

Preliminary Assessment

The primary condition which would preclude the accumulated stormwater from being considered suitable for disposal to the offsite stormwater system is anticipated to be the presence of elevated suspended sediments affecting turbidity and/or pH outside of the allowable ranges. Preliminary assessment of accumulated stormwater can be undertaken using field screening methods, in accordance with the procedure presented following:

1) A representative 500 mL sample of accumulated stormwater is to be collected from each excavation/stormwater detention area in a clean glass or unpreserved plastic container;
2) To assess the turbidity of the collected stormwater sample:
    a. The sample of water shall be poured into a vertical transparency tube;
    b. The depth of water column required to obscure the indicator at the bottom of the transparency tube should be recorded; **OR**
    c. The turbidity of the water to be assessed utilising a digital meter;
3) The pH of the water shall be measured using a calibrated field pH probe;
4) Assessment of any visual and/or olfactory indicators of contamination; and
5) The results are to be recorded by the Principal Contractor/competent person and kept for the duration of works.

Where the turbidity and pH water quality criteria are satisfied (see **Table 3.1**), the Principal Contractor/competent person shall proceed to sampling and laboratory analysis**.**

Where exceedances of the criteria are identified, advice will be provided by the Environmental Consultant to the Principal Contractor regarding the most prudent course of action. This may be to proceed with sampling and laboratory analysis, or to treat the accumulated stormwater and subsequently reassess the water quality following treatment.

Laboratory Analysis and Formal Assessment of OSD Water

Following preliminary assessment, the Principal Contractor/competent person will undertake sampling of the accumulated stormwater for laboratory assessment. The sampling procedure shall be as follows:

- The Principal Contractor/competent person shall collect representative water samples of the accumulated stormwater (from each excavation or onsite stormwater detention areas);
- Samples shall be immediately filtered as necessary and transferred to laboratory prepared sample containers. The samples shall be preserved as required by the laboratory analytical methods, and transported to a laboratory under chain of custody conditions;
- The samples shall be analysed at a laboratory which is National Associate of Testing Authorities (NATA) accredited for the analyses to be undertaken;

Accumulated Stormwater Assessment and Disposal	CSWMP03
Responsibility:	The Principal Contractor (refer to **Section 1.5**)
Duration:	Main Works Phase, until receipt of Occupation Certificate.
Frequency:	Detailed below.
Objective:	To ensure that accumulated stormwater disposed from the site during construction works is appropriately assessed prior to treatment and/or disposal.

- The samples shall be analysed for the following relevant contaminants and conditions: turbidity, pH; Heavy metals (filtered .45 µm); TRH/BTEXN; and PAH (low levels).

The Principal Contractor/competent person shall arrange for laboratory analysis of water samples on 'same day' analyses, with written correspondence to be provided to the Principal Contractor within 24 hours of the sampling event. Formal assessment letter is to be provided within one week of the sampling event.

Where the Principal Contractor/competent person confirms that the accumulated stormwater is suitable for discharge to stormwater infrastructure, the Principal Contractor is permitted to undertake disposal.

Where the Principal Contractor/competent person confirms that the accumulated stormwater is unsuitable for discharge to stormwater infrastructure, the Principal Contractor/competent person shall provide recommended actions to remediate the water to a quality which permits discharge to stormwater or recommend alternative disposal options. Indicative treatment options are presented in **CSWMP04**.

Following assessment by the Principal Contractor/competent person, all efforts should be made to ensure that the quality of the accumulated stormwater does not materially change prior to its disposal. The Principal Contractor shall ensure as far as is reasonably practical, that additional erosion and sediment controls are erected in proximity to the accumulated stormwater following sampling and prior to discharge from the site.

Accumulated Stormwater Treatment		CSWMP04
Responsibility:	The Principal Contractor (refer to **Section 1.5**)	
Duration:	Main Works Phase, until receipt of Occupation Certificate.	
Frequency:	Upon identification of accumulated stormwater being unsuitable for direct disposal to stormwater infrastructure.	
Objective:	To ensure that all stormwater identified as potentially unsuitable for discharge from the site is appropriately treated prior to disposal.	

Requirement

It is requirement of this CSWMP/DMP to assess and, where water is found to be impacted, remediate captured water prior to its disposal to stormwater assets. The water is required to be demonstrated as environmentally suitable for disposal from the site.

Procedure

Following implementation of **CSWMP03**, treatment may be required to make the accumulated stormwater suitable for discharge to stormwater infrastructure. Anticipated treatment procedures to resolve water quality issues may include:

- pH adjustment via the addition of lime to raise the pH, or hydrogen chloride to reduce pH as appropriate;
- Turbidity: the use of granular activated carbon (GAC) filtration and/or application of gypsum based flocculants and/or settlement of sediment via the use of a settlement waffle tank; and
- Heavy metals: combination of pH adjustment and commercially available flocculant to reduce individual heavy metal concentrations slightly above acceptance standards.

In the event that elevated levels of organic compounds are identified, consideration to alternative discharge strategies including potential application of collected stormwater across the site for dust suppression, offsite disposal via tanker truck, and/or use of an on-site treatment plant to reduce contaminant concentrations to appropriate levels prior to analytical analysis and subsequent assessment for discharge.

Sediment and Erosion Controls	CSWMP05
Responsibility:	The Principal Contractor (refer to **Section 1.5**)
Duration:	Entire Project
Frequency:	As required.
Objective:	To ensure the minimisation of the uncontrolled discharge of sediment laden stormwater from the site, and to minimise the quantum of stormwater flowing to site excavations and temporary stormwater infrastructure.

Procedure

Equipment

The following general equipment will be required to allow construction of sediment and erosion control devices:

- gravel filter sock(s);
- stakes/star pickets and sediment fencing (geofabric liner);
- temporary impermeable bunds;
- soil berms/bunds;
- builder's plastic/geofabric or other material to cover soil stockpiles.

Sediment Control Devices – Stormwater Drains

During site demolition works, current stormwater drains located through the site are to be surrounded by gravel filter socks to preclude intrusion of substantial quantities of sediment during works. Reference **CSWMP05-1** for a diagrammatic representation of stormwater drain gravel filter socks to be applied to all onsite stormwater inlets.

Stockpiles - Sediment Control Devices

Stockpiles may be generated from bulk earthworks associated with the development. Where stockpiles are required to be stored for more than 24 hours, these shall be located away from stormwater inlets as far as is reasonably practical.

Where possible, stockpiles will be placed upslope of open excavations, so all sediment from stockpiles is able to enter the open excavations. Reference **CSWMP05-2** for a diagrammatic representation of sediment control devices to be established around soil stockpiles.

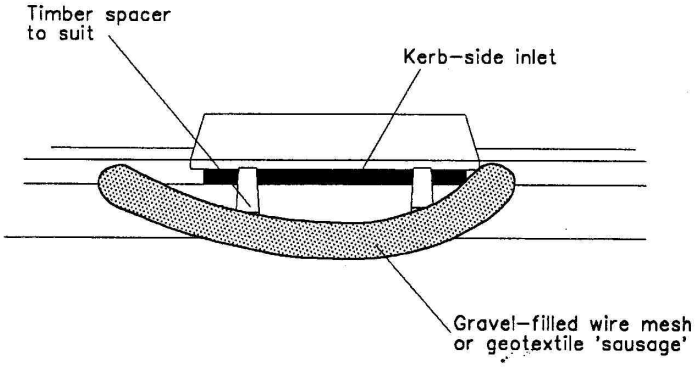
Stockpiles - Covering

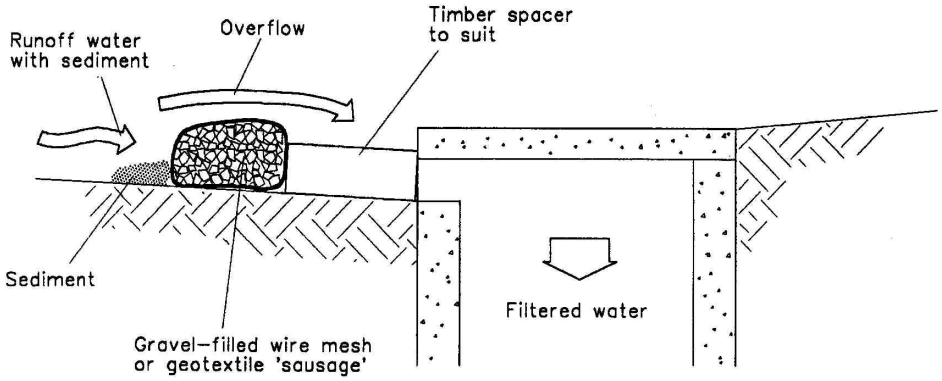
Stockpiles that are to be left in place for a substantial period (>48 hours) shall be covered utilising geofabric and/or builder's plastic to reduce the erosional and sedimentation potential during periods of rainfall.

Stormwater Diversion

Where stockpiles are required to remain in place for a substantial period (>48 hours), controls shall be put in place to minimise the contact of stormwater flows with stockpiled materials. This shall include the use of stormwater diversion devices, including bunding, sediment socks, or similar. Reference **CSWMP05-3** for a diagrammatic representation of stormwater diversion devices to be established around soil stockpiles.

Precipitation collected on undisturbed areas of the site should be directed away from disturbed areas of the site utilising stormwater diversion devices to minimise erosion of soils in disturbed areas.

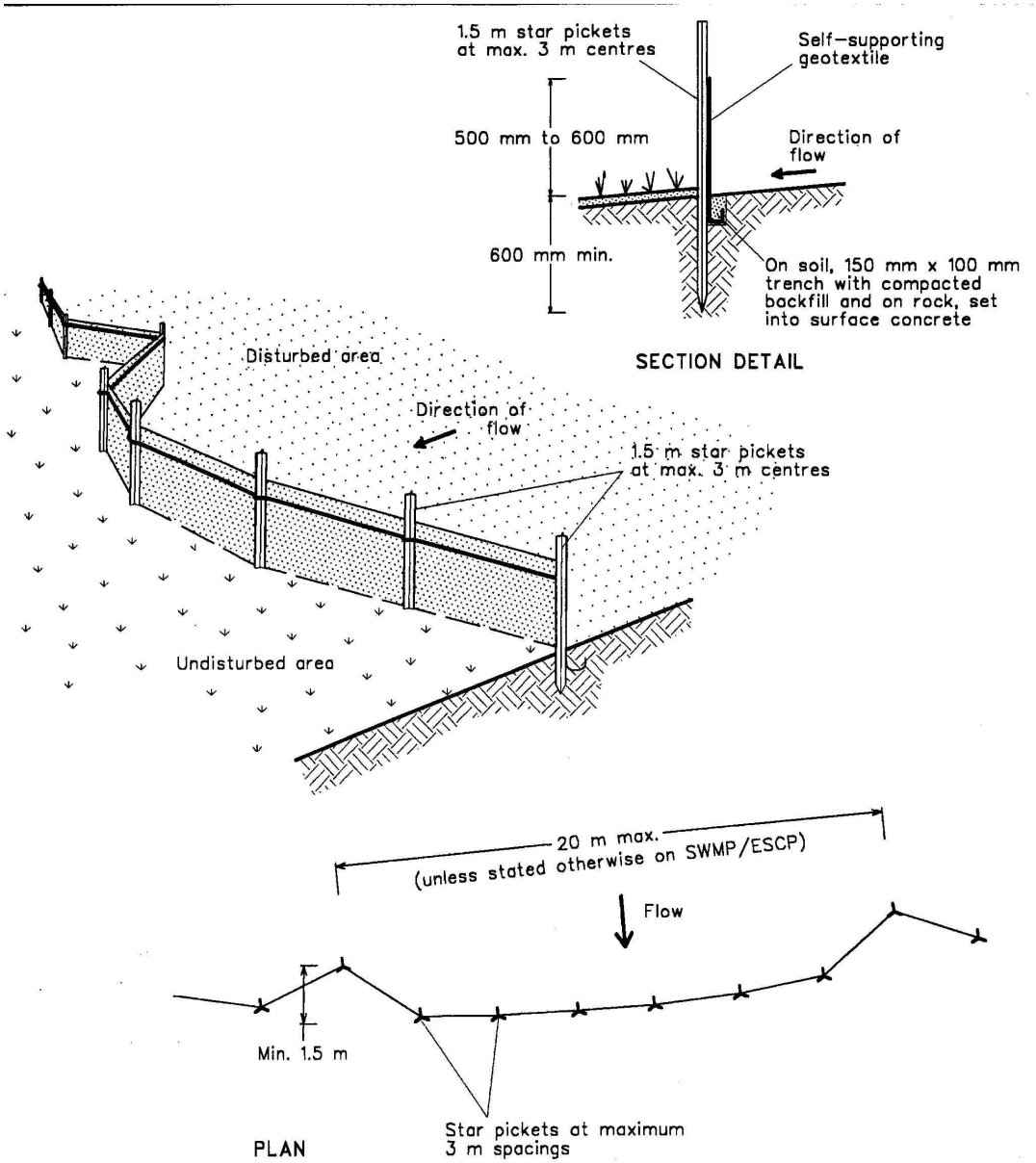




NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

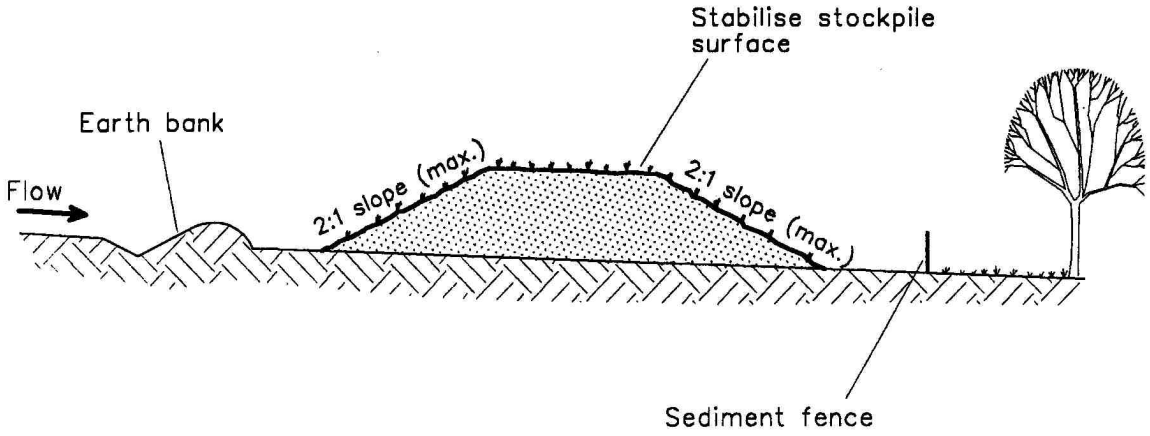
Construction Notes

1. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit.
2. Fill the sleeve with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening of the kerb inlet leaving a 100 mm gap at the top to act as an emergency spillway.
5. Maintain the opening with spacer blocks.
6. Form a seal with the kerbing and prevent sediment bypassing the filter.
7. Fit to all kerb inlets at sag points.



Construction Notes

1. Construct sediment fence as close as possible to parallel to the contours of the site.
2. Drive 1.5 metre long star pickets into ground, 3 metres apart.
3. Dig a 150 mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
4. Backfill trench over base of fabric.
5. Fix self-supporting geotextile to upslope side of posts with wire ties or as recommended by geotextile manufacturer.
6. Join sections of fabric at a support post with a 150 mm overlap.



Construction Notes

1. Locate stockpile at least 5 metres from existing vegetation, concentrated water flows, roads and hazard areas.
2. Construct on the contour as a low, flat, elongated mound.
3. Where there is sufficient area topsoil stockpiles shall be less than 2 metres in height.
4. Rehabilitate in accordance with the SWMP/ESCP.
5. Construct earth bank (Standard Drawing 5-2) on the upslope side to divert run off around the stockpile and a sediment fence (Standard Drawing 6-7) 1 to 2 metres downslope of stockpile.

Unexpected Finds		CSWMP06
Responsibility:	The Principal Contractor (refer to **Section 1.5**)	
Duration:	Entire Project	
Frequency:	As required.	
Objective:	To ensure the ongoing achievement of the objectives stated in **Section 1.2**, where latent conditions are encountered which may require specific controls not otherwise captured by this CSWMP.	

Requirement

The possibility exists for in-ground hazards that have not been identified to date to be present within fill materials or underlying existing pavements/building on the site. These hazards may present novel conditions which require to be addressed to ensure that the continuation of site works is completed in a manner which achieves the objectives stated in **Section 1.2.** An example of such a condition would be the identification of previously unknown contaminants within site soils and/or excavation dewater.

Procedure

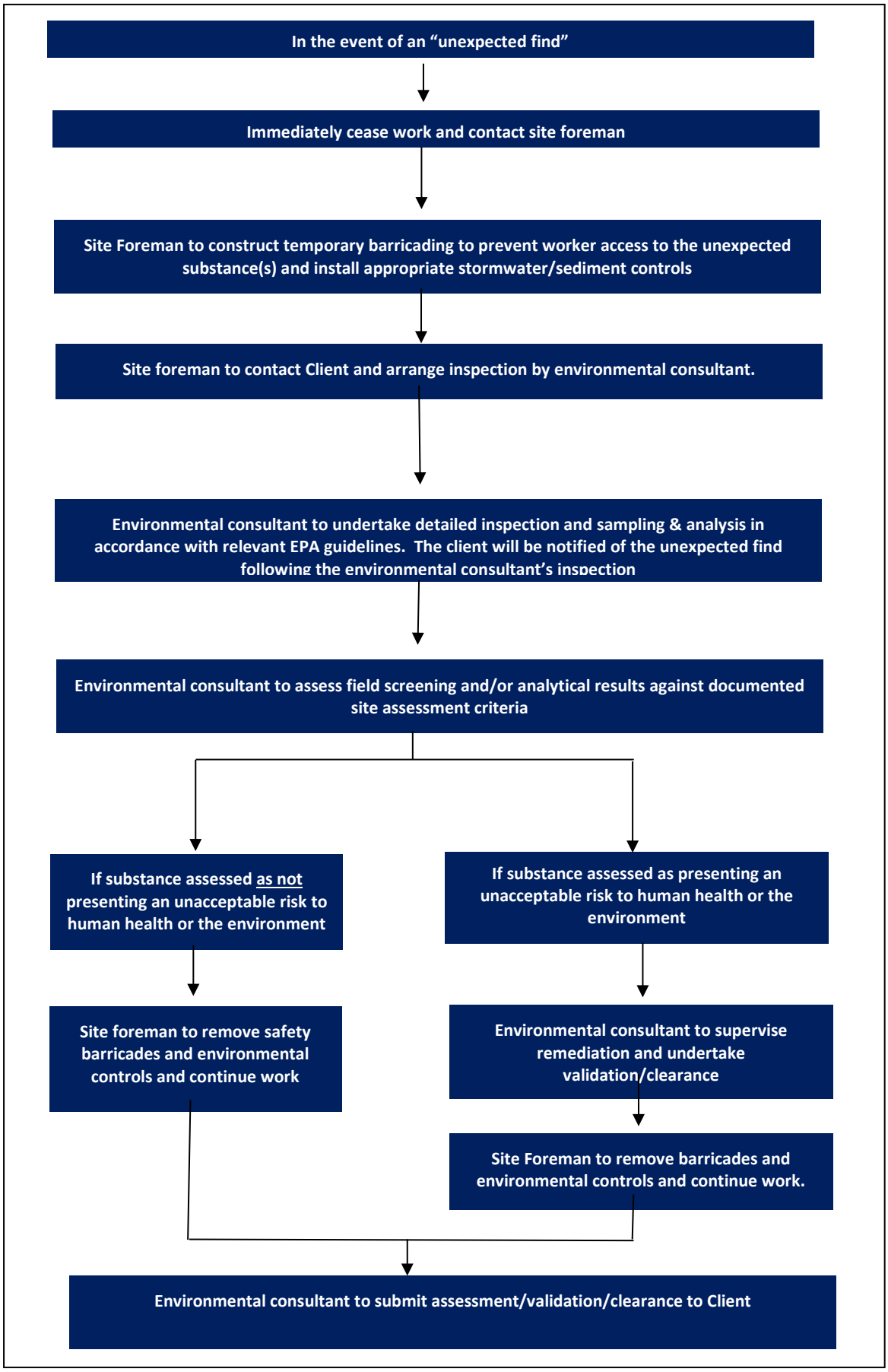
The procedure has been abstracted for the RAP, as relevant to potential soil and water management at the site.

The nature of hazards which may be present and which may be discovered at the site are generally detectable through visual or olfactory means, for example:

- Hydrocarbon impacted materials (visible/odorous); and/or
- Drums, waste pits, former pipework or USTs (visible); and/or
- Oily Ash and/or oily slag contaminated soils/fill materials (visible/odorous); and/or
- Tarry like impacted soil/fill material (visible/odorous); and/or
- Potential chlorinated hydrocarbon impact (sweet odour soils).

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances (or any other unexpected potentially hazardous substance) be identified, the procedure summarised in **Figure CSWMP06-1** is to be followed, as shown on the following page.

Figure CSWMP06-1 - Unexpected Finds Protocol



Non-Compliances with CSWMP	CSWMP07
Responsibility:	The Principal Contractor (refer to **Section 1.5**)
Duration:	Entire Project
Frequency:	Upon identification of non-compliance with the CSWMP
Objective:	To identify the cause of the non-compliance is identified and to review procedures, controls and responsibilities to ensure that the potential for further non-compliances is minimised.

Procedure

Non-compliances with the intent and procedures of this plan may occur during the implementation of the CSWMP. Such non-compliances may include events such as failure to assess stormwater prior to discharge from the site, discharge of environmentally unsuitable stormwater, failure to appropriately contain stockpiled soils, etc.

Where a non-compliance is identified by a responsible organisation, they shall inform the affected organisations of the non-compliance in writing. Where a non-compliance with the CSWMP is identified by another organisation (in the activities of an alternate organisation), then they shall have the responsibility of informing the non-complying party in writing of the non-compliance. The non-complying party will be required to rectify the non-conformity as soon as possible, as per the requirements of the relevant procedure(s) where non-compliance has occurred.

The non-compliance shall be detailed as per the requirements of **CSWMP08** Incident Reporting to record the incident and to inform relevant follow up / review actions.

Detail of the action taken to rectify the non-compliance shall be provided to each of the affected organisations in writing. Where a non-compliance cannot be rectified, then the CSWMP will require to be reviewed as per the requirements of **CSWMP10** CSWMP Review.

Incident Reporting		CSWMP08
Responsibility:	The Responsible Person (refer to **Section 1.5**)	
Duration:	Entire Project	
Frequency:	Upon identification of non-compliance with the CSWMP	
Objective:	To ensure the CSWMP is implemented as intended.	

Procedure

The Principal Contractor shall facilitate the completion of environmental incident forms in accordance with LLB's incident management process for any environmental incident that occurs on the site.

The environmental incident form is provided as **Form 8-1**.

Incident Reporting	Form 8-1

INCIDENT INVESTIGATION SUMMARY

The summary below provides the details of the incident and the corrective and preventative actions implemented following the investigation of the incident.

Project No.		**Project Name**		**WorkSafe Notification No.**		
Brief description of what happened						
First Aid Injury/illness: ☐	MTI: ☐	LTI: ☐	Near miss: ☐	Environment: ☐	Community: ☐	Property Damage: ☐
Date of the incident		**Time of Incident**				
Exact location of incident						
What corrective actions were implemented immediately following the incident? • • • •						
What preventative actions have been or are going to be implemented to minimise this type of incident? • • • • • • • • •						

Report	Name	Position	Signature	Date
Completion				
Review				
Approval	Ross Trethewy	Head of Environment, Health & Safety		

Record Keeping		CSWM09
Responsibility:	The Responsible Person (refer to **Section 1.5**)	
Duration:	Entire Project	
Frequency:	As required	
Objective:	Records of the implementation of the CSWMP require to be retained.	

Procedure

The Responsible Person shall be responsible for the maintenance of all documents relating to the implementation of the CSWMP. This shall include:

- Weekly photographic log of sediment and erosional controls established on site;
- Analytical data to support the characterisation and discharge of accumulated stormwater on site;
- Registers for the maintenance of the CSWMP (site inspection forms, revised plans, *etc.*); and
- Relevant correspondence between the Responsible Person, Contractors, environmental consultant and/or any other party.

All records shall be retained by the Responsible Person throughout the time of implementation of the CSWMP. In the event that the role of Responsible Person is transferred from one organisation to another, control of all relevant (historical and current) documents will be transferred for safe keeping to the current Responsible Person.

CSWMP Review		CSWMP10
Responsibility:	Responsible Person (See **Section 1.5**)	
Duration:	Entire Project	
Frequency:	As required in response to revisions to supporting documents or in response to non-compliances with CSWMP	
Objective:	The CSWMP requires review to ensure its continued appropriateness to be used on the site	

Procedure

A review of erosion and sedimentation controls shall by undertaken weekly by the Principal Contractor and responsible person (per **CSWMP01**).

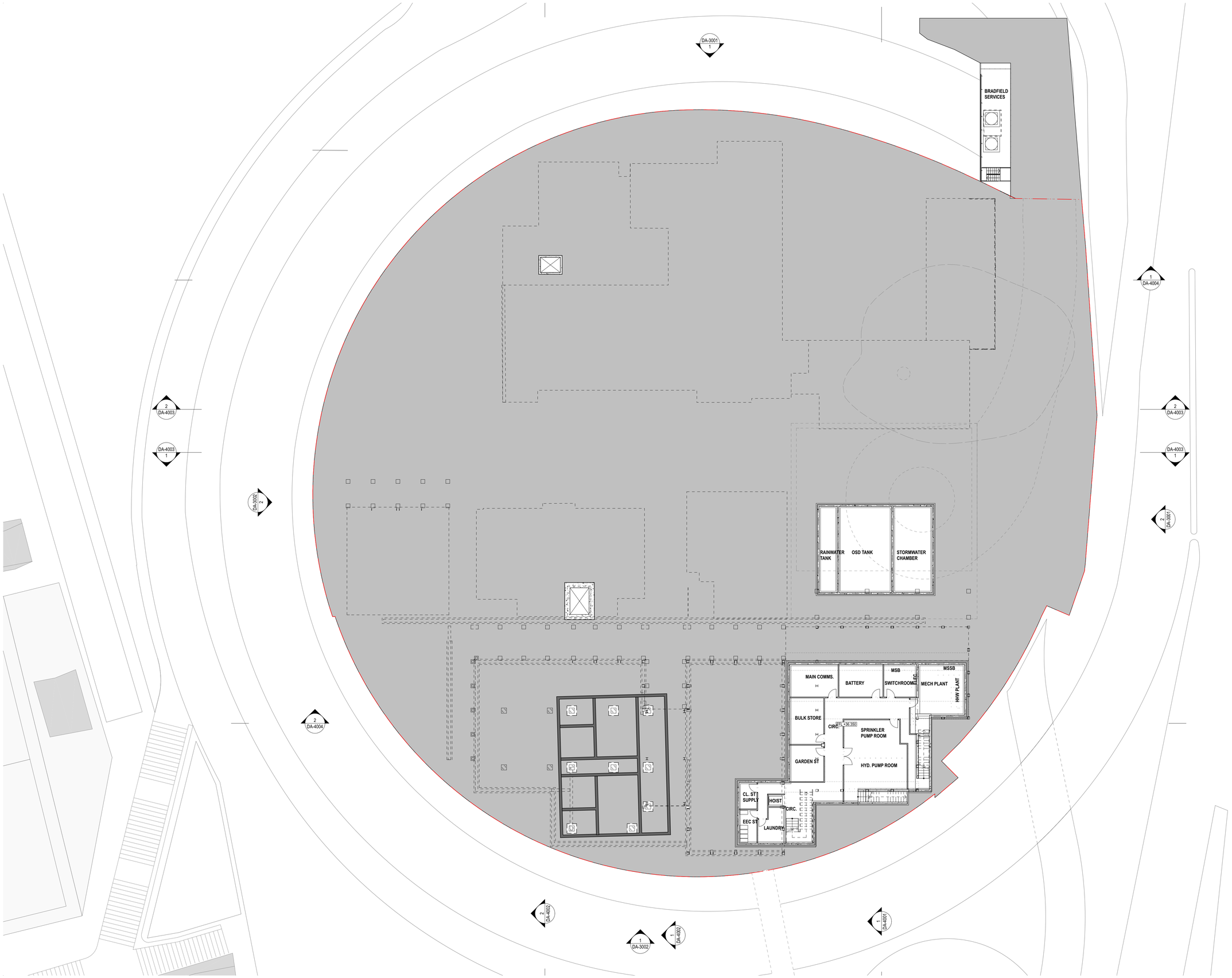
Review of the CSWMP shall be undertaken quarterly by an appropriately qualified contractor/consultant in conjunction with the Responsible Person in response to a non-compliance with the CSWMP. This review shall consider:

- Any non-compliances with the CSWMP that have been unable to be resolved;
- Where an incident is reported as occurring under the control of CSWMP as per **CSWMP08** Incident Reporting;
- Practicalities and efficiencies of management measures and whether there are more effective ways to improve environmental compliance;
- Any changes in state or national environmental protection legislation or guidelines that impact any part of the CSWMP; or
- Any proposed changes in land-use of the site or adjoining sites which may impact upon exposure pathways.

In the event that Principal Contractor (**Section 1.5**) cease to be recognised as the Responsible Person, a complete review of the CSWMP document and compliance measures will be necessary to identify suitable replacement CSWMP compliance mechanisms.

In addition, where a review identifies items which are required to be modified, or added to the CSWMP, then a revision of the CSWMP shall be prepared by a suitably qualified person.

Appendix B Proposed Site Development Plans



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GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

legend

SITE BOUNDARY

NOTE:
- FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION

FUTURE SCOPE

COLD SHELL

COLD SHELL Inclusions:
- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in- ground and/or encased trunking pathways and risers to facilitate future briefed functions.
- Section J NCC requirements where not subject to future alteration due to fitout requirements.

COLD SHELL Exclusions:
- All internal non-essential walls, suspended ceilings, linings and finishes.
- All Fitout, Furnishings and Equipment (FFE), lights, hydraulic fixtures, ICT, etc.
- Services from trunk reticulation paths to FFE installations
- Essential life safety measures to satisfy fitout requirements.

rev	date	name	by	chk
SSDA 01	6/12/19	State Significance Development Application	DB	DB

fjmt studio architecture interiors landscape urban community
sydney melbourne uk
Level 5, 70 King Street t +61 2 9251 7077 w fjmtstudio.com

project

Fort Street Public School
Observatory Hill
Sydney NSW 2000

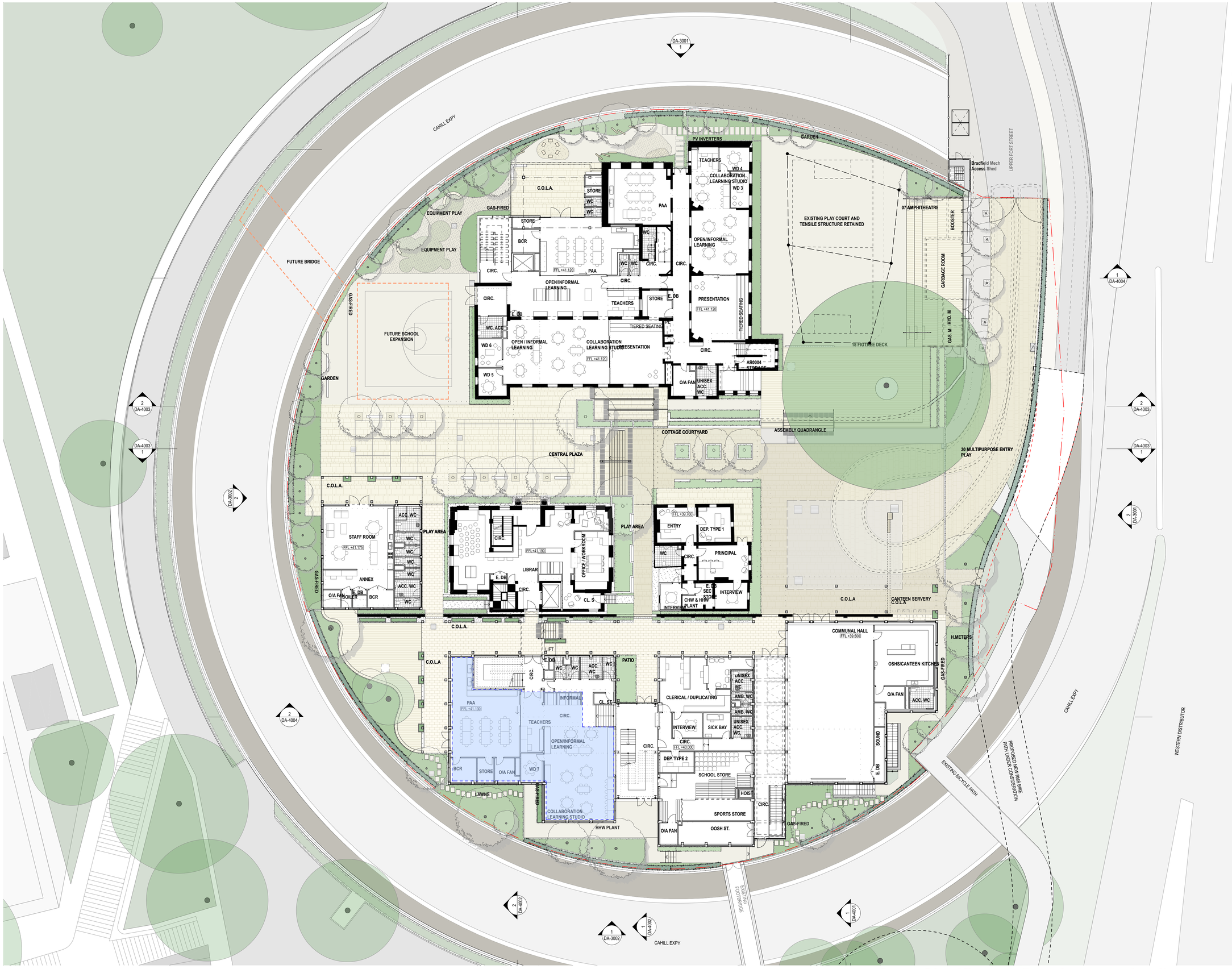
title

General Arrangement Plans
Proposed Plan - Lower Ground 1

scale	first issued
1:200 @ A1	23/9/19

project code	sheet no.	revision
FSS	DA-2001	SSDA.01

State Significance Development Application



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GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

legend

SITE BOUNDARY

NOTE:
- FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION

FUTURE SCOPE

COLD SHELL

COLD SHELL Inclusions:
- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in- ground and/or encased trunking pathways and risers to facilitate future briefed functions.
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- Essential life safety measures to satisfy fitout requirements.

rev	date	name	by	chk
SSDA 01	6/12/19	State Significance Development Application	DB	DB

fjmt studio architecture interiors landscape urban community
sydney melbourne uk
Level 5, 70 King Street t +61 2 9251 7077 ❦ fjmtstudio.com

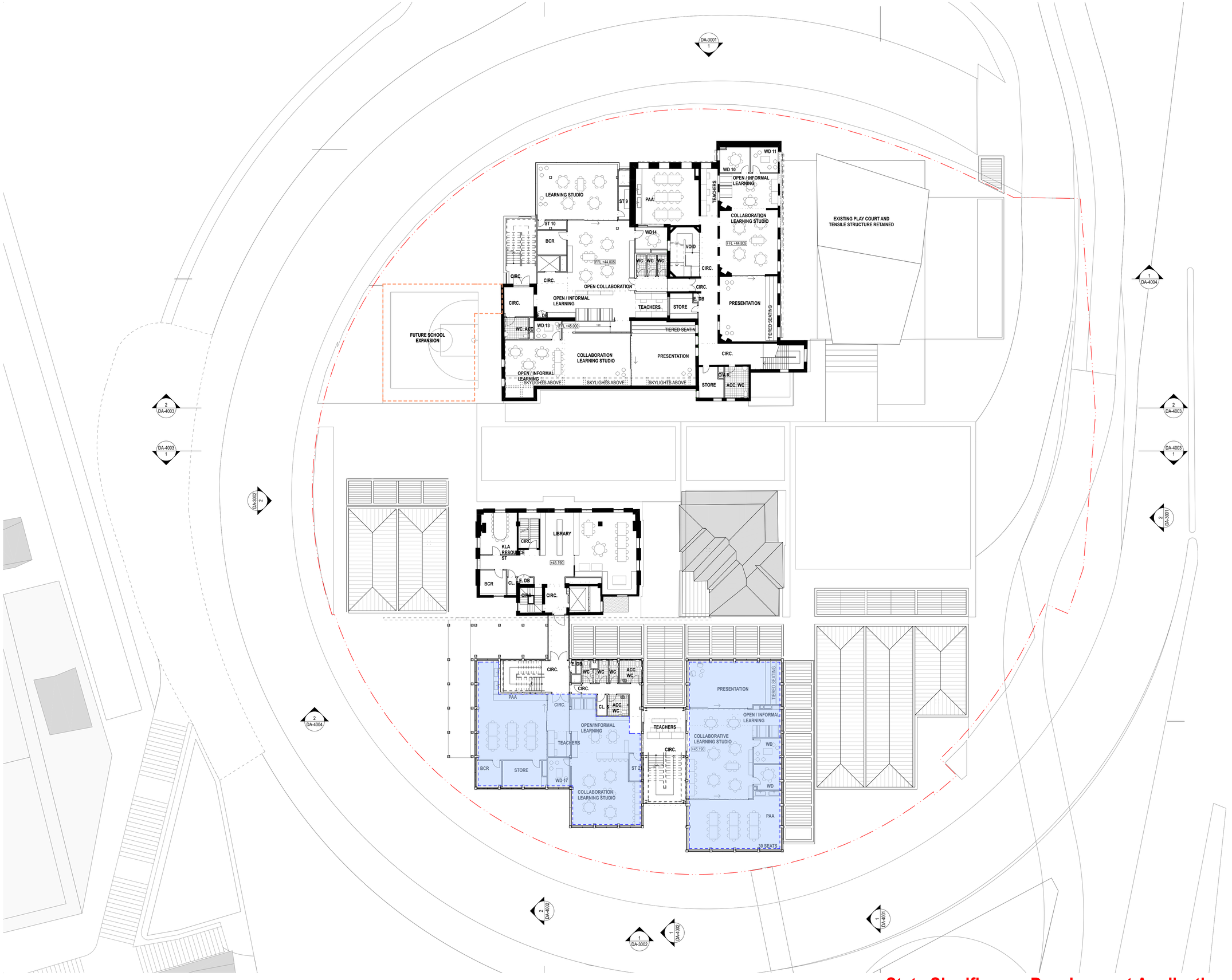
project
Fort Street Public School
Observatory Hill
Sydney NSW 2000

title
General Arrangement Plans
Proposed Plan - Ground

scale	1:200 @ A1	first issued	23/9/19

project code	sheet no.	revision
FSS	DA-2002	SSDA.01

State Significance Development Application



0 2 5 10m

GENERAL NOTES

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- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

legend

SITE BOUNDARY

NOTE:
- FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION

FUTURE SCOPE

COLD SHELL

COLD SHELL Inclusions:
- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in- ground and/or encased trunking pathways and risers to facilitate future briefed functions.
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COLD SHELL Exclusions:
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- All Fitout, Furnishings and Equipment (FFE), lights, hydraulic fixtures, ICT, etc.
- Services from trunk reticulation paths to FFE installations
- Essential life safety measures to satisfy fitout requirements.

rev	date	name	by	chk
SSDA. 01	6/12/19	State Significance Development Application	DB	DB

fjmt studio architecture interiors landscape urban community
sydney melbourne uk
Level 5, 70 King Street t +61 2 9251 7077 w fjmtstudio.com

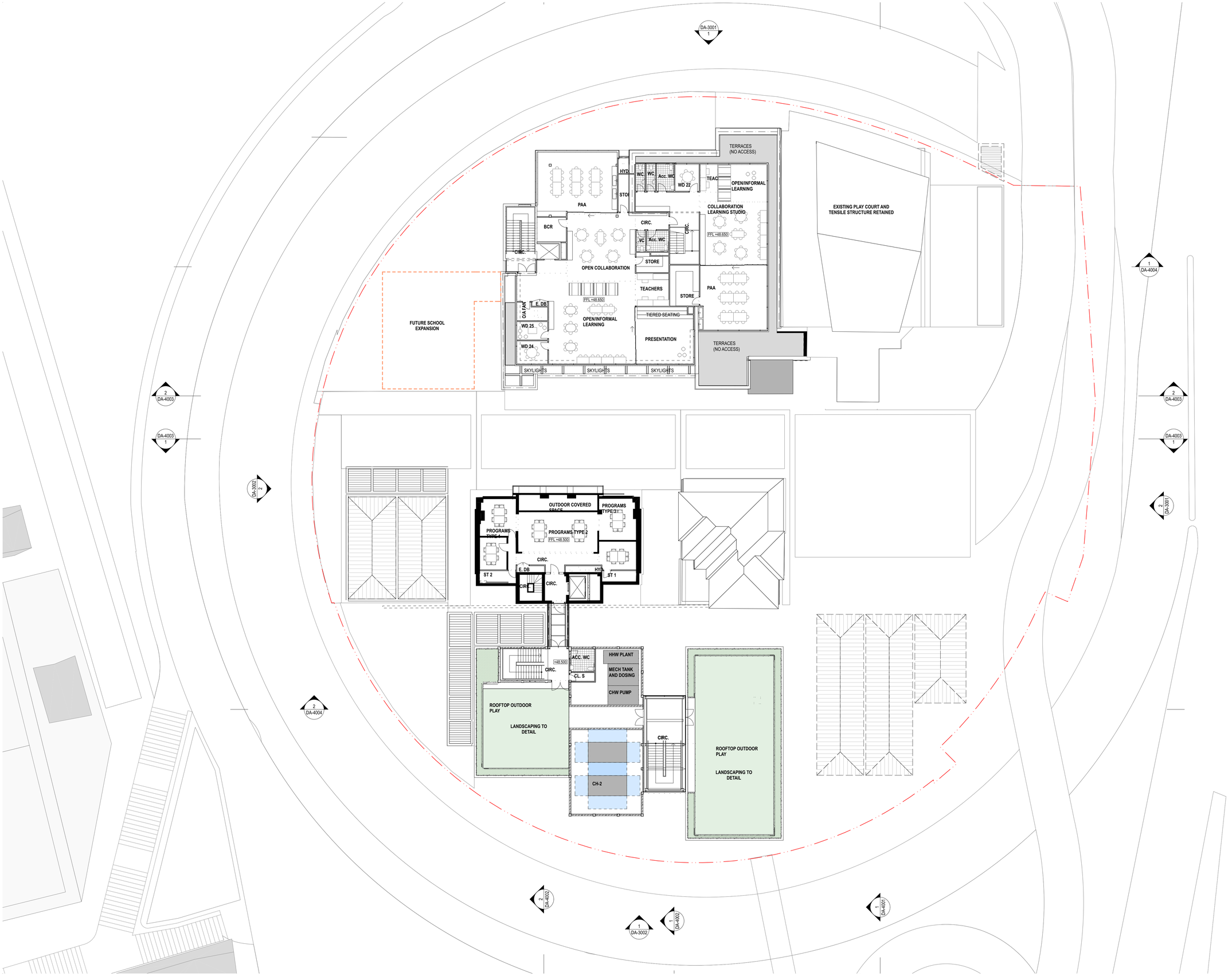
project
Fort Street Public School
Observatory Hill
Sydney NSW 2000

title
General Arrangement Plans
Proposed Plan - Level 1

scale	1:200 @ A1	first issued	23/9/19

project code	sheet no.	revision
FSS	**DA-2003**	**SSDA.01**

State Significance Development Application



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GENERAL NOTES

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- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

legend

SITE BOUNDARY

NOTE:
- FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION

FUTURE SCOPE

COLD SHELL

COLD SHELL Inclusions:
- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in- ground and/or encased trunking pathways and risers to facilitate future briefed functions.
- Section J NCC requirements where not subject to future alteration due to fitout requirements.

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- All internal non-essential walls, suspended ceilings, linings and finishes.
- All Fitout, Furnishings and Equipment (FFE), lights, hydraulic fixtures, ICT, etc.
- Services from trunk reticulation paths to FFE installations
- Essential life safety measures to satisfy fitout requirements.

rev	date	name	by	chk
SSDA 01	6/12/19	State Significance Development Application	DB	DB

fjmt studio architecture interiors landscape urban community
sydney melbourne uk
Level 5, 70 King Street t +61 2 9251 7077 w fjmtstudio.com

project
Fort Street Public School
Observatory Hill
Sydney NSW 2000

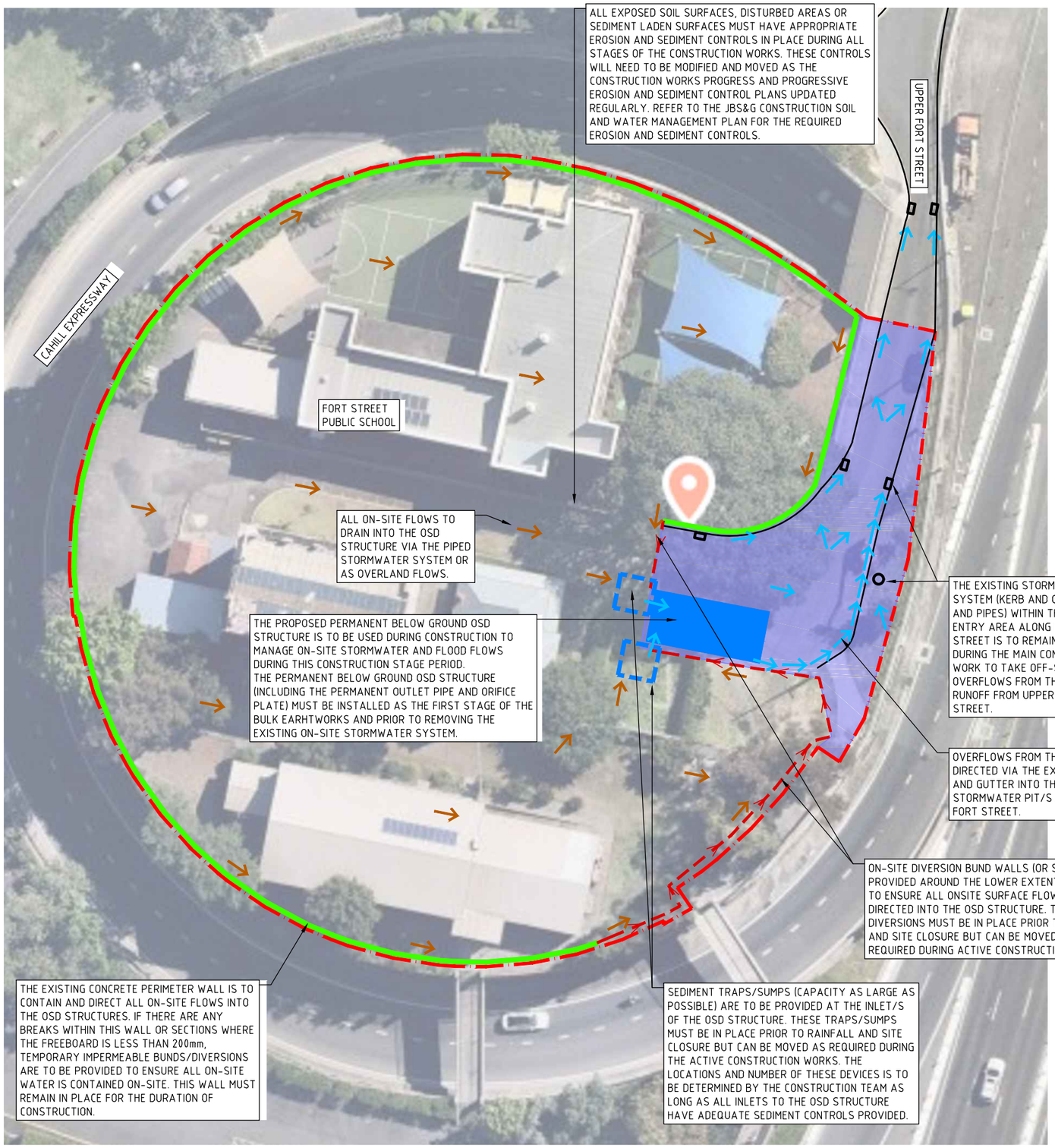
title
General Arrangement Plans
Proposed Plan - Level 2

scale	first issued
1:200 @ A1	23/9/19

project code	sheet no.	revision
FSS	DA-2004	SSDA.01

State Significance Development Application

Appendix C Construction Stage Stormwater Layout Plan



NOT FOR CONSTRUCTION

LEGEND

- SITE BOUNDARY
- EXISTING CONCRETE PERIMETER WALL
- EXISTING STORMWATER PITS (NOT ALL PITS ARE SHOWN - ONLY THOSE RELEVANT TO OFF-SITE FLOWS)
- ON-SITE DIVERSION [1]
- OFF-SITE WATER FLOW
- ON-SITE WATER FLOW
- ON-SITE DETENTION (OSD) BASIN [1]
- SEDIMENT TRAP/SUMP (E.G. COIR LOG OR SANDBAG BUND WITH EXCAVATED SUMP)
- EXISTING GROUND SURFACES (ROAD PAVEMENT, FOOTPATH AND GRASS VERGE) TO REMAIN STABLE AND CLEAN

[1] - DETAILED DESIGN NOT INCLUDED WITHIN THIS PLAN. THIS IS TO BE COMPLETED PRIOR TO CONSTRUCTION WORKS COMMENCING BY THE CONSTRUCTION CONTRACTOR TO ENSURE ALL SURFACE FLOWS ARE ADEQUATELY CONVEYED AS REQUIRED.

www.dialbeforeyoudig.com.au
DIAL1100 BEFORE YOU DIG

0 5 10 15 20 25m
Scale: 1:500 (A3 SHEET)

NOTE
THIS REPORT HAS BEEN DEVELOPED BASED ON AGREED REQUIREMENTS AS UNDERSTOOD BY SEEC AT THE TIME OF INVESTIGATION. IT APPLIES ONLY TO A SPECIFIC TASK ON THE NOMINATED LANDS. OTHER INTERPRETATIONS SHOULD NOT BE MADE, INCLUDING CHANGES IN SCALE OR APPLICATION TO OTHER PROJECTS. ANY RECOMMENDATIONS CONTAINED IN THIS ASSESSMENT ARE BASED ON AN HONEST APPRAISAL OF THE OPPORTUNITIES AND CONSTRAINTS THAT EXISTED AT THE SITE AT THE TIME OF INVESTIGATION, SUBJECT TO THE LIMITED SCOPE AND RESOURCES AVAILABLE. WITHIN THE CONFINES OF THE ABOVE STATEMENTS AND TO THE BEST OF OUR KNOWLEDGE, THIS ASSESSMENT DOES NOT CONTAIN ANY INCOMPLETE OR MISLEADING INFORMATION.

CONSTRUCTION STAGE STORMWATER SUMMARY:

- DURING THE INITIAL DEMOLITION WORKS, ALL EXISTING STORMWATER IS TO REMAIN IN PLACE AND FUNCTIONING TO TAKE OFF-SITE FLOWS.
- THE PROPOSED PERMANENT BELOW GROUND OSD STRUCTURE IS TO BE USED DURING CONSTRUCTION TO MANAGE ON-SITE STORMWATER AND FLOOD FLOWS.
- DURING THE MAIN CONSTRUCTION STAGE WORKS (I.E. BULK EARTHWORKS) ALL ON-SITE FLOWS ARE TO BE DIRECTED INTO THE PROPOSED PERMANENT BELOW GROUND OSD STRUCTURE. THE OSD STRUCTURE (INCLUDING THE PERMANENT OUTLET PIPE AND ORIFICE PLATE) IS TO BE INSTALLED AS THE FIRST STAGE OF THE BULK EARTHWORKS AND PRIOR TO REMOVING THE EXISTING ON-SITE STORMWATER SYSTEM. OFF-SITE OVERFLOWS WILL BE DIRECTED INTO THE EXISTING STORMWATER DRAINAGE (KERB AND GUTTER, PITS AND PIPES) ALONG UPPER FORT STREET.
- REFER TO THE 'OSD TANK STRUCTURAL DETAILS SHEET 1' PLAN BY COSTIN ROE CONSULTING FOR DETAILS OF THE OSD STRUCTURE.
- WATER ACCUMULATING WITHIN ANY OTHER PART OF THE SITE (E.G. EXCAVATIONS OR LOW POINTS) MUST BE TREATED AND TESTED TO COMPLY WITH THE GOVERNING WATER QUALITY REQUIREMENTS. TREATED ON-SITE WATER IS TO BE PUMPED (AS OFF-SITE WATER) INTO THE EXISTING STORMWATER SYSTEM ONCE THE REQUIRED WATER QUALITY IS ACHIEVED (REFER TO THE CSWMSP BY JBS&G).
- APPROPRIATE EROSION AND SEDIMENT CONTROL IS TO BE PROVIDED DURING ALL STAGES AS NOMINATED WITHIN THE JBS&G CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN (CSWMSP). THIS INCLUDES (BUT IS NOT LIMITED TO) COVERING UN-ACTIVE STOCKPILES AND EXPOSED SOIL SURFACES AS MUCH AS POSSIBLE, INSTALLING SEDIMENT CONTROL DEVICES DOWNSLOPE OF ALL EXPOSED SOIL SURFACES (E.G. SEDIMENT FENCE, COIR LOGS, SANDBAG BUNDS ETC.), PROVIDING SEDIMENT TRAP/S OR SUMP/S AT THE SURFACE INLET/S OF THE PERMANENT OSD STRUCTURE, KEEPING IMPERVIOUS SURFACES AS CLEAN AS POSSIBLE VIA SWEEPING (OR SIMILAR), PROVIDING PIT PROTECTIONS AROUND ALL ACTIVE STORMWATER PITS, AND WHERE FEASIBLE COMPLETING FINAL LANDSCAPING/SEALING WORKS PROGRESSIVELY AS EACH AREA OF WORKS ARE COMPLETE. THESE CONTROLS WILL NEED TO BE MODIFIED AND MOVED AS THE CONSTRUCTION WORKS PROGRESS AND PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS UPDATED REGULARLY.

SITE DETAILS

TOTAL SITE AREA	= 6,183 m^2
MAIN CONSTRUCTION AREA	= 5,725 m^2
AREA DRAINING TO OSD	= 5,725 m^2 (I.E. 100% OF MAIN CONSTRUCTION AREA)
AREA NOT DRAINING TO OSD	= 458 m^2 (THIS AREA IS THE SITE ENTRY AREA (ALONG UPPER FORT STREET) CONSISTING OF PAVED DRIVEWAY, FOOTPATH AND GRASS VERGE SURFACES. DRAINAGE IN THIS AREA WILL REMAIN UNCHANGED FROM THE CURRENT SITE CONDITIONS WITH RUNOFF DIRECTED INTO THE EXISTING STORMWATER SYSTEM. ALL SURFACES HERE ARE TO REMAIN STABLE AND UNDISTURBED).

OSD DETAILS/CALCULATIONS
ALL STORMWATER ON SITE DETENTION (OSD) CALCULATIONS HAVE BEEN UNDERTAKEN USING THE URBAN DRAINAGE DESIGN SOFTWARE 'DRAINS'.

ON-SITE DETENTION CALCULATIONS ARE FOR THE MAIN CONSTRUCTION STAGE WORKS ONLY (SPECIFICALLY BULK EARTHWORKS). DURING OTHER CONSTRUCTION STAGES OF WORKS ALL STORMWATER FLOWS WILL DRAIN OFF-SITE VIA THE EXISTING/FUTURE STORMWATER SYSTEM.

% IMPERVIOUS AREA PRE-DEVELOPMENT	= 74.2%
% IMPERVIOUS AREA DURING CONSTRUCTION	= 95%
OFFSITE FLOW PRE-DEVELOPMENT	= 0.181 m^3/s (5 YR ARI)
OFFSITE FLOW POST-DEVELOPMENT	= 0.132 m^3/s (5 YR ARI)
OFFSITE FLOW PRE-DEVELOPMENT	= 0.338 m^3/s (100 YR ARI)
OFFSITE FLOW POST-DEVELOPMENT	= 0.200 m^3/s (100 YR ARI)
REQUIRED OSD STORAGE	**= 93.1 m^3**
OSD VOLUME PROVIDED	**= 96m^3**

(THE OSD STORAGE VOLUME IS TO BE PROVIDED WITHIN THE PROPOSED PERMANENT BELOW GROUND OSD STRUCTURE. THE PERMANENT OSD STRUCTURE MUST BE INSTALLED AS THE FIRST STAGE OF THE EARTHWORKS SO THAT IT IS IN PLACE FOR THE ENTIRE DURATION OF CONSTRUCTION).

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
01	20/09/21	A.T.	A.T.	J.M.A.	REVISIONS TO REFLECT CONSTRUCTION CONDITIONS
00	15/12/20	A.T.	A.T.	J.M.A.	FINAL
A	27/11/20	A.T.	A.T.	J.M.A.	DRAFT ISSUE

DRAWING STATUS

DESIGN BY	A.T.
DRAWN BY	A.T.
FINAL APPROVAL	J.M.A. / B.J.
SCALE: (on A3 Original)	1:500

FINAL

North

CLIENT
LENDLEASE
C/O
JBS&G AUSTRALIA PTY LTD

SEEC
Suites 7 & 8, 68-70 Station Street
PO Box 1098, Bowral NSW 2576.
(t) 02 4862 1633
(f) 02 4862 3088
email: reception@seec.com.au
WWW.SEEC.COM.AU

PROJECT TITLE
CONSTRUCTION STAGE STORMWATER
FORT STREET PUBLIC SCHOOL
OBSERVATORY HILL

DRAWING TITLE
CONSTRUCTION STAGE STORMWATER LAYOUT PLAN

PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
20000364	P01	STW01	01

Plot Date: Monday, September 20, 2021 2:41:30 PM CAD File Name: Q:\20000364 Fort Street Public School\Drawings\20000364_STW_P01_REV01.dwg

Appendix D Consultation with CoS

CITY OF SYDNEY

City of Sydney
Town Hall House
456 Kent Street
Sydney NSW 2000

+61 2 9265 9333
council@cityofsydney.nsw.gov.au
GPO Box 1591 Sydney NSW 2001
cityofsydney.nsw.gov.au

29 January 2021

SCHOOL INFRASTRUCTURE NSW
Level 4 35 Bridge St
SYDNEY NSW 2000

By email: jon.davis@lendlease.com

Attn: Jon Davis, Lendlease

STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSD 10340)
1005 UPPER FORT STREET , MILLERS POINT NSW 2000 - R/2019/6/B

Dear Jon

I refer to the above mentioned consent granted subject to conditions by the Deputy Secretary, Assessment and System Performance as delegate of the Minister for Planning and Public Spaces on 7 October 2020.

Please be advised that the City of Sydney has no comments in relation to the 'Construction Soil and Water Management Plan' dated 21 December 2020 prepared by JBS and G Australia (reference 59861/134281 Rev 0) which was submitted by the applicant in relation to Condition B21(a) of SSD 10340 as below.

> B21. The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following:
> (a) be prepared by a suitably qualified expert, in consultation with Council;
> (b) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';
> (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);
> (d) detail all off-Site flows from the Site; and
> (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI.

If you require any further information please contact **Amy Douglas on 9265 9333 or adouglas@cityofsydney.nsw.gov.au**

Yours faithfully

Andrew Rees
Area Planning Manager

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x Electronic Copy	Jon Davis	7 December 2020
0	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	21 December 2020
1	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	8 January 2021
2	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	7 April 2021
3	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	17 May 2021
4	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	02/07/2021
5	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	16/08/2021
6	1 x Electronic Copy	Jon Davis, Christine Eberl, Arthur Panagopoulos	30/09/2021

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Rohan Hammond	Matthew Parkinson	Matthew Parkinson	Draft for client review	7 December 2020
0	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	21 December 2020
1	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	8 January 2021
2	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	7 April 2021
3	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	17 May 2021
4	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	2 July 2021
5	Daniel Denaro	Matthew Bennett	Matthew Bennett	Draft for client review	18 August 2021
6	Daniel Denaro	Matthew Bennett	Matthew Bennett	Draft for client review	30 September 2021

Appendix E – Stantec Construction Noise and Vibration Management Sub-Plan

Fort Street Public School

Acoustics Report

Construction Noise and Vibration Management Sub-Plan

Prepared for: Lendlease

Attention: Christine Eberl

Date: 28th April 2021

Prepared by: James Ashpole

Ref: 44553

Stantec Australia Pty Ltd
Level 6, Building B, 207 Pacific Highway, St Leonards NSW 2065
Tel: +61 2 8484 7000 Web: www.stantec.com

P:\44553\PROJECT DOCUMENTATION\ACOUSTICS\DESIGN\REPORTS\AC-RE-CNVMP_003.DOCX

Stantec

Revision

Revision	Date	Comment	Prepared By	Approved By
001	4/12/2020	Draft issue	James Ashpole	Meisha Stevens
002	21/12/2020	Updated as per comments	James Ashpole	Meisha Stevens
003	13/04/2021	Updated community consultation program	James Ashpole	Meisha Stevens
004	15/04/2021	Update as per comments	James Ashpole	Meisha Stevens
005	28/04/2021	Responses to community consultation program	James Ashpole	Meisha Stevens

WGE is a proud member of the Association of Australian Acoustical Consultants (AAAC).

AAAC members are competent and capable in the acoustic field. Members of the AAAC provide professional unbiased advices and recommendations in order to deliver practical innovative and cost effective solutions to their clients.

AAAC members are bind to a specific code of professional conduct which can be consulted on the AAAC website: http://www.aaac.org.au/au/aaac/ethics.aspx

Contents

Contents

1. Introduction

Stantec have been engaged by Lendlease Building Pty Ltd to prepare a Construction Noise and Vibration Management Plan (CNVMP) for the proposed construction works at Fort Street Public School located at observatory Hill, Upper Fort St, NSW 2000.

This report addresses the requirements established by the City of Sydney Council and NSW Department of Planning, Industry, and Environment for the grant of the construction certificate allowing the work on site to commence.

The works are to be split into three periods which are:

- Demolition
- Excavation
- Structure/ Construction

Certain tasks will be carried out concurrently with other tasks for particular time periods that are significant in duration. In a given combination of events, the noise emitted by performing the tasks simultaneously will be considered.

This Construction Noise and Vibration Management Plan provides:

- Criteria for the noise and vibration generated during the Demolition, Excavation and Construction phases
- A quantitative assessment of the airborne and ground-borne noise generated by the work for the proposed development and its impact on nearby receivers
- Strategies to mitigate the noise and vibration generated during the construction works phases
- Complaints handling and community liaison procedures

This assessment discusses the predicted impact of the construction noise and vibration generated by the construction equipment on the nearest most-affected receivers.

This report has been prepared with the following references:

- City of Sydney Development Control Plan (DCP), 2012
- City of Sydney's Construction Hours/Noise within the Central Business District 1992
- Interim Construction Noise Guideline (ICNG), NSW DECC, 2009
- Construction Noise Strategy, Transport for NSW, 2013
- Noise Policy for Industry (NPI), NSW EPA, 2017
- Assessing Vibration: A Technical Guideline, NSW DEC, 2006
- AS 2436:2010 *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*
- British Standard BS 5228: Part 1:1997 *Noise and Vibration Control on Construction and Open Sites*
- British Standard BS 7358:1993 *Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Ground-borne Vibration*
- German Standard DIN 4150-Part 3 *Structural vibration in buildings – Effects on structures*
- Fort Street Public School Redevelopment – SSDA Acoustic Assessment Report, prepared by Arup dated 20th December 2019
- Fort Street Public School Works Construction Management Plan, prepared by Lendlease dated 9th June 2020.

The predicted noise levels are based on the proposed construction program and equipment lists provided in this report.

2. Project Description

2.1 Site Description and Noise & Vibration Sensitive Receivers

The proposed redevelopment of the Fort Street Public School is located at Observatory Hill, Upper Fort St, Millers Point. The site is adjacent to the Sydney Observatory and National Trust (NSW). The site is bound on all sides by high traffic motorways (Cahill Expressway and Western Distributor), and as such the ambient environment is characterized and dominated by high levels of road traffic noise. Additionally, there is a rail corridor which runs adjacent to the site under the nearby motorways.

The nearest noise sensitive receivers are considered to be the residential properties along Kent street, however, due to a cutaway, the landscape provides adequate shielding from noise emissions in relation to the operation of Fort Street Public School. With the addition of the high levels of road traffic noise, it is unlikely that the operational noise emissions from the site will adversely impact the amenity of the residential receivers.

Figure 1: Aerial photo illustrating the site, proximity to noise-sensitive receivers

Source: nearmap.com

2.2 Existing Noise & Vibration Environment

The existing noise environment around the site has been assessed and defined within the SSDA Acoustic Assessment Report prepared by Arup dated 20/12/2019. This report sets out the relative criteria with regard to noise emissions from the proposed development

3. Background and Ambient Noise Monitoring

Table 1 below presents the summary of the background noise monitoring relevant to the proposed redevelopment. It has been extracted from the Noise and Vibration Assessment Report SSD 10340 prepared by Arup, dated 20th December 2019.

Table 1: NPI project specific noise levels– Extract from Arup Report

Receiver	Time Period	Intrusive Noise Trigger Levels $L_{Aeq, 15min}$	Project Amenity Noise Level (PANL) $L_{Aeq, period}$	Project Noise Trigger Level $L_{Aeq, 15min}$
Nearest Residential receivers on Kent St and Agar Steps (R1 & R2)	Day	62	60	60
	Evening	61	50	50
	Night	51	45	45
Observatory Park (Recreational Receiver)	When in use	-	65	65
Sydney Observatory and National Trust (C1 & C2)	When in use	-	65	65

4. Acoustic Criteria

4.1 Construction Noise Criteria

The following subsections outline the Construction noise criteria for the proposed development. Note the state requirements below, however the more prescriptive requirement from The City of Sydney shall be adopted for this project.

4.1.1 Interim Construction Noise Guideline (ICNG)

The *Interim Construction Noise Guideline* (ICNG) by NSW DECC recommends the following standard hours of construction:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- Sunday and public holidays: no work

The noise criteria associated with construction and its related activities are shown in Table 2, as presented in Section 4.1.1 Table 2 of the ICNG.

Table 2: Construction Noise Criteria at Residences

Time of Day	Management Level $L_{Aeq,15min}$	How to Apply
Recommended Standard Hours:	Noise Affected RBL + 10dB	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured **$L_{Aeq,15min}$** is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residences of the nature of works to be carried out, the expected noise levels and duration as well as contact details.
	Highly Noise Affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur in, taking into account: - Times identified by the community when they are less sensitive to noise (such as before and after school, for works near schools, or mid-morning or mid-afternoon for works near residences) - If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

Outside Recommended Standard Hours	Noise Affected RBL + 5dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. • For guidance on negotiating agreements see section 7.2.2. of the ICNG

Note: Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30m away from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Table 3 below (Section 4.1.3 of the ICNG) sets out the noise management levels for other land uses, including commercial premises. The external noise levels should be assessed at the most affected occupied point for commercial and industrial uses, and at the most affected point within 50 metres of the area boundary for parks.

Table 3: Construction Noise Criteria for Other Land Uses

Land Use	Management Level, $L_{Aeq,15min}$ – applies when land use is being utilized
Passive recreation, parks	External noise level 60 dB(A)
Industrial premises	External noise level 75 dB(A)
Offices, retail outlets	External noise level 70 dB(A)

Based on the criteria in the tables above, the following noise management levels in Table 4 should be applied to the receivers C1, C2, R1, R2 and the surrounding recreational park located north of the proposed site.

Table 4: Project Specific Construction Noise Management Levels

Land Use	Receiver	Management Level, $L_{Aeq,15min}$
Offices, retail outlets	C1 & C2	External noise level **70 dB(A)**
Residential	R1 & R2	60 dB(A) + 10 dB = **70 dB(A)**
Residential (Outside Recommended Standard hours)	R1 & R2	60 dB(A) + 5 dB = **65 dB(A)**

It is important to note that operation falling outside the standard hours recommended within the ICNG will be assessed under the Outside Recommended Standard Hours criteria.

4.1.2 City of Sydney Construction Hours/Noise within the CBD

The City of Sydney's document *Construction Hours/Noise within the Central Business District* provides comprehensive guidelines to permit construction work during all hours of the day, seven days per week subject to compliance with noise criteria, and will allow construction to be planned and undertaken without affecting the amenity of residents, commercial operators, tourists and other city users.

The Code prescribes the obligations that an applicant accepts with regard to addressing:

- Construction hours to be worked
- Noise criteria applying to those hours of work
- Regular reporting by the firm's principals
- Site supervision needed to comply with the Code
- Special requirements if work is intended during Category 2, 3 and 4 hours.

Table 5 summarises the categories of working hours and noise criteria specific to the proposed development.

Table 5: Categories of Working Hours, and Noise Criteria

Day	Time Period	Category	Noise Criteria	Project Specific Noise Criteria
Monday to Friday	00.00 – 07.00	4	Background + 0 dBA	45 (used night-time period)
	07.00 – 08.00	1	Background + 5 dBA	65 (used daytime period)
	08.00 – 19.00	1	Background + 10 dBA	70 (used daytime period)
	19.00 – 23.00	2	Background + 3 dBA	48 (used night-time period)
	23.00 – 24.00	4	Background + 0 dBA	45 (used night-time period)
Saturday	00.00 – 07.00	4	Background + 0 dBA	45 (used night-time period)
	07.00 – 08.00	1	Background + 5 dBA	65 (used daytime period)
	08.00 – 17.00	1	Background + 10 dBA	70 (used daytime period)
	17.00 – 23.00	2	Background + 3 dBA	48 (used night-time period)
	23.00 – 24.00	4	Background + 0 dBA	45 (used night-time period)
Sundays and Public Holidays	00.00 – 07.00	4	Background + 0 dBA	45 (used night-time period)
	07.00 – 17.00	3	Background + 3 dBA	63 (used daytime period)
	17.00 – 24.00	4	Background + 0 dBA	45 (used night-time period)

Notes

1. All noise levels to be $L_{A,average,max,15min}$ measured at the nearest Nominated Occupancy.
2. The permissible noise level is to be complied with during each fifteen (15) minute period during the relevant Category of Hours.
3. The guidelines for control of construction noise as outlined in AS2436 shall be applied, where appropriate.
4. Background is "Background Noise Level" as defined in para 18.j (page 5) of the Code.

4.2 Construction Vibration Criteria

4.2.1 Human Comfort – Continuous and Impulsive Vibration Criteria

Structural vibration in buildings can be detected by occupants and can affect them in many ways including reducing their quality of life and also their working efficiency. Complaint levels from occupants of buildings subject to vibration depend upon their use of the building and the time of the day. The vibration emitted from construction works should be such that it does not exceed the maximum limits set out in the criteria presented in Table 6 to Table 9. The guide on preferred values for human comfort have been extracted from the NSW DEC *Assessing Vibration: A Technical Guideline* (2006). The criteria for continuous and impulsive vibration are summarized in Table 6.

Table 6: Criteria for Exposure to Continuous and Impulsive Vibration

Place	Time	Vibration Acceleration (mm/s^2)			
		Preferred		Maximum	
Continuous Vibration		z axis	x and y axis	z axis	x and y axis
Critical working areas (e.g. hospital operating theatres precision laboratories)	Day or night time	0.005	0.0036	0.010	0.0072
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night time	0.007	0.005	0.014	0.010
Offices	Day or night time	0.020	0.014	0.040	0.028
Workshops	Day or night time	0.040	0.029	0.080	0.058
Impulsive Vibration		z axis	x and y axis	z axis	x and y axis
Critical working areas (e.g. hospital operating theatres precision laboratories)	Day or night time	0.005	0.0036	0.010	0.0072
Residences	Daytime	0.30	0.21	0.60	0.42
	Night time	0.10	0.071	0.20	0.14
Offices	Day or night time	0.64	0.46	1.28	0.92
Workshops	Day or night time	0.64	0.46	1.28	0.92

Disturbance caused by vibration will depend on its duration and its magnitude. This methodology of assessing intermittent vibration levels involves the calculation of a parameter called the Vibration Dose Value (VDV) which is used to evaluate the cumulative effects of intermittent vibration. The criteria applicable when considering periods of intermittent vibration are presented in Table 7.

Table 7: Acceptable Vibration Dose Values for Intermittent Vibration (1.75 m/s)

Location	Daytime		Night time	
	Preferred Value	Maximum Value	Preferred Value	Maximum Value
Critical areas	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

4.2.2 Structural Damage – Vibration Criteria

Ground vibration criteria are defined in terms of levels of vibration emission from construction activities that will not damage surrounding buildings or structures. It should be noted that human comfort criteria are normally expressed in terms of acceleration whereas structural damage criteria are normally expressed in terms of velocity. The human comfort criteria are also often exceeded before a risk of structural damage.

Structural damage criteria are presented in German Standard DIN 4150-Part 3 *Structural vibration in buildings – Effects on structures* and British Standard BS 7385-2:1993 *Evaluation and Measurement for Vibration in Buildings*. The British Standard BS 7385-2:1993 establishes vibration values for buildings based on the lowest vibration levels above which damage has been credibly demonstrated. These values are evaluated to give a minimum risk of vibration-induced damage, where minimal risk for a named effect is usually taken as 95% probability of no effect. The aforementioned values are summarised in Table 8.

Table 8: Transient Vibration Guide Values for Cosmetic Damage – BS 7385-2:1993

Type of Building	Peak component particle velocity in frequency range of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures Industrial or light commercial type buildings	50mm/s	N/A
Unreinforced or light framed structures Residential or light commercial type buildings	15mm/s	20mm/s (50mm/s at 40Hz and above)

Table 9 indicates the vibration limits presented in DIN 4150-Part 3 to ensure structural damage does not occur.

Table 9: Guideline Value of Vibration Velocity (vi) for Evaluating the Effects of Short-Term Vibration – DIN 4150-Part 3

Line	Type of Structure	Vibration velocity, v_i, in mm/s			
		Foundation At a frequency of			Plane of floor of uppermost full storey
		Less than 10Hz	10 to 50Hz	50 to 100Hz *	All Frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that, because of their particular sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8
*For frequencies above 100Hz, at least the values specified in this column shall be applied.					

5. Construction Noise Assessment

5.1 Proposed Construction Activities

In this assessment, the noise impact from the early construction works are considered. The proposed early construction will consist of the following stages

- Demolition
- Excavation
- Structure

The hours of work are expected to occur during the daytime hours, as follows:

- Monday to Friday: 7am to 7pm
- Saturday: 8am to 4pm
- Sunday and public holidays: no work

The worst case scenarios for both commercial and residential receivers are covered. This means construction works concentrated along the southern barrier for the nearby receivers. Appendix C presents figures detailing the layout of equipment noise sources on site used for the assessment purposes.

Note that 7:00am to 8:00am works has a reduced noise allowance, see Table 5. Works taking place between these hours should reflect these restrictions. i.e. small hand tools, painting, site arrivals, etc. If any additional works are to be conducted outside of the hours shown above, Table 5 should be consulted to determine the allowance of noise and works conducted should be limited in order to minimise the impact of noise generated.

5.2 Expected Construction Equipment

The noise sources likely to be associated with the works listed in the previous section of this report are presented in Table 10. The equipment noise levels have been extracted from AS 2436:2010 *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites* and *Construction Noise Strategy, Transport for NSW.*.

Table 10: Construction Equipment Noise Levels

Stages	Equipment	Sound Power Level dB(A)
Demolition	Jackhammer	113
	Powered hand tools	102
	Bobcat	107
	Cherry picker	102
	Truck	108
Excavation	Excavator (30-40t))	110
	Powered hand tools	102
	Concrete pump	109
	Mobile Crane	110
	Bored piling	110
	Generator	104
	Truck	108
	Vibratory Roller	114
Construction	Mobile Crane	110
	Powered hand tools	102
	Concrete pump	108
	Truck	107
	Concrete Vibrator	105

5.3 Noise Modelling & Assumptions

In order to assess the noise impact from the site during the various construction stages, a noise model was established in the commercial software SoundPLAN v8.1, which is a comprehensive software package for estimating noise impacts in varying situations. In the software, a 3D model of the site and its surroundings was constructed, including the nearby buildings and the construction plant and equipment as the relevant noise sources. Within the model, the effects of the environment (built and natural) on propagation of sound were taken into account to reliably estimate the resulting noise effects on the surrounding noise sensitive receivers.

The noise model represents the 'reasonable' worst case periods of construction activities, meaning that all the equipment of each stage are operating simultaneously during a 15-minute observation period.

The assumptions that were made within the assessment include the following:

- The predicted noise levels represent the worst case scenario for each receiver
- Noise produced from vehicle movements along Upper Fort Street expected from construction vehicles accessing the site were included in the assessment.
- The predicted noise levels at the nearby sensitive receivers have been assessed with the concrete barriers and Class A Hoarding as outlined in the Fort Street Public School Works Construction Management Plan, prepared by Lendlease, dated 9th June 2020.
- The predicted noise levels at the nearby sensitive receivers have been assessed with additional hoarding implemented in the project specific noise mitigation measures provided in Section 7.1 as recommended by Stantec.
- The effect of other mitigation measures (respite periods, flexshield barriers to the scaffolding) has **not** been included within the model, however respite periods and such should be implemented as part of the management plan. This modelling only reflects those worst-case periods.
- The height of the receivers has been assumed as 1.5m from ground level, with the exception of the residential receivers located at R1 & R2 (where it was assumed higher in line with the top floor of the building to represent a worst case scenario as the lower levels are heavily shielded by the terrain). The heights of these receivers were set to 5.5m for R1 and 3m for R2, relative height from ground based on the worse case affected receiver window/ balcony of the apartment building.
- The noise levels have been assessed using neutral weather conditions. i.e. no rain or strong wind.
- As detailed construction plan is still to be developed with equipment, vehicles etc. to be selected, Stantec has made typical assumptions on equipment to be used on site for each stage of the demolition and construction.

The noise levels at the surrounding sensitive receivers have been based on the assumptions and aforementioned sound power levels of the equipment. The results of the predicted noise levels are presented in the following section.

5.4 Predicted Noise Levels

5.4.1 City of Sydney Construction Hour/Noise

The predicted construction noise levels have been presented in Table 11, Table 12, and Table 13 and have been compared with the requirements of the City of Sydney Construction Hours/Noise. The noise contour maps produced by the three-dimensional noise propagation modelling are provided in Appendix B. Each receiver location has been assessed for demolition, excavation, and construction stages respectively.

For the purpose of the assessment, worst case location of equipment and receiver height was assumed. It should be noted that for some periods of out of hours construction show minor exceedances of a maximum of 2dB(A). However, it is noted that a 2dB increase is not a perceivable change. Furthermore, the noise modelling assumes a worst-case scenario and additional mitigation measurements implemented by the Principal Contractor that have not been accounted for in the noise modelling (e.g. respite periods and reducing the amount of simultaneous activities taking place on site at any given time). It is expected that with the acoustic measures shown in Section 7 as well as any other feasible and reasonable measures (e.g. no piling after standard hours, limited amount of sources active on site after standard hours) compliance will be achieved at the nearest most sensitive receivers.

Table 11: Predicted Noise Levels - Demolition

ID	Receiver	Day	Time	Predicted Noise Level $L_{Aeq,\ 15min}$	Noise Management Level $L_{eq,15min}$ dB(A)	Noise Management Level Exceedance (dB)	Complies? (Y/N)
R1	Residential	Monday - Friday	07.00 – 08.00	53.9	65	-	Yes
			08.00 – 19.00	53.9	70	-	Yes
		Saturday	07.00 – 08.00	53.9	65	-	Yes
			08.00 – 17.00	53.9	70	-	Yes
R2	Residential	Monday - Friday	07.00 – 08.00	60.6	65	-	Yes
			08.00 – 19.00	60.6	70	-	Yes
		Saturday	07.00 – 08.00	60.6	65	-	Yes
			08.00 – 17.00	60.6	70	-	Yes
C1	Industrial	Monday - Friday	07.00 – 08.00	52.8	65	-	Yes
			08.00 – 19.00	52.8	70	-	Yes
		Saturday	07.00 – 08.00	52.8	65	-	Yes
			08.00 – 17.00	52.8	70	-	Yes
C2	Commercial	Monday - Friday	07.00 – 08.00	57.1	65	-	Yes
			08.00 – 19.00	57.1	70	-	Yes
		Saturday	07.00 – 08.00	57.1	65	-	Yes
			08.00 – 17.00	57.1	70	-	Yes

Table 12: Predicted Noise Levels – Excavation

ID	Receiver	Day	Time	Predicted Noise Level $L_{Aeq,\ 15min}$	Noise Management Level $L_{eq,15min}$ dB(A)	Noise Management Level Exceedance (dB)	Complies? (Y/N)
R1	Residential	Monday - Friday	07.00 – 08.00	59.3	65	-	Yes
			08.00 – 19.00	59.3	70	-	Yes
		Saturday	07.00 – 08.00	59.3	65	-	Yes
			08.00 – 17.00	59.3	70	-	Yes
R2	Residential	Monday - Friday	07.00 – 08.00	67	65	2	Yes*
			08.00 – 19.00	67	70	-	Yes
		Saturday	07.00 – 08.00	67	65	2	Yes*
			08.00 – 17.00	67	70	-	Yes
C1	Industrial	Monday - Friday	07.00 – 08.00	64	65	-	Yes
			08.00 – 19.00	64	70	-	Yes
		Saturday	07.00 – 08.00	64	65	-	Yes
			08.00 – 17.00	64	70	-	Yes
C2	Commercial	Monday - Friday	07.00 – 08.00	66	65	1	Yes*
			08.00 – 19.00	66	70	-	Yes
		Saturday	07.00 – 08.00	66	65	1	Yes*
			08.00 – 17.00	66	70	-	Yes

Table 13: Predicted Noise Levels - Construction

ID	Receiver	Day	Time	Predicted Noise Level $L_{Aeq,\ 15min}$	Noise Management Level $L_{eq,15min}$ dB(A)	Noise Management Level Exceedance (dB)	Complies? (Y/N)
R1	Residential	Monday - Friday	07.00 – 08.00	57.5	65	-	Yes
			08.00 – 19.00	57.5	70	-	Yes
		Saturday	07.00 – 08.00	57.5	65	-	Yes
			08.00 – 17.00	57.5	70	-	Yes
R2	Residential	Monday - Friday	07.00 – 08.00	64.4	65	-	Yes
			08.00 – 19.00	64.4	70	-	Yes
		Saturday	07.00 – 08.00	64.4	65	-	Yes
			08.00 – 17.00	64.4	70	-	Yes
C1	Industrial	Monday - Friday	07.00 – 08.00	66.5	65	1.5	Yes*
			08.00 – 19.00	66.5	70	-	Yes
		Saturday	07.00 – 08.00	66.5	65	1.5	Yes*
			08.00 – 17.00	66.5	70	-	Yes
C2	Commercial	Monday - Friday	07.00 – 08.00	61.2	65	-	Yes
			08.00 – 19.00	61.2	70	-	Yes
		Saturday	07.00 – 08.00	61.2	65	-	Yes
			08.00 – 17.00	61.2	70	-	Yes

* Compliance is achieved through implementation of acoustic mitigation measures. The Principal contractor is to implement the acoustic measures shown in Section 7 as well as any other feasible and reasonable measures in order to reduce any potential adverse noise impact. Worst case modelling shows a maximum 2dB increase in the noise levels. It should be noted that 2dB change is not considered a significant increase and is not a perceivable audible change

5.4.2 Interim Construction Noise Guideline

The predicted noise levels during all phases for each receiver location have been presented in Table 14 to Table 16 have been compared with the requirements of the Interim Construction Noise Guideline (ICNG). The noise contour maps produced by the three-dimensional noise propagation modelling are provided in Appendix B

Table 14: Predicted Noise Levels - Demolition

ID	Receiver	Predicted Noise Level $L_{Aeq,15min}$	Noise Management Level $L_{eq,15min}$ dB(A)	Noise Management Level Exceedance (dB)	Compliance with Highly Noise Affected Level?
R1	Residential	53.9	70	-	Yes
			65 (Outside Standard Hours)	-	Yes
R2	Residential	60.6	70	-	Yes
			65 (Outside Standard Hours)	-	Yes
C1	Commercial	52.8	70	-	Yes
C2	Commercial	57.1	70	-	Yes

Table 15: Predicted Noise Levels - Excavation

ID	Receiver	Predicted Noise Level $L_{Aeq,15min}$	Noise Management Level $L_{eq,15min}$ dB(A)	Noise Management Level Exceedance (dB)	Compliance with Highly Noise Affected Level?
R1	Residential	59.3	70	-	Yes
			65 (Outside Standard Hours)	-	Yes
R2	Residential	67	70	-	Yes
			65 (Outside Standard Hours)	2	Yes*
C1	Commercial	64	70	-	Yes
C2	Commercial	66	70	-	Yes

* Compliance is achieved through implementation of acoustic mitigation measures. The Principal contractor is to implement the acoustic measures shown in Section 7 as well as any other feasible and reasonable measures in order to reduce any potential adverse noise impact. Worst case modelling shows a maximum 2dB increase in the noise levels. It should be noted that 2dB change is not considered an significant increase and is not a perceivable audible change

Table 16: Predicted Noise Levels – Construction

ID	Receiver	Predicted Noise Level $L_{Aeq,15min}$	Noise Management Level $L_{eq,15min}$ dB(A)	Noise Management Level Exceedance (dB)	Compliance with Highly Noise Affected Level?
R1	Residential	57.5	70	-	Yes
			65 (Outside Standard Hours)	-	Yes
R2	Residential	64.4	70	-	Yes
			65 (Outside Standard Hours)	-	Yes
C1	Commercial	66.5	70	-	Yes
C2	Commercial	61.2	70	-	Yes

5.4.3 Summary of Predicted Noise Levels

The resultant site noise levels as a result of construction works are not likely to exceed the noise criteria stated within the City of Sydney Construction Hours / Noise Code of Practice 1992 for the typical construction hours of 07.00am to 07.00pm during specific scenarios and at various surrounding noise-sensitive receivers. See Table 11 to Table 16 for specific scenarios and receiver locations where the predicted noise levels do not comply with the noise criteria.

Where resultant site noise levels are likely to exceed the noise criteria outlined in the City of Sydney Construction Hours / Noise Code of Practice 1992, the noise mitigation measures proposed in Section 7 of this report are recommended to be implemented.

Exceedances between 0.5 to 2 dB are shown during the hours of 7:00am to 8:00am under the City of Sydney Construction Hours / Noise Code of Practice 1992. This would be easily mitigated by managing equipment in use during this 1-hour period.

5.5 Discussion

Based on the results of this assessment, the following conclusions were made:

- Residential receiver R1 experiences noise levels at or below the noise management level during all stages, the predicted value being relatively independent of where the equipment and plant are located.
- Commercial receivers C1 & C2 experiences exceeded noise levels during the excavation and construction stages (without a noise barrier). The criterion is exceeded by approximately 1 to 2 dB after the noise barrier is introduced between the hours of 7:00am to 8:00am.
- Highest noise levels are produced during Excavation phase, Vibratory Rollers being the main noise contributors. Lowest noise levels are associated with the demolition stage. Use of Vibratory Rollers should be limited during the hours of 7:00am to 8:00am.
- The noise levels in Observatory Hill Park are expected to exceed the criterion of 60 dB(A) within approximately 70 metres from the construction equipment during excavation and construction stages. Demolition phase is not expected to exceed criteria.
    - Options to mitigate noise in the park include temporary acoustic barriers (i.e. Flexsheild attached to fencing) to the boundary of the park
    - Consultation with local council in regards to noise emissions and respite periods.
    - Provide notice to the public in regards to construction hours and noise implications to the park.

6. Construction Vibration Assessment

The vibration intensive plant that are assumed to be used in each of the construction stages are:

- Bored Piling Rig
- 30-40t Excavator (with hammer)
- Jackhammer
- Vibratory Roller

The Transport for NSW's *Construction Noise Strategy* (2013) provides safe working distances for vibration intensive plant and are quoted for both "cosmetic" damage (in accordance with BS 7385) and human comfort (in accordance with *Assessing Vibration – a technical guideline*). The recommended safe working distances for each of the plant listed above are provided in Table 17.

Table 17: Recommended safe working distances for vibration intensive plant

Plant Item	Safe Working Distance (metres)	
	Cosmetic Damage (BS 7385)	Human Response (OH&E Vibration Guideline)
Pile Boring	2m (nominal)	N/A
900kg – 12 to 18t excavator	7m	23m
1600kg – 18 to 34t excavator	22m	73m

It is expected that 22t excavator is to be used on site during the construction stages, which would fall between the second category. However, it is noted that the vibrations as a result of a 22t excavator in comparison to a 18t excavator would not be a drastic increase. In addition to this, the Cahill expressway cutaway, effectively isolates the site from the surrounding receivers and should assist in further mitigating potential vibrations propagating through the ground. Therefore, it is unlikely that there will be exceedances in the vibration criteria for nearby sensitive receivers.

The nearest sensitive receivers are the commercial premises to the south of the site, and they are located at least 25 m from the site border. This is within the safe working distance for cosmetic damage and human response when the excavators with rock breakers are used during demolition stages. All residential properties are at approximately 30 m from the construction works.

For works near any heritage building, caution should be taken and an appropriately sized excavator selected based on the distance of the works from the buildings. The smaller the excavator the closer distance is allowed prior to cosmetic damage becoming a risk. The 12t – 18t excavators can operate up to 7m of a structure, although depending on the integrity of the heritage structure, distance should be maximised where ever possible.As such, attended vibration monitoring shall be conducted at the commencement of work in order to verify the safe working distances. If the levels are compliant with the vibration limits as listed in Section 4.2, then work may proceed based on the implementation of the measures as detailed in this report. If there are exceedances, reasonable and feasible mitigation measures and additional vibration monitoring should be conducted. These measures to prevent cosmetic damage to surrounding structures are provided in Section 7.

7. Noise & Vibration Management Strategies

7.1 Project Specific Recommendations

Project specific recommendations and required mitigation methods have been listed below. For further noise mitigation and management measures refer to Section 7.2 in order to comply with the standards outlined in this report.

7.1.1 Noise

The excavation works are predicted to produce the highest noise levels the surrounding most affected sensitive receivers. The excavators and vibratory rollers are predicted to produce the highest noise levels during these works phases. Methods should be sought to manage the noise emanating from the construction site to the surrounding most affected sensitive receivers.

The following recommendations have been provided to reduce the noise impact of construction on the surrounding noise-sensitive receivers:

- A one hour respite period, for example between 12:00pm – 1:00pm (or other period to coincide with construction workers lunch time(s)) may be recommended during high impact noise generating activities such as demolition, rock breaking, jackhammering and rock sawing.
- The use of a standard A-class hoarding (or combination of both) to mitigate the impact of the highest predicted noise levels, installed to the extent illustrated in Figure 2 in conjunction with the barriers outlined in the Fort Street Public School Works Construction Management Plan, prepared by Lendlease, dated 9th June 2020. This will mitigate noise impacts to surrounding noise-sensitive receivers on the ground floor.
- In the event of noise complaints from the public, alternate construction methods will be adopted to reduce noise emissions associated with excavation and construction.
- Avoid the use of Vibratory Rollers between the hours of 7:00am and 8:00am.
- Noise monitoring should be conducted for high risk construction activities as per the noise and vibration monitoring strategy outlined in Section 7.4 of this report. Automated alerts to the site manager when exceedances have occurred can help identify intrusive activities and potentially halt works if required.

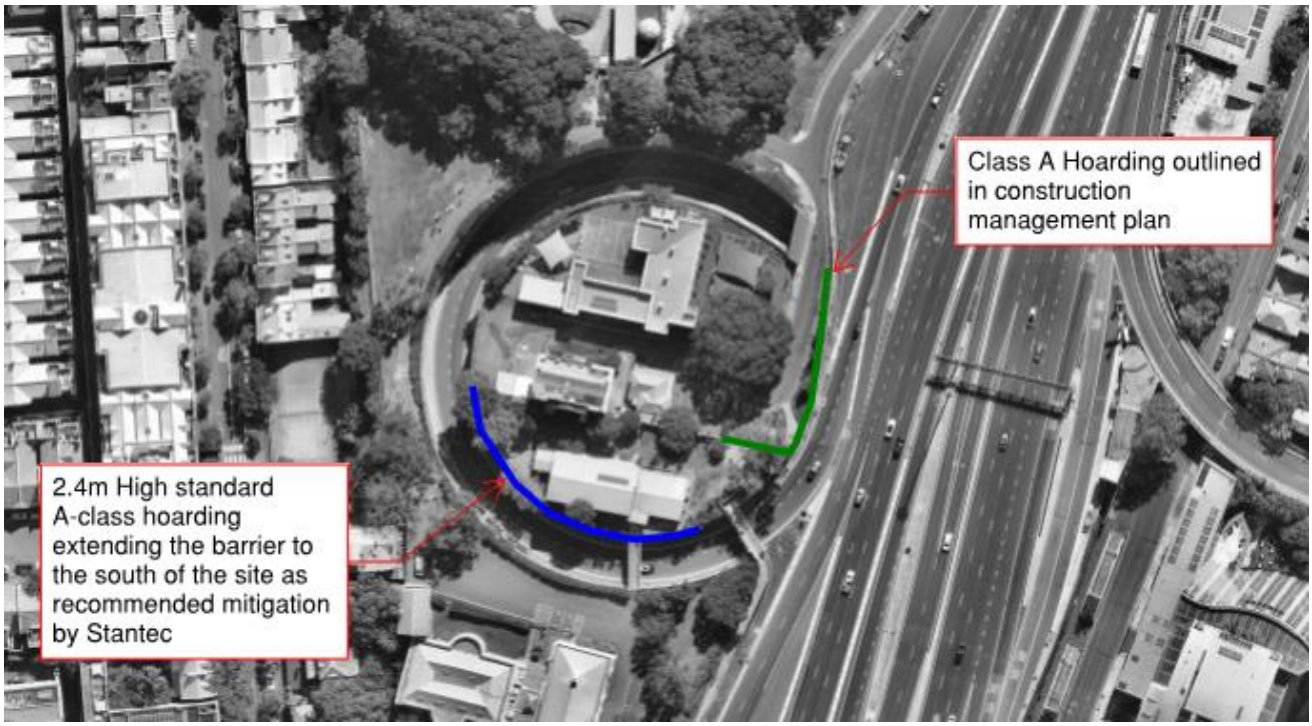
If a period of respite is required as a result of high impact noise generating activities, then this should be relative to the particular receiver/s that the noise impacting activities emit noise levels beyond requirements of the City of Sydney Construction Hours/Noise. Any construction activity that does not impact the noise receivers can continue.

While modelling was undertaken with consideration of assumptions provided in Sections 5.1 to Section 5.3 of this report, the following elements will further assist in reducing noise impacts during high impact noise generating activities (such as demolition, rock breaking, jackhammering and rock sawing):

- Depth of excavation; and
- Potential option for top-down construction method reducing noise at surrounding sensitive receivers during the period of high impact noise generating activities.

Construction vehicles must not arrive and depart the site or surrounding residential precincts outside of the established construction hours. Frequent and proactive communication with the surrounding tenants is also encouraged, thus enabling tuning of the works schedule to accommodate possible important business meetings and allowing the tenants to prepare their expectations on the changing noise environment. More details regarding communication with the community can be found in Section 7.3.

Figure 2 Extent of Acoustic Barriers



7.1.2 Vibration

Due to the proximity of demolition works to the surrounding, there may be exceedances of the cosmetic damage and human comfort criteria. Prior to the use of the excavators with rock breakers on the southern and western boundaries during demolition and the use of vibratory rollers, attended vibration measurements should be conducted to determine if there is an exceedance of the vibration limits set out in Section 4.2.

Upon any exceedances in vibration levels, reasonable and feasible measures should be considered to lessen the impact, such as alternative means of demolishing or reducing the capacity of the excavator to achieve a safe working distance. Using an excavator less than 18t would mean the safe working distance for structural damage can be achieved but the human comfort might still be exceeded. However, this would only occur for a small portion of work within the safe working distance. As noted in Section 6, it is expect that 22t excavators will be used on site, and the cutaway for the Cahill express way which surrounds the site will assist in mitigating vibrations to the nearby sensitive receivers.

To further diminish the vibration impact, the respite period from 12:00pm – 1:00pm recommended for noise impact reasons should also apply for vibration.

- Vibration monitoring should be conducted as per the noise and vibration monitoring strategy outlined in Section 7.4 of this report. Automated alerts to the site manager when exceedances have occurred can help identify intrusive activities and potentially halt works if required.
- Avoid the use of large excavators i.e. 34t to prevent exceeding human comfort criteria at neighbouring sensitive receivers.

7.2 General Acoustic Recommendations for Construction

According to AS 2436 – 2010 *Guide to noise and vibration control on construction, demolition and maintenance sites* the following techniques could be applied to minimize the spread of noise and vibrations to the potential receivers.

7.2.1 Noise

Figure 3 demonstrates the preferred order of actions taken to mitigate excessive construction noise emissions. If a process that generates significant noise levels cannot be avoided, the amount of noise reaching the receiver should be minimized. Two ways of achieving this are to either increase the distance between the noise source and the receiver or to introduce noise reduction measures such as screens. Practices that will reduce noise from the site include:

- Increasing the distance between noise sources and sensitive receivers.
- Reducing the line-of-sight noise transmission to residences or other sensitive land uses using temporary barriers (stockpiles, shipping containers and site office transportables can be effective barriers).
- Constructing barriers that are part of the project design early in the project to introduce the mitigation of site noise.
- Installing purpose built noise barriers, acoustic sheds and enclosures.

Physical methods to reduce the transmission of noise between the site works and residences, or other sensitive land uses, are generally suited to works where there is longer-term exposure to the noise. A few of these methods have been introduced below.

Figure 3: Noise Mitigation Management Flow Chart

Screening

On sites where distance is limited, screening of noise may be beneficial or even the only way to reduce construction noise impacts on the nearby receivers. Below, screening options for various situations have been introduced. Constructing and utilising these screening methods should be taken into account already during the planning stages.

Temporary buildings: One option to introduce screening is to position structures such as stores, storage piles, site offices and other temporary buildings between the noisiest part of the site and the nearest dwellings. Due to shielding provided by these buildings, some of the noise emission from the site can be reduced. If the buildings are occupied, however, sound insulation measures may be necessary to protect site workers inside the buildings.

Hoarding: Another way of implementing screening is to build hoarding that includes a site office on an elevated structure. This option offers superior noise reduction when compared with a standard, simple hoarding. The acoustic performance is further enhanced when the hoarding is a continuous barrier.

Partial building structures: On some sites, partially completed or demolished buildings can be used as noise shields for certain equipment. A noisy, stationary plant can be placed in a basement, the shell of which has been completed, provided reverberant noise can be controlled. Where compressors or generators are used in closed areas, it is also necessary to ensure that the exhaust gases are discharged directly to the outside air and that there is good cross-ventilation to prevent the build-up of poisonous carbon monoxide fumes and to allow an adequate air supply to maintain efficiency when operating the equipment.

Earth mounds and embankments: Where constructing noise barriers and using partial building shells is not practical, a worthwhile reduction in noise can be obtained by siting the plant behind and as close as possible to mounds of earth, which may effectively screen any noise sensitive areas from the plant. These mounds can often be designed into the construction schedule or site arrangement for future landscaping.

Long, temporary earth embankments can provide quite an effective noise screen for mobile equipment moving, for example, on a haulage road. When the earthworks are complete, the earth mounds should be removed, if possible, with smaller quieter excavators. A noise barrier like this may be a more reliable method of noise control than the imposition of restrictions on throttle settings.

Where earth noise barriers are not practical due to lack of space, consideration should be given to the possibility of constructing temporary screens from wood or any equivalent material in surface density.

Equipment operating 24h: When it comes to water pumps, fans and other plant equipment that operate on a 24-hour basis, they may not be an irritating source of noise during the day but can be problematic at night. They should therefore be effectively screened by either situating them behind a noise barrier or by being positioned in a trench or a hollow in the ground. Again, generated reverberant noise must be minimised and adequate ventilation should be ensured.

General remarks:

In many cases, it is not practical to screen earthmoving operations effectively, but it may be possible to partially shield a construction plant at the early stages of the project with protective features required to screen traffic noise.

The usefulness of a noise barrier will depend upon its length, its height, its position relative to the source and the receiver, and the material of which it is made. A barrier designed to reduce noise from a moving source should extend beyond the last property to be protected by at least ten times the shortest distance from the said property to the barrier. A barrier designed to reduce noise from a stationary source should, where possible, extend beyond the direct line of sight between the noise source and the receiver by a distance equal to ten times the effective barrier height, which is the height above the direct line between source and receiver.

If the works are already predominantly located within nominally closed structures, careful consideration should be given to reducing noise breakout at any openings.

Crane (diesel operated)

An appropriate silencer on the muffler and acoustic screen around the engine bay are recommended to attenuate the noise from the machine.

Reversing and warning alarms

Community complaints often involve the intrusive noise of alarms commonly used to provide a safe system of work for vehicles operating on a site. Beeper reversing alarm noise is generally tonal and may cause annoyance at significant distances from the work site.

There are alternative warning alarms capable of providing a safe system of work that are equal to or better than the traditional "beeper", while also reducing environmental noise impacts. The following alternatives should be considered for use on construction sites as appropriate:

- Broadband audible alarms incorporating a wide range of sound frequencies (as opposed to the tonal-frequency 'beep') are less intrusive when heard in the neighbourhood.
- Variable-level alarms reduce the emitted noise levels by detecting the background noise level and adjusting the alarm level accordingly.
- Non-audible warning systems (e.g. flashing lights, reversing cameras) may also be employed, provided that safety considerations are not compromised.
- Proximity alarms that use sensors to determine the distance from objects, such as people or structures, and generate an audible alarm in cabin for the driver.
- Spotters or observers.

The above methods should be combined, where appropriate.

7.2.2 Vibration

Vibration can be more difficult to control than noise, and there are few generalizations that can be made about its control. It should be kept in mind that vibration may cause disturbance by causing structures to vibrate and radiate noise in addition to perceptible movement. Impulsive vibration can, in some cases, provide a trigger mechanism that could result in the failure of building components that had previously been in a stable state.

During the demolition works and the erection of new structures, some vibrations (transmitted through the structure from the demolition sites) are expected, being more of a concern for the surrounding sensitive receivers. Vibrations can also trigger annoyance, which might get elevated into action by occupants of exposed buildings, and should therefore be included in the planning of communication with impacted communities.

It should be remembered that failures, sometimes catastrophic, can occur as a result of conditions not directly connected with the transmission of vibrations, e.g. the removal of supports from retaining structures to facilitate site access. BS 7385-2 provides more information on managing ground-borne vibration and its potential effects on buildings. Where site activities may affect existing structures, a thorough engineering appraisal should be made at the planning stage.

General principles of seeking minimal vibration at receiving structures should be followed in the first instance. Predictions of vibration levels likely to occur at sensitive receivers are recommended when they are relatively close, depending on the magnitude of the source of the vibration or the distance associated. Relatively simple prediction methods are available in textbooks, codes of practice and standards, however, it is preferable to assess site transmission and propagation characteristics between source and receiver locations through measurements.

Guidance for measures available for the mitigation of vibration transmitted can be sought in more detailed standards, such as BS 5228-2 or policy documents, such as the NSW DEC *Assessing Vibration: A technical guideline*. Identifying the strategy best suited to the control of vibration follows a similar approach to that of noise: avoidance, control at the source, control along the propagation path, control at the receiver, or a combination of these. It is noted that vibration sources can include stationary plants (pumps and compressors), portable plants (jackhammers and pavement vibrators), mobile plants, pile-drivers, tunnelling machines and activities, and blasting, amongst others. Unusual ground conditions, such as a high water-table, can also cause a difference to expected or predicted results, especially when considering the noise propagated from piling.

7.3 Complaint Handling Procedures and Community Liaison

It is recommended that the builder directly contact adjacent noise sensitive receivers and provide them with the following information:

- The contact details for a nominated representative in order to make noise / vibration complaints.
- Explain the timeframe for the construction works and the proposed activities, i.e. the proposed start / stop dates of work and a description of the noise producing equipment that will be used.
- Notify the noise sensitive receivers and City of Sydney in a timely manner should there be any need for an extension to the proposed arrangements.
- Provide them with a copy of this report as approved by the City of Sydney.
- City of Sydney should be notified of the nature and details of complaints received (time, complainant etc.) and what remedial action has taken place, if any.
- Where noise is demonstrated as being compliant with criteria, this should not limit the proponent in undertaking further additional reasonable and feasible steps to reduce noise emissions.

To assist in the management of noise and vibration complaints various procedures are to be followed. These include:

- Clearly visible signage identifying any key personnel along with their contact details to be erected along the perimeter of the building site including;
    - A 24 hour contact name, phone number and email address provided for the resident to address any complaint. The signage will declare; “For any enquiry, complaint or emergency relating to this site at any time please contact…”
- Give complaints a fair hearing.
- Have a documented complaints process, including an escalation procedure so that if a complaint is not satisfied there is a clear path to follow.
- Call back as soon as possible to keep people informed of action to be taken to address noise problems. Call back at night time only if requested by the complainant to avoid further disturbance.
- Implement all feasible and reasonable measures to address the source of the complaint.
- A register is to be kept by the contractor to keep a record of complaints and detail any information associated with them. The contents of the register will include:
    - The name and the address of the complainant
    - Time and date of the complaint
    - The nature of the complaint (Noise/Vibration)
    - Subsequent details
    - Remedial action undertaken

The contents of the register will be maintained and updated with any new complaint without delay. The complaints will be reported to both City of Sydney and the Contractor. The investigation of the complaint and any remedial actions will be performed by the builder and/or client representative.

In the event of noisy works scheduled, the builder will notify residents 5 business days in advance.

NSW Schools Infrastructure have set up a community hotline for the project, details of which should be shared with community and relevant stakeholders. Ph: 1300 482 651, Email: schoolinfrastructure@det.nsw.edu.au

7.3.1 Community Consultation Requirement

School Infrastructure NSW (SINSW) have provided the following information to address the community consultation requirement for consent condition B19 (g), (h) and (i). Information regarding the Community Communication Strategy outlined by SINSW can be found in Appendix D and can be summarised as follows:

- Information Pack issued to the affected local community/residents detailing the Noise and Vibration mitigation strategies.
- 7 calendar day period, in which local community/residents are invited to provide response.
- Documentation of local community response, review and updates to the CNVMSP

Responses and findings from the community consultation program have been detailed in Section 7.3.2.

7.3.2 Community Responses

The following subsection outlines the review of responses from the community consultation process and any proposed actions / strategies required to ensure community complaints are addressed and compliance with consent conditions are achieved.

SINSW has notified that no responses were received from the community consultation program process. Therefore, no additional strategies have been proposed as part of the CNVMSP and the requirements of consent condition B19 (g), (h) and (i) have been addressed. However, the CNVMSP includes other strategies to capture any future response as result of the construction works.

7.4 Noise & Vibration Monitoring Strategy

7.4.1 General Methodology

Noise and vibration levels should be monitored from time to time to ensure that noise generated as a result of remediation and construction activities does not disturb local businesses and residents.

Monitoring may be in the form of regular checks by the builder or indirectly by an acoustic consultant engaged by the builder and in response to any noise or vibration complaints. Where noise and vibration criteria are being exceeded or in response to valid complaints, noise and / or vibration monitoring should be undertaken. This would be performed inside the premises of the affected property and on site adjacent to the affected receivers.

Monitoring is to be undertaken by an experienced noise and vibration monitoring professional or an acoustic consultant. The results of any noise or vibration monitoring are to be provided to the relevant party or person in a timely manner allowing the builder to address the issue and respond to the complaints.

Noise and vibration monitoring can take two forms:

- Short-term monitoring
- Long-term monitoring

Both of these approaches are elaborated below.

Short-term monitoring

Short-term monitoring consists of attended monitoring when critical stages of the construction are occurring. This normally provides real-time assistance and guidance to the subcontractor on site, telling them when the noise and vibration criteria are exceeded. Thus, the selection of alternative method on construction or equipment selection is allowed in order to minimise noise and vibration impacts.

Long-term monitoring

Similarly to short-term monitoring, long-term monitoring provides real-time alerts to the builder / site manager when the noise and vibration criteria are exceeded. Instead of someone being on site measuring, noise and vibration loggers are used.

Typically, the noise and vibration loggers stay on site for a period of several months for the critical construction stages of the project. Sometimes the period of construction noise and vibration monitoring is dictated by the local authorities through the DA conditions.

Both methodologies are complementary and normally used simultaneously providing a significant amount of data via the long-term monitoring, but also providing information on the sources of noise and vibration generating exceedances via the short-term or attended monitoring.

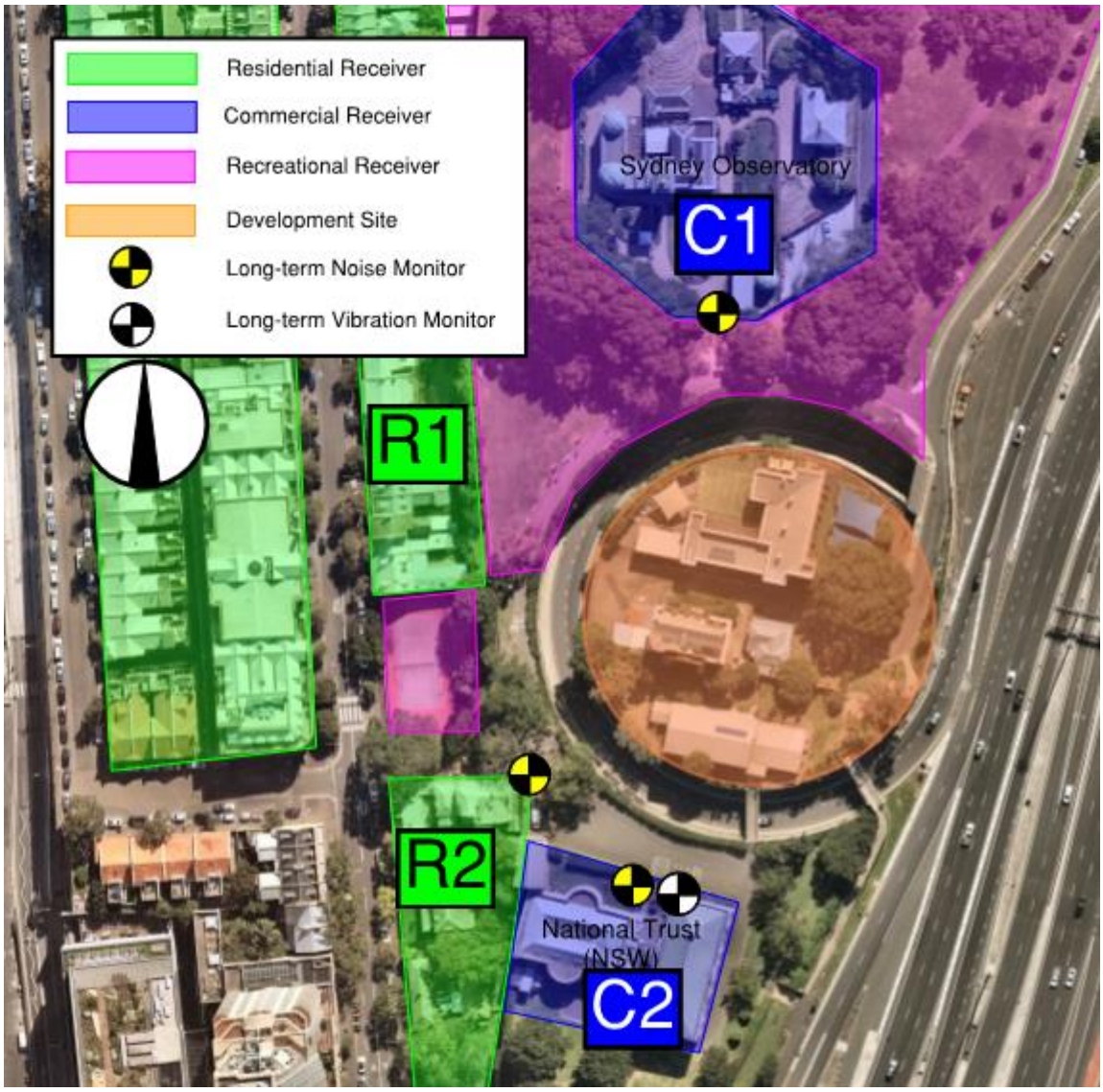
7.4.2 Noise & Vibration Monitoring Program

The following monitoring program is proposed for this project. Refer to Figure 4 for the approximate monitoring locations:

- Attended vibration monitoring with the excavator with rock breaker on the southern boundary at C2 for demolition and excavation works
- Unattended noise monitor installed at R2 & C2 during the excavation stages, at least for a time period representing the typical works
- Unattended noise monitor installed at C1 during the construction stages, at least for a time period representing the typical works

The monitoring programme as shown above is to be carried out during the likely noisiest stages as agreed with the Acoustic engineer and Contractor.

Figure 4: Attended Noise and Vibration Monitoring Location



8. Conclusion

A Construction Noise and Vibration Management Plan has been provided for the construction works to be conducted at Fort Street Public School located at Observatory Hill, Upper Fort St, Millers Point.

The details of the noise and vibration assessments undertaken to predict the impacts on sensitive receivers have been presented in Sections 5 and 6. As shown in Section 5.4, the noise levels are expected to exceed the noise management levels by a maximum of 2dB during 7:00am to 8:00am of the proposed construction hours at the surrounding receivers. The vibration levels are predicted to comply with the cosmetic damage criteria but the human comfort levels are likely to be exceeded occasionally during works if larger (34t) excavators are to be used.

To reduce the noise and vibration impacts on the sensitive receivers, noise and vibration management strategies have been proposed in Section 7. Erecting an additional 2.4-metre sound attenuating barrier along the southern border of the site is recommended, in addition to the proposed barriers outline in the Fort Street Public School Works Construction Management Plan, prepared by Lendlease, dated 9th June 2020.

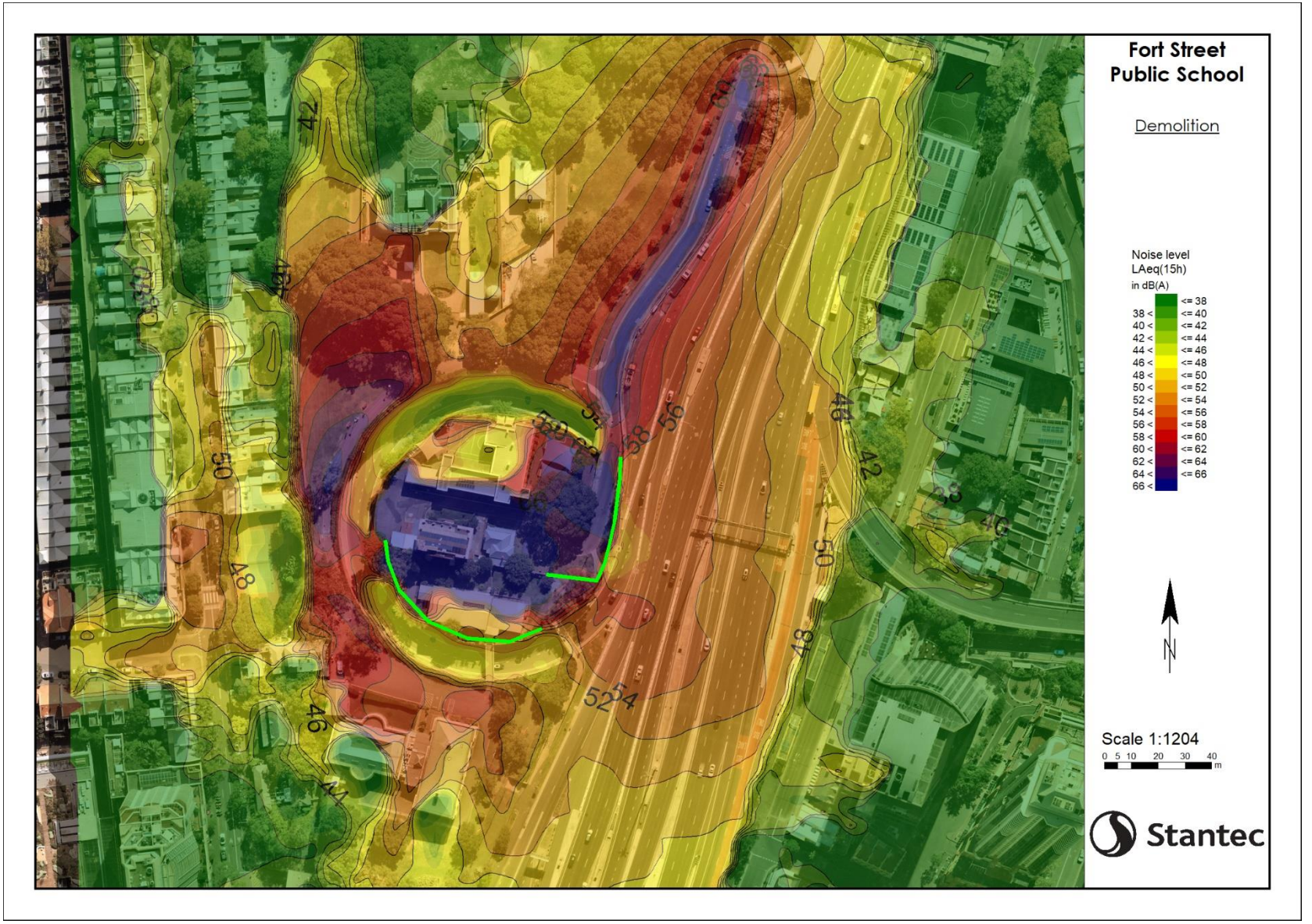
The information presented in this report shall be reviewed if any modifications to the features of the development specified in this report occur, including and not restricted to selection of equipment/machinery and modifications to the construction program.

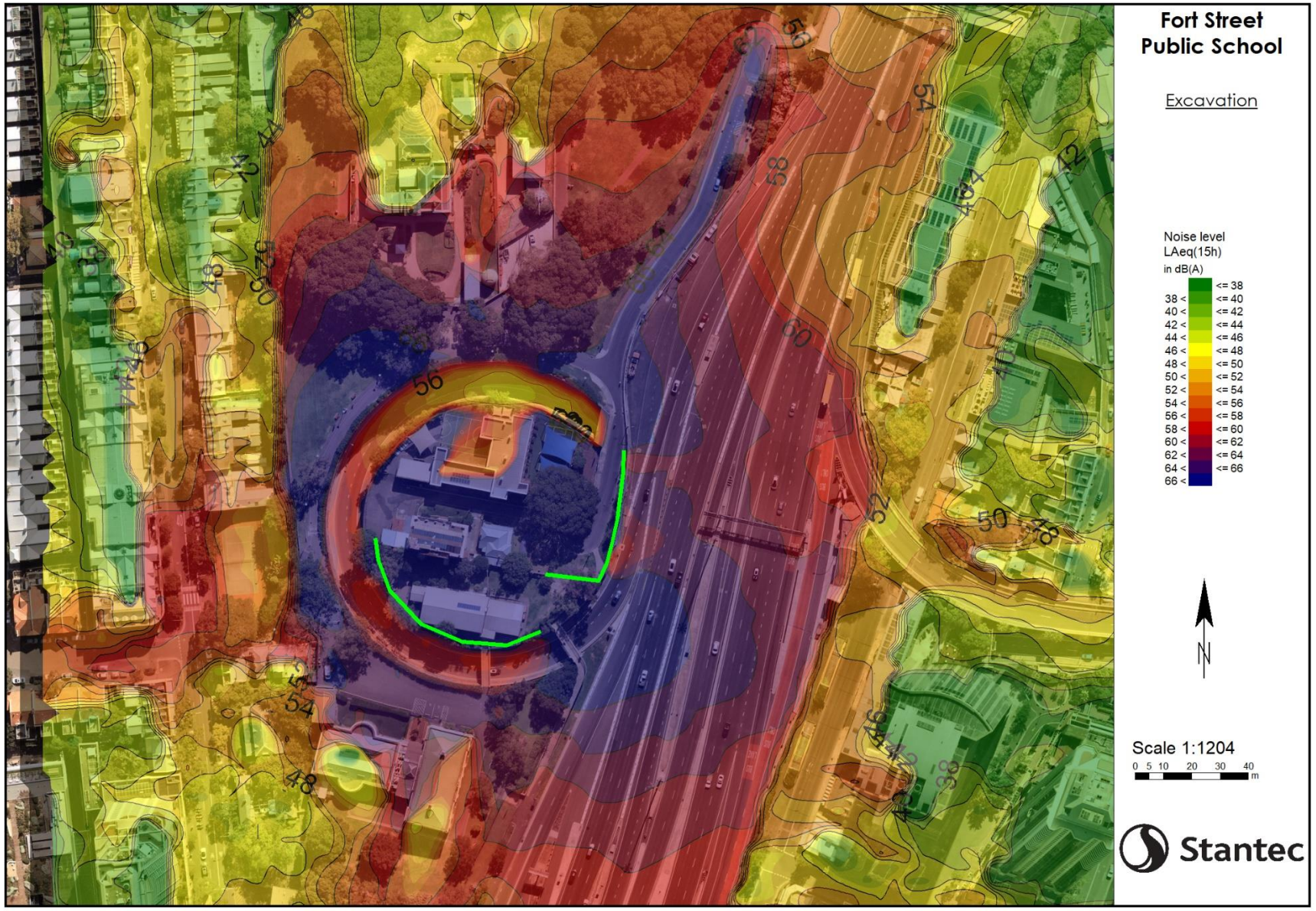
Appendix A Glossary of Acoustic Terms

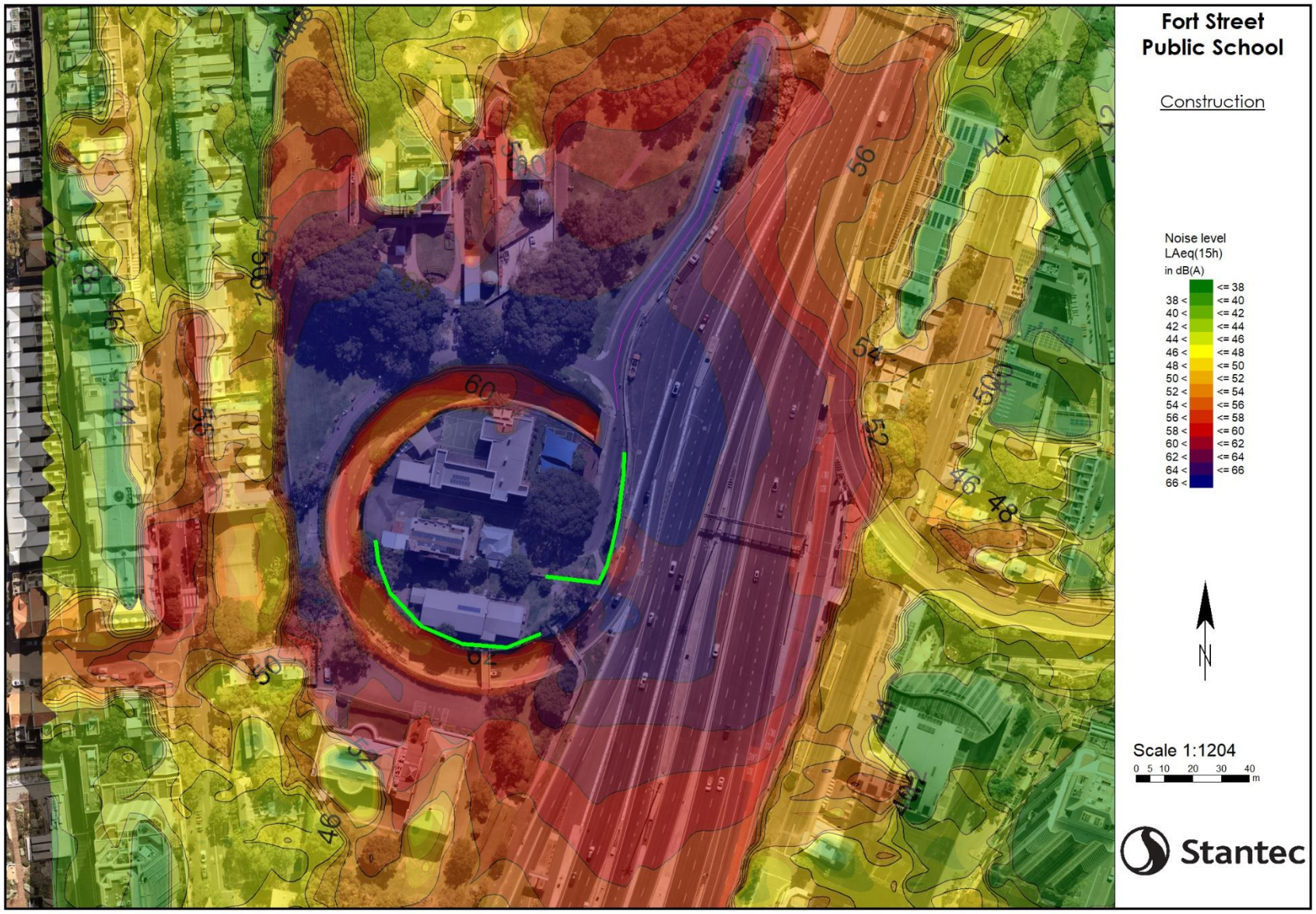
NOISE	
Acceptable Noise Level:	The acceptable L_{Aeq} noise level from industrial sources, recommended by the EPA (Table 2.1, INP). Note that this noise level refers to all industrial sources at the receiver location, and not only noise due to a specific project under consideration.
Adverse Weather:	Weather conditions that affect noise (wind and temperature inversions) that occur at a particular site for a significant period of time. The previous conditions are for wind occurring more than 30% of the time in any assessment period in any season and/or for temperature inversions occurring more than 30% of the nights in winter).
Acoustic Barrier:	Solid walls or partitions, solid fences, earth mounds, earth berms, buildings, etc. used to reduce noise.
Ambient Noise:	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Assessment Period:	The period in a day over which assessments are made.
Assessment Location	The position at which noise measurements are undertaken or estimated.
Background Noise:	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the L_{A90} noise level.
Decibel [dB]:	The units of sound pressure level.
dB(A):	A-weighted decibels. Noise measured using the A-filter.
Extraneous Noise:	Noise resulting from activities that are not typical of the area. Atypical activities include construction, and traffic generated by holidays period and by special events such as concert or sporting events. Normal daily traffic is not considered to be extraneous.
Free Field:	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground
Frequency:	Frequency is synonymous to pitch. Frequency or pitch can be measured on a scale in units of Hertz (Hz).
Impulsive Noise:	Noise having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
Intermittent Noise:	Level that drops to the background noise level several times during the period of observation.
L_{Amax}	The maximum A-weighted sound pressure level measured over a period.
L_{Amin}	The minimum A-weighted sound pressure level measured over a period.
L_{A1}	The A-weighted sound pressure level that is exceeded for 1% of the time for which the sound is measured.
L_{A10}	The A-weighted sound pressure level that is exceeded for 10% of the time for which the sound is measured.
L_{A90}	The A-weighted level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L_{A90} noise level expressed in units of dB(A).
L_{Aeq}	The A-weighted “equivalent noise level” is the summation of noise events and integrated over a selected period of time.

$L_{Aeq,T}$	The constant A-weighted sound which has the same energy as the fluctuating sound of the traffic, averaged over time T.
Reflection:	Sound wave changed in direction of propagation due to a solid object met on its path.
R_w:	The Sound Insulation Rating R_w is a measure of the noise reduction performance of the partition.
SEL:	Sound Exposure Level is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain L_{eq} sound levels over any period of time and can be used for predicting noise at various locations.
Sound Absorption:	The ability of a material to absorb sound energy through its conversion into thermal energy.
Sound Level Meter:	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound Pressure Level:	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
Sound Power Level:	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
Tonal noise:	Containing a prominent frequency and characterised by a definite pitch.

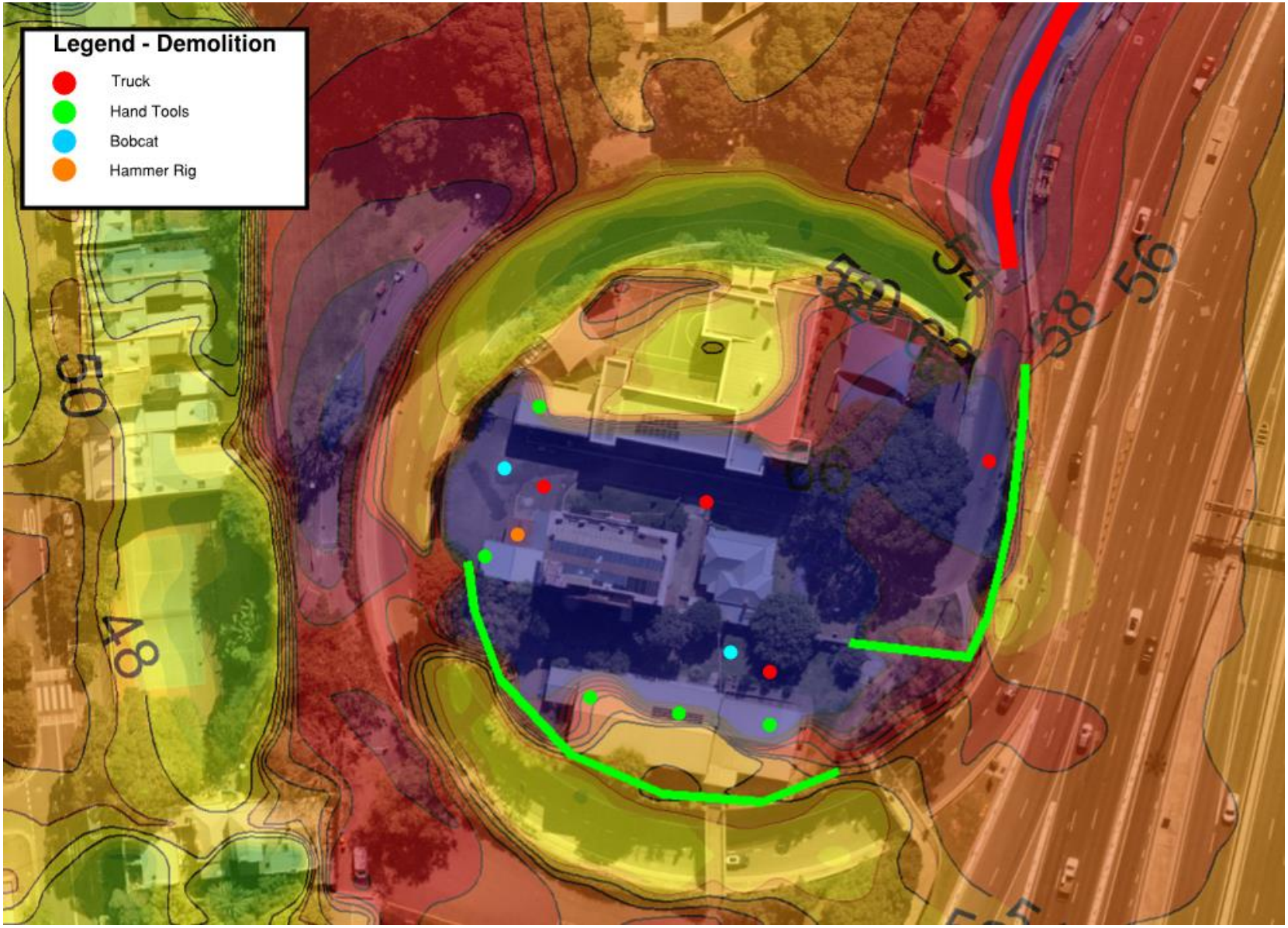
Appendix B Noise Contour Maps

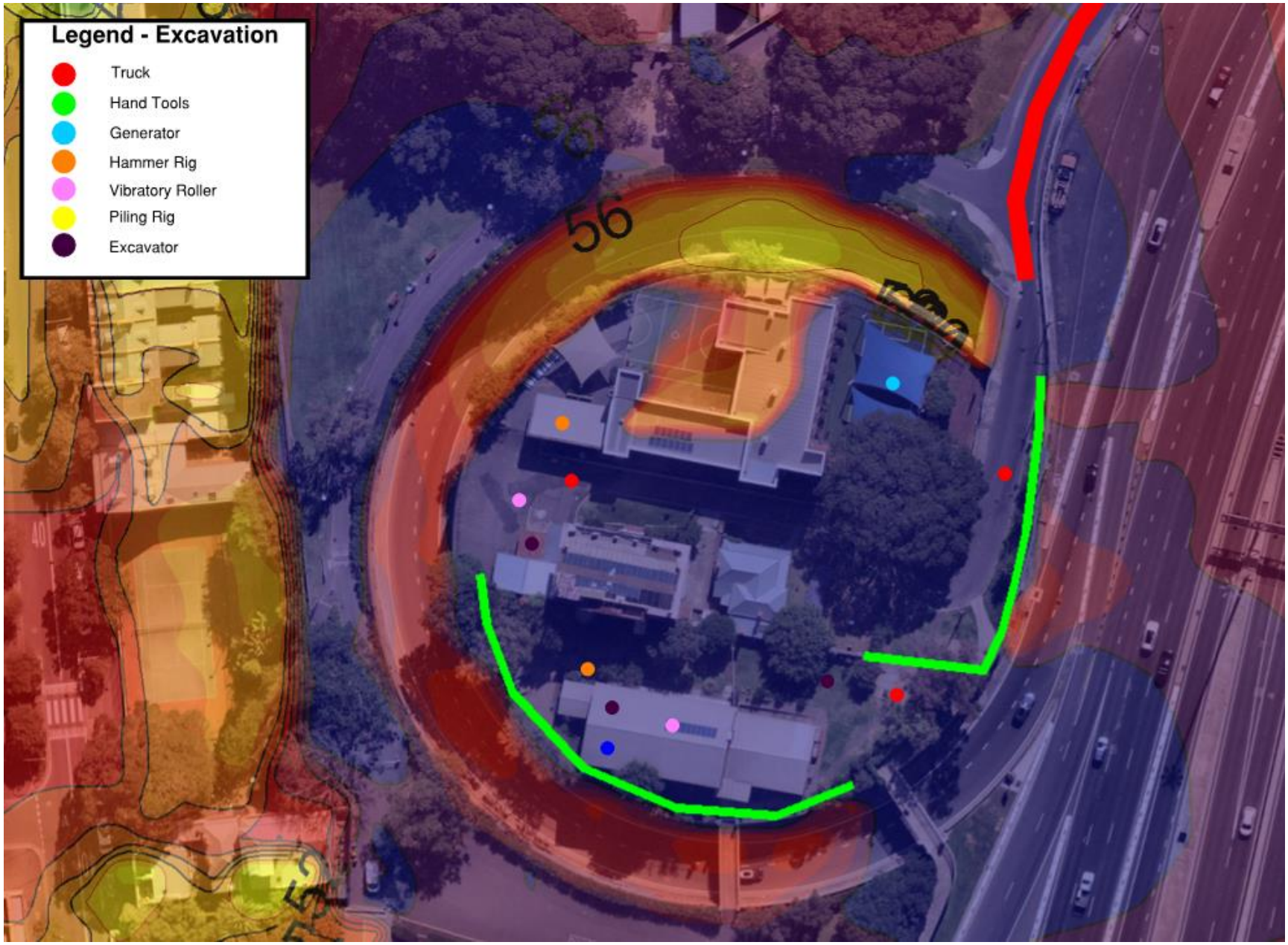


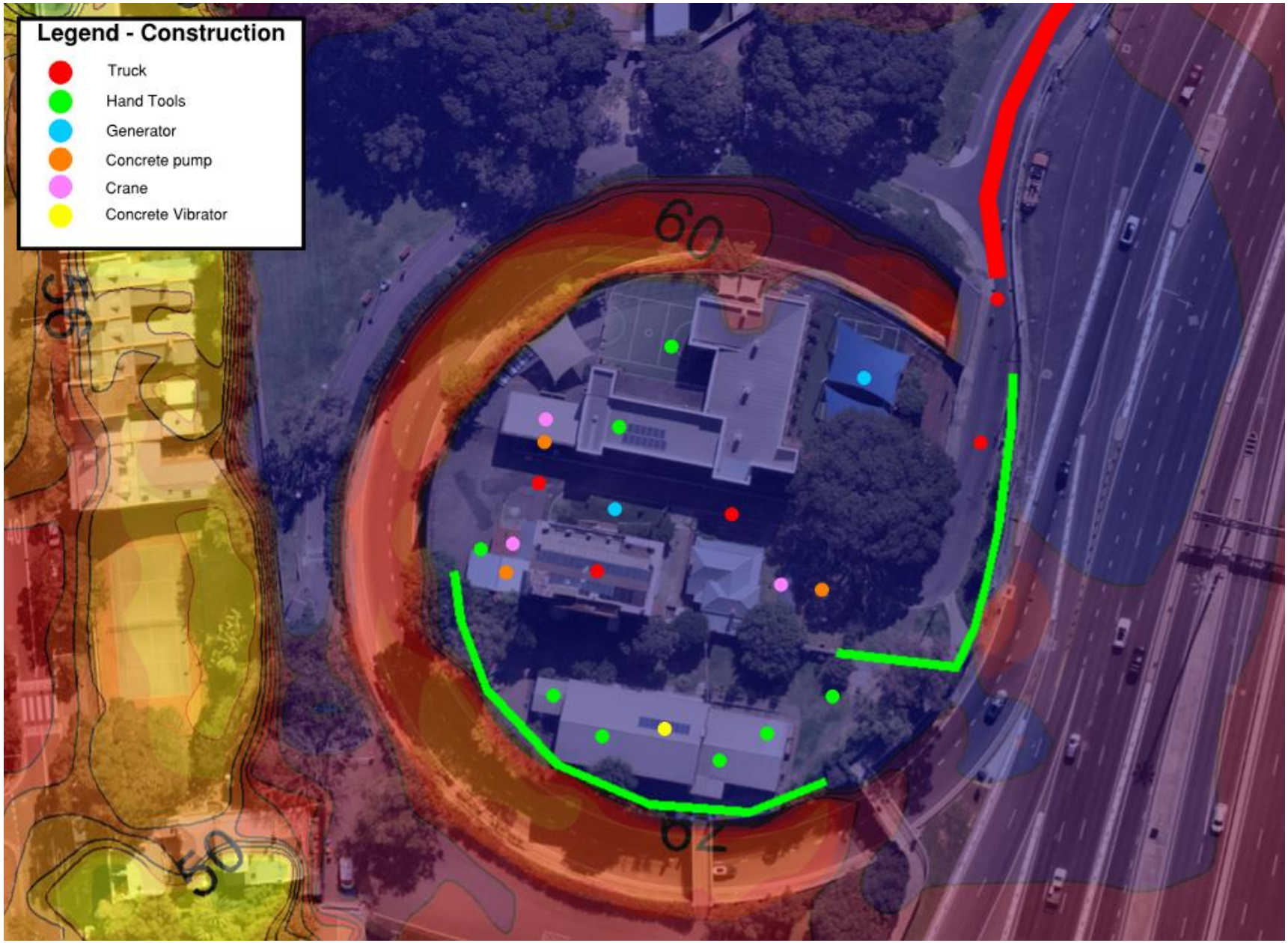

Fort Street
Public School
Excavation
Noise level
LAeq(15h)
in dB(A)
<= 38
38 < <= 40
40 < <= 42
42 < <= 44
44 < <= 46
46 < <= 48
48 < <= 50
50 < <= 52
52 < <= 54
54 < <= 56
56 < <= 58
58 < <= 60
60 < <= 62
62 < <= 64
64 < <= 66
N
Scale 1:1204
0 5 10 20 30 40 m
Stantec


Fort Street
Public School
Construction
Noise level
LAeq(15h)
in dB(A)
<= 38
38 < <= 40
40 < <= 42
42 < <= 44
44 < <= 46
46 < <= 48
48 < <= 50
50 < <= 52
52 < <= 54
54 < <= 56
56 < <= 58
58 < <= 60
60 < <= 62
62 < <= 64
64 < <= 66
N
Scale 1:1204
0 5 10 20 30 40 m
Stantec

Appendix C Equipment Layout




Legend - Excavation
Truck
Hand Tools
Generator
Hammer Rig
Vibratory Roller
Piling Rig
Excavator
66
56


Legend - Construction
Truck
Hand Tools
Generator
Concrete pump
Crane
Concrete Vibrator
60
55
50

Appendix D SINSW Community Consultation

Artist impression of the Fort Street Public School upgrade

Fort Street Public School

Project update

April 2021

Investing in our schools

The NSW Government is investing $7 billion over four years, continuing its program to deliver more than 200 new and upgraded schools to support communities across NSW. This is the largest investment in public education infrastructure in the history of NSW.

The NSW Department of Education is committed to delivering new and upgraded schools for communities across NSW. The delivery of these important projects is essential to the future learning needs of our students and supports growth in the local economy.

Project overview

The Fort Street Public School upgrade will cater to growing enrolments and provide exciting new spaces for learning and teaching.

The project will deliver new flexible learning spaces within existing and new buildings as well as upgrades to core facilities, including a new school hall, new library, a covered outdoor learning area (COLA), as well as new play spaces and out of hours school care.

Progress summary

The State Significant Development application was approved by the Department of Planning, Industry and Environment on 7 October 2020.

Site establishment and early works are expected to start in early 2021. Nearby residents and businesses will be notified prior to any work starting on site.

Managing construction impacts

As part of the consent to carry out the work, the main contractor is required to develop plans that details how construction impacts on nearby local residents will be minimised. These impacts include noise, vibration and vehicle movements.

You can view the consent conditions, including those required for managing construction impacts via the Department of Planning, Industry and the Environment's Major Projects portal at planningportal.nsw.gov.au/major-projects/project/13596.

Your feedback

You can contribute to the development of strategies to effectively manage construction impacts. Your feedback is sought on how we propose to manage construction activities listed in the table below. Please provide your feedback by 26 April 2021 via email or phone.

Email: schoolinfrastructure@det.nsw.edu.au Phone: 1300 482 65

For more information contact:

School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

NSW GOVERNMENT

Activity	Consent condition and proposed activities
General	**Proposed actions:** ▪ We will provide advance notice of work to the local community, particularly when we anticipate high noise generating works. ▪ Noise levels on site will not exceed the noise control guidelines that are outline in the EPA Environmental Noise Control Manual for construction and demolition works. ▪ Construction works, including the delivery of materials to and from the site, are currently approved to take place between 7:00am and 6:00pm Mondays to Fridays and between 8:00am and 1:00pm on Saturdays. No night work is currently approved for this project and no work is currently approved on Sundays or public holidays. ▪ Provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken between 6:00pm and 7:00pm, Mondays to Fridays and between 1:00pm and 4:00pm on Saturdays.
Construction	**Consent condition:** ▪ All reasonable steps must be taken to minimise dust generated during all works. **Proposed actions:** ▪ Exposed surfaces and stockpiles will be managed with regular watering to minimise dust. ▪ Public roads will be kept clean. ▪ All trucks entering or leaving the site with loads will have their loads covered.
Construction	**Consent condition:** ▪ Measures are to be implemented to ensure road safety and network efficiency during construction. **Proposed actions:** ▪ Trucks will be well maintained and will be required to observe speed limits. ▪ Trucks will only use approved truck routes to and from the site. ▪ A Construction Worker Transportation Strategy will be implemented to assist in the minimisation of the use of private vehicles. Any parking requirements for workers or construction vehicles will be contained within the site.
Construction	**Consent condition:** ▪ Achieve the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009). ▪ Measures are to be implemented to manage high noise generating works, in close proximity to sensitive receivers.

For more information contact:
School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

Activity	Consent condition and proposed activities
Construction (cont.)	**Proposed actions:** ▪ If high noise generating works are planned, neighbours will be notified of this before work starts. ▪ If rock breaking, rock hammering, sheet piling, pile driving and similar activities are required, effective equipment will be chosen and respite periods for local residents be put in place. These activities will be strictly limited to approved hours of: o 9:00am to 12:00pm, Monday to Friday o 2:00pm to 5:00pm Monday to Friday; and o 9:00am to 12:00pm, Saturday. ▪ For high noise generating works, if complaints are received, work may be managed to reduce the impact to local residents by implementing shorter time periods, or alternating with quieter work methods were practical.
Construction	**Consent condition:** ▪ Include a complaints management system that would be implemented for the duration of the construction. **Proposed actions:** ▪ The community information phone line and email address will be available throughout the project and for a minimum of 12 months following completion of the project: o Phone: 1300 482 651 o Email: schoolinfrastructure@det.nsw.edu.au ▪ If a phone call, email or face-to-face complaint is received during construction, it will be logged in our CRM, actively managed, closed out and resolved by SINSW within 24-48 hours. ▪ A detailed complaints process is outlined in the Community Communication Strategy, which will be publically available on the SINSW project page prior to work commencing on site.

For more information contact:
School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

Design with
community in mind

Level 6, Building B
207 Pacific Highway
St Leonards NSW 2065
Tel +61 2 8484 7000

For more information please visit
www.stantec.com

Stantec

Appendix F – Construction Waste Management Sub-Plan

LENDLEASE BUILDING PTY LTD | 97 000 098 162

FORT STREET PUBLIC SCHOOL

WASTE MANAGEMENT SUB PLAN

25/05/2021 | Issue No: 3.2

Document Issue Status				
Date	Document Issue (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
11/11/2018	2.4	Update of waste targets	Tracey Wallbridge	Ross Trethewy
22/07/2020	2.5	Review and update to improve waste management planning and implementation on site	Tracey Wallbridge	Ross Trethewy
03/09/2020	3.0	Review of currency and update to improvement waste management planning and implementation on site	Tracey Wallbridge	Ross Trethewy
26/02/2021	3.1	Update to include relevant waste transport and disposal verification and heavy vehicle transport requirements	Tracey Wallbridge	Ross Trethewy
25/05/2021	3.2	Update to Heavy Vehicle GVM requirements	Brooke Brittain	Ross Trethewy

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Project Revision Status				
Date	Project Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
24/09/2021	1.1	New Plan issue – Updated for FSPS	Taylor Moroney	Arthur Panagopoulos
17/12/2021	1.2	Periodic Review – Update to title and Appendix 2	Taylor Moroney	Nick Bergholcs
10/03/2022	1.3	Periodic Review – No change	Taylor Moroney	Nick Bergholcs

SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	This Waste Environmental Management Sub Plan addresses the handling and management of waste materials generated by construction activities. The Plan identifies measures for designing out waste and minimising waste generation through pro-active planning, increased waste recovery and compliance with relevant statutory and project requirements. Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how the EHS Management Sub Plans form part of the Lendlease Building (LLB) EHS Management System.
Objectives of the Sub Plan	● To facilitate detailed consideration of waste elimination, waste generation and waste recovery options for each stage of construction from design to decommissioning. ● To recover, through reuse and recycling, a minimum of 90% (by weight) of all waste (excluding soil) generated on site. ● To maximise resource recovery and beneficial re-use or re-processing of construction waste and excavated materials to reduce waste to landfill. ● To prevent environmental pollution and potential for non-compliance associated with waste handling, transport and disposal. ● To ensure proper disposal of waste to a licenced facility, and traceability of waste disposal.
Scope of Works	This Sub Plan has been prepared based on the following scope of works: **Site preparation, demolition and excavation** • Site remediation. • Demolition of the southernmost school building, the garage and storage shed west and east of the Bureau of Meteorology Building (the Met/the Met Building), and the toilet block adjoining the main school building. • Selective removal of various elements of the main school building, as well as minor and insignificant elements of the Met Building and the Messenger's Cottage to facilitate refurbishment and future use of these buildings. • Bulk excavation works to facilitate the new southern buildings and onsite detention. • Tree removal. • Installation of hydraulic and electrical services. **Land use** • Use of all buildings for the purpose of a school. **Existing buildings** • Retention, refurbishment and extension of the existing Fort Street Public School, including construction of a new roof and rooftop additions. • Retention and refurbishment of the Met Building and internal alterations and additions.

	• Retention and minor alterations and additions to the Messenger's Cottage. **Construction of New buildings** • Construction of one new building on the western part of the site for a staff room. • Construction of two new, interconnected school buildings on the southern third of the site. • Construction of a new communal hall and canteen building. **Landscaping** • Retention of the existing large fig tree. • Landscaping works throughout the site, including construction of a new amphitheatre, new central plaza, and a multi-purpose forecourt. • Landscaping of roof gardens on top of the new southern buildings and the existing Met Building. **Other works** • Works to the existing entrance road, including alterations to the Bradfield Tunnel Services Building. • Modifications to existing pick-up / drop-off arrangements. • Provision of signage zones. ● • Installation of on-site detention
Key Issues and Risks	The management of waste must be based on the Hierarchy shown below where 'avoid and reduce waste' is the preferred option, and the 'disposal of waste' to landfill, is the least preferred option.  Key risks associated with the management of waste on the project have been identified as: ● Poor site planning resulting in inadequate facilities for waste storage, management and recovery/collection; ● Inappropriate handling and storage of solid waste, liquids, and contaminated or hazardous materials resulting in waste or pollution;

	• Inappropriate transport and disposal of waste to non-licenced or non-approved facilities or sites; Limited communication with waste service providers resulting in an inefficient service and increased project waste costs; • Over supply or inaccurate estimation of material requirements resulting in waste; • Identification of contaminated soil or hazardous materials requiring testing, classification, treatment, specialist disposal and validation; • Uncontrolled discharge of paint waste, concrete slurry, wet trade washout or litter into the stormwater system or off-site resulting in pollution; • Loss of resources and materials of value due to weather events, physical damage or vandalism; • Disposal of materials due to lack of awareness, planning and behavioural factors; • Lack of accurate measurement of heavy vehicle gross vehicle mass to verify compliance with heavy vehicle transport laws. • Missing or inaccurate tracking or verification of waste volumes removed from site and transported to waste recovery depots. • Inappropriate re-use or disposal without approval and required traceability documentation. • Compliance with the Project EHS Management Plan and this Waste Management Sub Plan is intended to mitigate the risks and potential impacts of construction activities and waste generation on the environment.
Legislation and Guidelines	**Federal/National:** Waste Classification Guidelines (Relevant State Government) National Packaging Covenant **State:** Protection of the Environment Operations Act, 1997 Waste Avoidance and Resource Recovery Act, 2001 NSW Waste Reduction and Purchasing Policy, 2007 (WRAPP) NSW EPA, Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities, 2013 **Local:** Council of the City of Sydney The City's Sustainable Sydney 2030 – Community Strategic Plan 2017–2021 Council of the City of Sydney Environmental Action 2016–2021 – Strategy and Action Plan Council of the City of Sydney Leave nothing to waste – Managing resources in the City of Sydney area: Waste strategy and action plan 2017–2030 Council of the City of Sydney Guidelines for Waste Management in New Developments Lendlease Requirements:

	• GMR: 4.13 Degradation or Pollution of the Environment • GMR: 4.15 Uncontrolled Release of Stored Energy (non-electrical)) • Lendlease Building Workplace Delivery Code (WDC) • Site Sustainability Standards (Greenbook) • Sustainability objectives and target: insert details (e.g. Greenstar credit requirements) • Scope of Works for Waste Services (Source) • Lendlease Group Procurement Package for Waste EHS Alerts: • EHS Alert 49: Dewatering of Construction Sites (July 2019); EHS Alert 50: Fuel Spills + Leakages to the Environment (July 2019); EHS Alert 51 - Recycled Granular Material (July 2019); EHS Alert 52 - Waste + Excavated Material Disposal (August 2019)
Summary of Site Controls	Works will be planned, implemented and monitored in accordance with the Lendlease GMRs, the Project EHS Management Plan, this Management Sub Plan, the Lendlease Building Workplace Delivery Code and Sustainability Standards. These documents detail the Lendlease approach and commitment to pro-active and responsible waste management on the construction project. Suitable waste management contractor(s) must be engaged to collect and manage office, kitchen and site waste under a minor works contract. The service will be delivered in accordance with the Scope of Works Waste Service Provider Engagement available on Source and be customised to the project, each stage of the works and any additional Client or sustainability requirements. The objectives of this Management Sub Plan and details of the LLB waste recovery targets and Footprint reporting requirements will be communicated to the waste management contractor and subcontractors who will be required to provide detailed reporting on monthly waste breakdowns to the project. Site specific waste management controls, monitoring, reporting and performance measures have been identified in this Sub Plan. These include but are not limited to: ● The establishment and maintenance of suitably designed waste handling areas that facilitate on-site waste separation, where available space allows for separation; ● The correct storage and handling of waste materials including liquids; ● Customisation of waste management services (considering type, expected quantity staging) in consultation with waste service providers; ● Identifying external opportunities for reuse and re-processing of waste to achieve mutually beneficial outcomes;; ● Accurately validating that waste quantities removed from site match those quantities disposed of at the approved licenced facility(s) with documented evidence retained by the project for audit purposes. ● Monthly reporting of waste and recycling data; and

	● Weekly/monthly inspections of waste management areas and skip use. ● Verifying the Contractor appointed for waste removal (including bulk excavation, remediation and demolition) has an accurate way of demonstrating that the loaded Heavy Vehicle is within the legal permissible Gross Vehicle Mass, contained appropriately and within dimension limits as required by Heavy Vehicle (and COR) legislation. As a primary measure this should involve determining the heavy vehicle mass at the point of loading or pending departure from site using: in vehicle telematics including heavy vehicle on-board mass measurement scales; OR the provision and use of a weighbridge; OR the use of portable axle load scales at random intervals, OR the use of scales on loading equipment such as excavators. As a secondary measure confirmation through a waste facility weighbridge unloading/delivery destination (i.e. dockets) is required to verify the mass of each heavy vehicle that has departed a project or other LLB workplace. Where an overweight load is identified through dockets or scales the event must be recorded as an incident in Enablon and an Action Plan assigned to the subcontractor to address the overweight load issue and verified in Enablon as closed by Lendlease. (refer Chain of Responsibility Management Sub Plan). ● Waste reduction, storage, separation (for reuse and recycling) and disposal requirements will be included in relevant specifications, contractual agreements, supply agreements, quality assurance documents, subcontractor work method statements and waste management plans. ● Criteria for the selection and use of recycled and recycled content products will also be specified. ● Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the Project EHS Management Plan, Subcontractor Waste Management Plans/SWMS, and the following implementation table.

IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measurement
Design and Work Methodology					
Identify opportunities to 'design out' or eliminate waste.	At design stage AND each new stage of construction	Review project bid/tender commitments and opportunities to reduce waste through elimination or design out. Work with project designers, suppliers and subcontractors to identify opportunities to minimise waste generation, incorporate recycled content materials/products, and/or revise construction methodologies to eliminate/design out. Identify options for reducing material waste e.g. standard size materials, reusable formwork system, soil, masonry, rock.	CM SPE CA	Record of opportunities identified and changes made. FOOTPRINT metrics.	Increased reuse in materials generated on site. Reduction in waste generated identified and recorded. Design change resulting in reduced waste generation recorded and quantified.
Planning					
Identify expected major waste streams for each stage of construction and develop a detailed proposal for waste management service procurement and on site waste management.	Prior to commencing	With reference to the construction program, identify major waste streams for each stage of works. For each stage of works, develop an understanding of expected waste quantities. Use this information to document waste service requirements (skip numbers, types and sizes) with the aim of	CM SM Engineer EHS	Completed Waste Stream Matrix (Appendix 2) Project specific waste management sub plan reviewed quarterly.	Achieve minimum 90% recovery by weight (excluding soils).

		maximising on-site separation of key wastes including concrete, steel, plasterboard, cardboard, timber, soft and hard plastics. (Complete Appendix 1)			
Raise awareness of waste minimisation and site management practice requirements.	Prior to and during works.	Include project specific waste management information in the site induction. Display posters and signage and deliver toolbox talks addressing the conservation of resources and waste minimisation.	SM EHS	Induction delivered.	Active participation in waste management programs.
Site Establishment (waste management area/s)					
Implement the waste management requirements of the Site Sustainability Standard.	Prior to commencing works	Implement sustainability initiatives to achieve identified outcomes. (Refer to the Sustainability Greenbook on Source)	CM SM Sust Mgr	Six monthly audits.	[Insert agreed level to be achieved] Agreed level achieved and maintained during construction.
Prepare a detailed site plan showing: • Waste handling areas • Material storage areas • Concrete waste collection/washout areas • Trade waste/wastewater facility locations. • Stockpile locations.	Prior to site establishment	Appropriately located and adequately sized areas must be identified for each activity. Waste management areas should accommodate multiple bins/skips to allow for on-site separation of different waste streams at various stages of construction. Waste management areas must be separate to material storage areas.	CM SM SPE EHS	Weekly/monthly EHS inspections. Monthly waste data capture (Footprint) Environmental Management Diagram (EMD) prepared (Appendix 1).	EMD reviewed quarterly. No pollution incidents associated with these activities.

Procuring Waste Services					
Identify **suitable** waster service contractor that can verify compliance with heavy vehicle transport laws. Obtain **any** relevant approvals and permits for transport, reuse and/or disposal of waste prior to removal from site.	Prior to engaging contractor	Identify suitable waste transport contractors Check landfill/disposal facility licence details to confirm their suitability to accept the waste.	CM Engineer	Copies of any licences and approvals reviewed. Disposal/weighbridge documents retained and waste details captured in FOOTPRINT	No waste leaving site without approval. Copies of any permits/approvals kept on site. All loads transported off site accounted for at destination facility and quantity verified against quantity leaving site. System to accurately verify heavy vehicle loads are the correct mass leaving site.
Based on the identification of key construction wastes, identify skip requirements for on-site separation, collection (at ground level and within floor areas), off-site recycling and disposal for each stage of construction.	Prior to works commencing	Refer to Group procurement arrangements for waste services. (i.e. minor works contract and Scope of Works (SoW) for waste service providers). Discuss project requirements and targets for waste management with selected waste contractors. Identify opportunities for customising waste services for each stage of the project to maximise recovery and reduce costs.	CM SM	Monthly waste report from contractor (meeting requirements of Footprint). Monthly waste reporting by subcontractors (i.e. demo and excavation waste). SoW attached to contract information. (Refer to Source: EHS documents)	Waste recovery targets met.
Procure separate waste services for office and kitchen/crib hut waste (i.e. organic and putrescible waste).	Prior to works commencing	Discuss project requirements with relevant waste contractors. As a minimum, consider separate bins for the collection of putrescible waste, organic waste, co-mingled recyclables (bottles/cans), paper/cardboard,	SM Engineer	Monthly waste report from contractor (meeting requirements of Footprint).	No unacceptable waste in construction skip bins.

		printer cartridges, batteries and globes. (These wastes must not be placed in mixed construction waste skip bins).			
Subcontractors and Supplier Waste Management					
Identify major suppliers and identify opportunities to minimise or eliminate packaging and procure recycled content products.	Prior to and during construction	Identify major suppliers with the largest potential waste generation impact. Proactively consider and review supply agreements, materials and packaging with the view of eliminating or minimising waste through 'take back' or 'reduction of packaging material' initiatives. Request input from subcontractors and suppliers to nominate recycled products or products that include a recycled component. Check compliance with specifications and ensure the material is fit for purpose.	CM SM	Specifications met. Tabled in design and pre-contract meetings. Sign off on product selection. Take back and package reduction programs implemented.	Proven examples of packaging reduction. Use of recycled materials and recycled content products. Material received with clearance certificates (i.e. no contamination) and fit for purpose.
Major subcontractors to submit details of waste generated, waste minimisation, take back, reuse and recycling opportunities.	At tender and contract finalisation. During Construction	Identify major subcontractors with the largest potential waste generation impact. Identify predicted waste types that will be generated and quantities. Identify practical measures associated with the subcontractor's scope of work or product supply to reduce	SM	Inspection of incoming materials and packaging to identify new opportunities. Periodic checks of waste skips and subcontractor waste management activities. Monthly waste reports.	Reduced waste generation and costs. Alternative products identified and used. Bulk handling and reusable/returnable transport containers encouraged. Waste and recovery targets tracked.

		waste entering the site (e.g. reduced or alternative packaging, take back, use of recycled materials, hire arrangements etc). Document waste management commitments in contract documentation and site plans.			
Waste provider (including bulk excavation, remediation and demolition) heavy vehicle mass compliance	Prior to commencement	Verifying the Contractor appointed for waste removal (including bulk excavation, remediation and demolition) has an accurate way of demonstrating that the loaded Heavy Vehicle is within the legal permissible Gross Vehicle Mass, contained appropriately and within dimension limits as required by Heavy Vehicle (and COR) legislation.	CM	Scope of Work Verification of system during subcontractor works to proceed and audits	Compliance to NHVL (heavy vehicle mass requirements) Heavy vehicles provided by waste contractor inclusive of an accurate way of measuring mass.
Site Waste Handling and Management					
Dispose of waste using licensed contractors at appropriately licensed/ approved facilities.	At all times	Consider reuse and recycling options before disposal. Request copies/check EPL/approval for facilities receiving waste and recyclables before the waste leaves site.	SM	Inspection of waste transport licenses and vehicles. Monthly waste report. Disposal dockets.	No waste disposed to unlicensed facilities. Copies of disposal documentation maintained and tracked in Footprint. No illegal placement of waste on land or in water. Waste, reuse, recycling and recovery data tracked in Footprint.
Separate/sort waste materials on site to divert waste from landfill and maximise recovery.	At all times	In consultation with the waste service provider identify costs	SM	Weekly/monthly inspection checklist.	Clean and tidy waste management area.

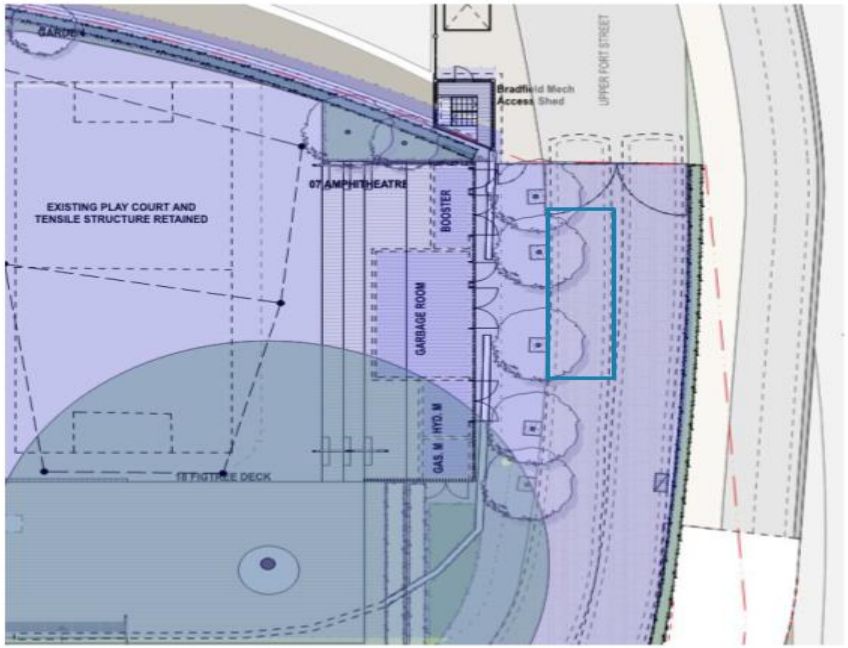
		and options for the separation of materials on site. Maintain waste storage areas in a tidy condition. Provide separate bins (as identified during the planning stage) and clear signage to prevent cross-contamination of wastes in segregated skips. Identify options for the use of balers for plastic and cardboard. (**NOTE:** WHS considerations MUST be made and approval of supply and use of a baler received from RBU EHS Manager prior to use). Maintain a materials reuse area to divert materials of value from recycling and disposal skips.		Monthly waste reports.	Nil to minimal cross contamination of waste types. On site separation of wastes maximised during various stages of construction.
Maintain waste handling and waste storage areas (solid and liquid wastes) in good condition to prevent pollution.	At all times	Store liquid wastes in secure, well ventilated, covered, bunded areas (110% capacity of stored goods. Covered where possible). Store materials in original containers (label and seal intact). Do not stack unless secured. Provide a spill control kit and clean up spills immediately.	SM EHS	Weekly inspection of waste areas to assess condition of storage and waste collection areas and identify maintenance requirements.	Nil to minimal cross contamination of wastes. No spillage or loss of wastes from collection containers in storage areas. No 'orphaned' drums identified on site during inspections (i.e. drums/containers left outside of a bunded area)
Encourage good site 'housekeeping' in material handling and storage areas to prevent damage and the loss of materials due to physical impact and weather events.	At all times	Communicate material handling and storage requirements to subcontractors. Address in subcontractor WMS.	SM	Weekly inspection checklist to identify inappropriate storage or the waste of materials and resources.	No loss due to poor storage.

Where spoil cannot be reused on-site, dispose of excavated materials off-site to a lawful facility.	At all times	Use a licensed waste contractor to transport spoil to an appropriately licensed or approved facility. Complete required checks and forms and check approvals for disposal to a non-licenced property. Track the disposal of chemical and hazardous wastes in accordance with authority requirements.	CM SM	Tracking of materials transported off-site (i.e. through dockets etc). Waste classification reports. Subcontractor energy and waste reporting form (submitted monthly with progress claim) Random inspection of waste transport licenses and vehicles.	Reconciliation of tracking registers and dockets. Soil quantities tracked in Footprint. No spillages/loss of waste during transport.
Heavy vehicles for waste removal have an accurate way of demonstarting compliance to heavy vehicles legal permissible Gross Vehicle Mass	At all times	Confirmation that all heavy vehicles used for waste removal have an accurate way of demonstrating that the loaded Heavy Vehicle is within the legal permissible Gross Vehicle Mass, contained appropriately and within dimension limits as required by Heavy Vehicle (and COR) legislation this can be	CM SM	Verified through the heavy vehicle mass at the point of loading or pending departure from site using: in vehicle telematics including heavy vehicle on-board mass measurement scales; OR the provision and use of a weighbridge; OR the use of portable axle load scales at random intervals, OR the use of scales on loading equipment such as excavators.	No heavy vehicles leaving site in excess of a heavy vehicles legal permissible Gross Vehicle Mass
Waste Data Capture					
Capture waste data and analyse to assess waste management outcomes.	Whole of Project	Capture office/kitchen waste and construction site waste data in FOOTPRINT. Analyse waste data to identify new opportunities and/or issues.	CM	Six Weekly Quarterly FOOTPRINT data review.	Outlined in the Project Review and discussed

Review of heavy vehicle mass requirements.	Following removal of waste	Review of transported waste mass requirements for heavy vehicles for GVM compliance with confirmation through a waste facility weighbridge unloading/delivery destination (i.e. dockets) is required to verify the mass of each heavy vehicle that has departed a project or other LLB workplace.	CM	Review of waste dockets	Where an overweight load is identified through dockets or scales the event must be recorded as an incident in Enablon and an Action Plan assigned to the subcontractor to address the overweight load issue and verified in Enablon as closed by Lendlease.
Project Completion					
Co-ordinate the sharing and reuse of raw materials, excess products, and building materials including plywood, hoarding, fencing, concrete and formwork where possible.	During construction	Establish a dedicated material recovery area for the collection of materials suitable for reuse.	CM SM	Discussed in project and subcontractor meetings. Reinforced through toolbox talks. Weekly/monthly inspection checklist. Recycling facility dockets.	Documentation of actual examples as a case study. Quantified in project reviews.

APPENDIX 1: ENVIRONMENTAL MANAGEMENT DIAGRAM (EMD)

- Waste management areas and access for the placement and collection of multiple bins/balers/skips
- Multi-skip locations (to allow waste separation on site), material reuse area (to store materials for reuse back on the project), pallet storage areas (for pallet collection and reuse) (larger scale plan may be required)
- Material storage areas (must be separate to waste management areas, clearly delineated and well organised to prevent materials from becoming waste))
- Stockpile locations
- Washout areas/facilities (concrete and trade waste)
- Other key features of the site and surrounds



Location of collection point (blue)

APPENDIX 2: KEY WASTE STREAMS, ESTIMATED QUANTITIES AND SERVICE REQUIREMENTS

(Note: this table can be reproduced in EXCEL and modified as required, for workability and to suit the project and its staging requirements).

Project Name: Fort Street Public School

Start Date: January 2021	Finish Date: December 2022	Duration: 23 Months

Stage and Timing	Expected waste types *	Estimate of expected waste quantity **	Estimate of service requirements (type, number and size - weekly) ***				Comments	# Weeks
			SKIPS	BINS	BALERS/ COMPACTORS	OTHER (e.g. kerbside)		
Office	Food waste Comingled recyclables General waste	**5kg**		**1**	**0**	**0**		**1**
Site Accommodation	Food waste Comingled recyclables General waste	**20kg**		**6**	**0**	**0**		**70**

Stage and Timing	Expected waste types *	Estimate of expected waste quantity **	Estimate of service requirements (type, number and size - weekly) ***				Comments	# Weeks
			SKIPS	BINS	BALERS/ COMPACTORS	OTHER (e.g. kerbside)		
Site establishment	Soil Terracotta pipes Electrical wiring PVC Vegetation Fencing materials		1	1				10
Piling	Soil Concrete Steel Casing		1					
Earthworks	Soil Rock Aggregate Contaminated material						All Earthworks material has been repurposed on site or taken to a licensed waste facility	20
Structure	Concrete and slurry Containers (plastic)	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started

Stage and Timing	Expected waste types *	Estimate of expected waste quantity **	Estimate of service requirements (type, number and size - weekly) ***				Comments	# Weeks
			SKIPS	BINS	BALERS/ COMPACTORS	OTHER (e.g. kerbside)		
Facade	Timber pallets Soft plastic	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	
Fit out	Cardboard boxes Pallets Timber packers Soft plastic Strapping Styrofoam	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	
External works including landscaping	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	
Final clean up	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	

Stage and Timing	Expected waste types *	Estimate of expected waste quantity **	Estimate of service requirements (type, number and size - weekly) ***				Comments	# Weeks
			SKIPS	BINS	BALERS/ COMPACTORS	OTHER (e.g. kerbside)		
Decommissioning **(site office, meters, tanks, site controls, fencing)**	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	Not yet started	

* Refer to table below (Appendix 3) for a list of potential waste types, site requirements and management opportunities.

** Can be calculated as a percentage of material procured (if known) or as an estimate based on an appropriate, documented methodology e.g. past project or similar project outcomes. Please note methodology.

*** Identify options in consultation with relevant service providers. To receive the best service, establish a sound working relationship with the provider.

APPENDIX 3: KEY WASTE TYPES, MINIMUM SITE REQUIREMENTS AND OPPORTUNITES FOR DIVERSION

Waste Type	**Site Requirements** (minimum)	**Opportunities for optimising reuse or recycling** Discuss with Team, subcontractor and Waste Service Provider/specialist
Aluminium	Separate for recycling.	
Asphalt	Separate. Stockpile or place in skip. No runoff of contaminants.	Reused in temporary works, site levelling or to establish walkways, driveways or stabilised areas. Off-site recycling.
Biodegradable bags	Purchase	Landfill
Cables and parts	Metal components separated and placed in metal bin. Remaining material placed in mixed skip.	
Cardboard	Bins (240L), skips or cages Baler	Off-site recycling
Carpet and carpet underlay	Separated	Recycled. Donated. Cleaned and reused by others.
Crib hut/kitchen waste	Bins and collection arranged (240L) Putrescible wastes must not be placed in mixed construction skips.	Separate bins for food waste, cans, plastic bottles for off-site recycling.
Concrete (liquid slurry from washout and solid).	Appropriately designed and located washout facility Waste concrete (wet) and slurry placed in collection trays. Separate stockpile or skip for dried concrete for off-site recycling. Separate dried concrete from plastic tray lining. Place plastic in mixed skip.	On-site reuse of excess concrete (i.e. hardstand areas, footpaths) On site recycling of wastewater. Check whether plastic liner affects the ability of the waste service provider to recycle the concrete.
Drums and containers	Store in bunded areas for collection. Must not be stored with incompatible substances.	Removal off-site by a licensed contractor for rinsing, recycling or disposal at a licensed landfill.
Excavated spoil (clean soil, rock etc)	Reuse on site. Stockpile separately. Removed from site by trucks.	Reuse off-site under a resource recovery exemption, development approval or licence (beneficial reuse). Disposal off-site (if contaminated)
Excavated spoil contaminated	Stockpile separately. Removed from site by trucks. Disposal off-site to an appropriately licenced facility.	Approved treatment and reuse on site if possible. Reuse of treated material off-site (where permissible).

	Controls installed to prevent pollution.	
Food packaging/cans/bottles	Bins or cages. Signage to identify the purpose of each bin/cage.	Recyclables sorted for collection and off-site recycling. Landfill if not recyclable.
Facade frames/supports	Separated and protected from damage.	Returned for reuse. Disassembled for recycling.
Glass/plastic/cans	Bins (240L), skips or cages Baler	Separated for collection. Off-site recycling
Green waste (vegetation)	Mulch or chip on site. Trucked off site. Separated into a skip.	Chipped on site. Transported to off-site centre for recycling
Ink cartridges (office based use)	Collection bin or drop off points identified.	Return for refill or recycling.
Liquid from wet trades (e.g. paint, dry walls, renderers, tilers etc)	Dedicated washout facility/treatment system.	Off-site recycling of solids (slurry) On-site recycling of water.
Oily rags and filters	Bins. Separated from other wastes.	Off-site recycling by licensed waste oil recycler
Organic food scraps	Bins. Separated from waste that can be recovered or recycling.	On-site worm farm or maggot farm Taken off-site to organic recycling facility Landfill
Paper waste (e.g. office based use)	Secured and unsecured Bins (240L)	Off-site recycling
Plastic (soft and hard)	Separate bin/skip. Baler or cage.	Off-site recycling or re-processing.
Scrap metal/steel	Separate skip.	Off-site recycling
Sediment control materials	Store on site for reuse.	Reuse at other local sites. Recycle clean fabrics and plastics.
Spill control materials (e.g. absorbent pads/booms	Containers, bins and/or tanks that have been suitably bunded	Taken off-site to landfill. Collection by specialist waste contractor if containing hydrocarbons, chemicals.
Timber and timber pallets	Separated. Skip bin.	Reused on site. Recycled off-site. Returned Disposed to landfill.
Waste oil, grease, lubricants	Sealed and stored in original container in bunded areas for collection.	Off-site recycling by licensed contractor.
Plastic wrapping/containers	Separated. Baler or skip Must remain uncontaminated by other wastes (e.g. slurry)	Off-site recycling for clean, dry, soft plastics or landfill as appropriate.

Appendix G – Project Impact and Hazards Risk Assessment (IHRA)

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Common Site Wide Hazards and Aspects														
Hoarding\Fences - Installation, maintenance and removal (including signage and banners)	LLB	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.1 Fall of person	Yes	Tool lanyards Exclusion zones All workers inducted in to SWMS PEZ zones and training to all workers Catch nets in place around building permitier Hoarding over high risk areas	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Hoarding\Fences - Installation, maintenance and removal (including signage and banners)	LLB	Failure of hoarding and or elements of hoarding resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.9 Failure of structures (temporary or permanent)	Yes	Hoardings designed by a competent registered engineer and design must consider wind loads and other forces. Hoarding installation certified by competent registered engineer. Inspection to design to be included in handover certificate. Handover certificates provided on initial erection All hoardings must be inspected daily and a engineer inspection undertaken at 3 monthly intervils	3. Engineering	Daily Fence Inspection Safety Observations Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3.2 General Workplace Management, Part 5.1 General plant and structures
Hoarding\Fences - Installation, maintenance and removal (including signage and banners)	LLB	Work at heights resulting in injury or death	C Possible	3 Medium	9	Controls required in column K	4.1 Fall of person	Yes	Works completed from ground level where possible High Level works if required completed from MEWP/platform Ladder. Alternatively review use of temporary handrail system. Where harness is required the PTW Harness must be implemented.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily,	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Hoarding\Fences - Installation, maintenance and removal (including signage and banners)	LLB	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3.2 General Workplace Management, Part 4.2 Hazardous manual tasks COP - Hazardous manual tasks
Hoarding\Fences - Installation, maintenance and removal (including signage and banners)	LLB	Work on or near energised electrical installations or services causing electrocution	D Unlikely	4 Large	8	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	The LL Permit to Work Part A and Permit Part B must be completed by the subcontractor and approved by LL site management prior to any works commencing. DBYD, As/Con Dwg reviewed and attached. Any risk of unknown in ground service or excavation within minimum safe distance non mechanical or hand dig only. Isolation of energy prior to work commencing.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites
Hoarding\Fences - Installation, maintenance and removal (including signage and banners)	LLB	Work in or adjacent to public areas causing injury to member of the public	C Possible	4 Large	12	Controls required in column K	4.14 Vehicle and plant incident (public areas)	Yes	Permit to be completed prior to work commences. Exclusion zones, traffic management and barricades to be installed prior to commencement. Signage installed, spotters As required, SWMS completed.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia DA2018/1332 General Requirement 7 Trafic Management
Site security	LLB	Public interface causing delay or injury to member of the public	B Likely	4 Large	16	Controls required in column K	4.14 Vehicle and plant incident (public areas)	Yes	Security fencing, hoardings & scaffolding to be positioned and maintained at all times to protect the public. Provide adequate access, lighting and signage. Undertake ongoing reviews, maintenance and/or modification to suit site conditions. Undertake daily inspections at the start and finish of the day works to ensure adequacy of equipment. Security fencing, hoardings, gates and entry points to be monitored and maintained at all times to protect against public gaining access. Site signage to be erected and maintained. Gates to be kept closed whenever not attended.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 3. General Risk and Workplace Management
Site security	LLB	Incident or injury caused by fatigue	D Unlikely	4 Large	8	Controls required in column K	4.10 Occupational health exposure	Yes	Fatigue management plan for out of hours work and shift work. Risk assessment completed. No high risk work undertaken. No lone working at night.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Management Working hours – Code Working hours risk management guidelines – Code
Site security	LLB	Fire and/or emergency causing injury or death	C Possible	4 Large	12	Controls required in column K	4.5 Fire and explosion	Yes	Personnel to be trained in EMP and use of emergency equipment. Extended working hours risk assessment / permit completed and approved by responsible manager. Evacuation drills and other ER exercises. Exit ways and emergency exits identified maintained clear and sign posted. Evacuation drills 6 monthly.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Managementin

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Construction vehicle access to and from site	LLB	Vehicle vs. vehicle vs. plant. Vs pedestrian incidents resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Construction Sub Plan Traffic Management developed and in place. Segregation/separation pedestrian and plant movement using traffic rated barriers e.g. jersey kerbs. Minimum safety features - flashing light, reversing beeper, fire extinguishes Designated delivery/unloading zones. Truck deck access platform. Delivery entry/exit procedure. Controlled interfaces with public roads. CTMP Developed by RMS accredited person and submitted and approved by council provide sufficient parking facilities on-site for heavy vehicles, to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia SSDA B17 B18 SSDA B26 SSDA C11, SSDA C14
Construction vehicle access to and from site	LLB	Impact on Community due to noise, traffic issues, delays, pedestrian difficulties resulting in injury, damage, authority action	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	No parking on site. Traffic management plan developed and implemented, approved traffic controllers in place. Relevant authorities, neighbours and community to be consulted prior to works. Site access located away from sensitive zones. All works to be carried out in accordance with site EHS Noise & Vibration Management plan and the SMP requirements. Deliveries / Load out to be planned and managed in compliance with site TMP, operational hours and rules. Any out of hours works minimised including deliveries and shall only be carried out with the permission of LL. Noise management requirements to include parked trucks turned off. Environmental noise monitoring at boundary. CTMP Developeed by RMS accredited person and submitted and approved by council all trucks entering or leaving the site with loads have their loads covered; trucks associated with the development do not track dirt onto the public road network; public roads used by these trucks are kept clean;	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia SSDA C16 C23
Construction vehicle access to and from site	LLB	Impacts from emissions discharge to land or air e.g. leaks, exhaust fumes etc resulting in community or regulatory action	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas), 4.15 Uncontrolled release of stored energy (non-electrical)		Air Quality EHS Sub Plan implemented including relevant monitors in place Requirement for air quality management and monitoring contained in project approval implemented Hygienist/Environmental specialist appointed to design/implement/maintain monitoring equipment Community contacts register in place Haul roads sealed / dust suppressed by water carts Site hoardings established with sufficient clearance to public areas SWMS in place for works which include control measures for dusts, mists and the like Site speed limits in place Spoil stockpiles protected from erosion (refer WDC) Bulk haul transport loads covered Plant fitted with manufacturers emission controls	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia
Construction vehicle access to and from site	**LLB**	Unstable/unsealed site access resuting in tracking of soil/mud off-site (water and air (dust) pollution).	C Possible	2 Small	6	Controls required in column K	4.13 Degradation and pollution of the environment		Maintain sealed site access in good condition. Install wheel wash. Sweep hard sufaces (no hosing) regularly. Stormwater, Erosion and Sediment Management Sub Plan implemented. Stabilised Truck Access at entry and exit	3. Engineering	Daily inspections.	Foreman and Supervisors EHS Coordinators	Open	Environmental legislation including NSW POEO Act DA2018/133239 40 48, 52 57, 58, 59, 62
Construction vehicle access to and from site	Various	Change management not undertaken resulting in traffic issues, delays, pedestrian difficulties resulting in injury, damage, authority action	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)		Builders Brief or other communication provided daily by LLB. Daily pre-start meetings held by each workgroup. Weekly subcontractor coordination meetings held. TCP Modiifed to suit changes	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Road transport of equipment, goods or materials to and from the project site (over 4.5t GVM), including; Demolition - piling and in-ground works - excavation and disposal of spoil - forming and pouring of structures - services - façade - fitout - craneage	Various	Uncontrolled movement of load or vehicle during transport resulting in injuries due to: -Failure to identify correct mass, distribution and dimension of load -Poor supervision, inexperienced operators or poor consultation -Heavy vehicle incompatible for load -Dimensions of load non-complaint -Failure to correctly position load on heavy vehicle -Vehicle overloaded	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Contracts to include CoR conditions Loading/unloading staff Competent and VOCs completed Loading/unloading plant fitted with weight measuring device wherever possible Driver to confirm/verify the mass of the load does not exceed the capacity of the heavy vehicle prior to depature from site. Transport provider staff trained and competent to direct vehicle load placement Heavy Vehicle to have its mass capacity clearly displayed. Transport provider to calculate and identify mass using NHVL compliant methods CoR awareness training provided to project staff Completion of LLB, or equivalent Heavy Vehicle safety & compliance register Loading/unloading area established on-site Transport provider to comply with vehicle NHVL requirements Driver/subcontractor to inspect load prior to leaving site. SWMS for loading/unloading Driver/receiver to inspect load prior to unloading. Oversized loads managed in compliance with NHVL, state laws and transported outside of hours Traffic Management EHS sub plan in place	3. Engineering	Enablon observations Subcontractor observations/ Inspections Weekly EHS walk Monthly Site EHS Checklist CoR Sampling	Construction Manager Site Manager Commercial Manager Foreman and Supervisors EHS Manager EHS Coordinator Project Engineer Site Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Heavy Vehicle (Adoption of National Law) Act 2013 Heavy Vehicle (Adoption of National Law) Regulation 2013 Chain of Responsibility Sub-plan Traffic Management Guide - Construction Work SafeWork Australia Roads Act 1993 Road Transport Act 2013
Road transport of equipment, goods or materials to and from the project site (over 4.5t GVM), including *Demolition*; - piling and in-ground works - excavation and disposal of spoil - forming and pouring of structures - services - façade - fitout - craneage	Various	Breach of fatigue and speed requirements of NHVL resulting in legal breach or injury to driver, worker or public due to: -Delay in unloading operations due to weather, road or site conditions causing the driver to speed up. -Unrealistic timeframes provided and agreed to by the parties. -Site delays whilst unloading. -Driver welfare facilities inadequate. -Driver ignores instructions for speed / fatigue. -Driver error -Driver arrives at work unfit for work -Driver working multiple shifts/jobs	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.12 Mental health and fatigue	Yes	Contracts to include CoR conditions Evidence of fatigue management evidenced through driver log books/work diary. Loading/unloading area established on-site Welfare facilities made available to drivers CoR awareness training provided to project staff Driver notification of fatigue concerns Driver to carry logbook (where required) Where log books not required, rest breaks clearly communicated to drivers and noted Assessment documented by LLB where site delays materially affect driver schedules Visible signs of fatigue notified to LLB management Completion of LLB, or sub-contractor equivalent Heavy Vehicle Safety & Compliance Register Driver holds the appropriate class of licence for the heavy vehicle.	3. Engineering	Enablon observations Subcontractor observations/ Inspections Weekly EHS walk Monthly Site EHS Checklist CoR Sampling	Construction Manager Site Manager Commercial Manager Foreman and Supervisors EHS Manager EHS Coordinator Project Engineer Site Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Heavy Vehicle (Adoption of National Law) Act 2013 Heavy Vehicle (Adoption of National Law) Regulation 2013 Chain of Responsibility Sub-plan Roads Act 1993 Road Transport Act 2013
Road transport of equipment, goods or materials to and from the project site (over 4.5t GVM), including *Demolition*; - piling and in-ground works - excavation and disposal of spoil - forming and pouring of structures - services - façade - fitout - craneage	Various	Mechanical failure of heavy vehicle due to: -Poor maintenance or servicing -Failure of mechanical components -Overloading -Deterioration of mechanical parts -Modification of vehicle -Non-compliance with conditions of a defect notice	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Contracts to include CoR conditions Vehicles road registered Transport provider to comply with vehicle NHVL requirements Heavy vehicles inspected prior to entry to the project (daily Pre-start) by trained and competent persons. Vehicle maintenance log book available for inspection CoR awareness training provided to project staff Completion of LLB, or sub-contractor equivalent Heavy Vehicle Safety & Compliance Register Heavy vehicles inspected upon entry to the project	3. Engineering	Enablon observations Subcontractor observations/ Inspections Weekly EHS walk Monthly Site EHS Checklist CoR Sampling	Construction Manager Site Manager Commercial Manager Foreman and Supervisors EHS Manager EHS Coordinator Project Engineer Site Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Heavy Vehicle (Adoption of National Law) Act 2013 Heavy Vehicle (Adoption of National Law) Regulation 2013 Chain of Responsibility Sub-plan Traffic Management Guide - Construction Work Roads Act 1993 Road Transport Act 2013
Road transport of equipment, goods or materials to and from the project site (over 4.5t GVM), including *Demolition*; - piling and in-ground works - excavation and disposal of spoil - forming and pouring of structures - services - façade - fitout - craneage	LLB	Breach of vehicle standards and maintenance of NHVL resulting in legal breach or injury to driver, worker or public due to Heavy vehicle due to: -Poor maintenance or servicing -Failure of mechanical components - No provision or damaged safety components (tyres, mirrors, rear signage, -Deterioration of mechanical parts -Modification of vehicle	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Contracts to include CoR conditions Loading/unloading staff Competent and VOCs completed Loading/unloading plant fitted with weight measuring device wherever possible Driver to confirm/verify the mass of the load does not exceed the capacity of the heavy vehicle prior to depature from site. Transport provider staff trained and competent to direct vehicle load placement Heavy Vehicle to have its mass capacity clearly displayed. Transport provider to calculate and identify mass using NHVL compliant methods CoR awareness training provided to project staff Completion of LLB, or equivilant Heavy vehicle Safety and compliance register Loading/unloading area established on-site Transport provider to comply with vehicle NHVL requirements Driver/subcontractor to inspect load prior to leaving site. SWMS for loading/unloading Oversized loads managed in compliance with NHVL, state laws and transported outside of hours Traffic Management EHS sub plan in place Load restraint training provided to loader Driver/LLB to inspect load prior to unloading/loading to ensure safe Vehicles road registered LLB SWMS for loading/unloading	3. Engineering	Enablon observations Subcontractor observations/ Inspections Weekly EHS walk Monthly Site EHS Checklist CoR Sampling	Construction Manager Site Manager Commercial Manager Foreman and Supervisors EHS Manager EHS Coordinator Project Engineer Site Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Heavy Vehicle (Adoption of National Law) Act 2013 Heavy Vehicle (Adoption of National Law) Regulation 2013 Chain of Responsibility Sub-plan Traffic Management Guide - Construction Work Roads Act 1993 Road Transport Act 2013
Management of visitors	LLB	Visitor injury or fatality	D Unlikely	4 Large	8	Controls required in column K		Yes	Visitor sign in and visitor induction in place Clearing defined workplace PPE requirements Clearly defined PPE/construction zones Visitors to be escorted at all times in construction zones	2. Administration	Daily	Construction Manager	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Public & Community Interface	LLB	Vibration impact to sensitive receptors resulting in complaints or authority action	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice; and (e) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria Locate stockpile areas, waste management areas and material storage areas away from project neighbours Provide advance notification to neighbours to stakeholders of any out of hours work Workplace hours of work established and enforced Noise and Vibration EHS Sub Plan implemented Vibration caused by construction at any residence or structure outside the site must be limited to: (a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and (b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time). Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours: (a) 9am to 12pm, Monday to Friday; (b) 2pm to 5pm Monday to Friday; and (c) 9am to 12pm, Saturday.	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000 Noise and Vibration Management Plan Managing noise at workplaces – Code SSDA C1 SSDA C19, SSDA C18 SSDA C8
Public & Community Interface	LLB	Vibration impact to surrounding structures causing damage	D Unlikely	4 Large	8	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice; and (e) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria Locate stockpile areas, waste management areas and material storage areas away from project neighbours Provide advance notification to neighbours to stakeholders of any out of hours work Workplace hours of work established and enforced Noise and Vibration EHS Sub Plan implemented Vibration caused by construction at any residence or structure outside the site must be limited to: (a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and (b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time). Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours: (a) 9am to 12pm, Monday to Friday; (b) 2pm to 5pm Monday to Friday; and (c) 9am to 12pm, Saturday	2. Administration	As required	Construction Manager Regional EHS Manager / EHS Manager Integrated Project Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000 Noise and Vibration Management Plan Managing noise at workplaces – Code SSDA C1 SSDA C19, SSDA C18 SSDA C8
Public & Community Interface	LLB	Exposure to toxic chemicals, dusts or mists / impact to visible air quality resulting in injury or illness	D Unlikely	4 Large	8	Controls required in column K	4.11 Public health exposure, 4.15 Uncontrolled release of stored energy (non-electrical), 4.13 Degradation and pollution of the environment	Yes	Air Quality EHS Sub Plan implemented Requirement for air quality management and monitoring contained in project approval implemented Hygienist/Environmental specialist appointed to design/implement/maintain monitoring equipment Community contacts register in place Haul roads sealed / dust suppressed by water carts Site hoardings established with sufficient clearance to public areas SWMS in place for works which include control measures for dusts, mists and the like Site speed limits in place Bulk haul transport loads covered or in Rotacontainers Plant fitted with manufacturers emission controls ensure that the removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility is in accordance with the requirements of the relevant legislation, codes, standards and guidelines	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Construction Manager Regional EHS Manager / EHS Manager Integrated Project Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS Subplans relevant to contamination pathway SSDA C36

Workplace Impacts and Hazards Risk Assessment

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6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Public & Community Interface	LLB	Dust deposition on surfaces and habitat features and causing nuisance concerns to the community.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Air Quality Management Sub Plan implemented Requirement for air quality management and monitoring contained in project approval implemented Hygienist/Environmental specialist appointed to design/implement/maintain monitoring equipment Community contacts register in place Haul roads sealed / dust suppressed by water carts Site hoardings established with sufficient clearance to public areas SWMS in place for works which include control measures for dusts, mists and the like Site speed limits in place Spoil stockpiles protected from erosion (refer WDC) Bulk haul transport loads covered	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Site Manager Foreman	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS SubPlan Airborne Contaminates Management Plan Relevant State Environmental Legislation including NSW Protection of the Environment Operations Act. SSDA C36
Public & Community Interface	LLB	Non compliance with DA or project environmental approval conditions causing authority action	D Unlikely	4 Large	8	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Requirement for air quality management and monitoring contained in project approval implemented Haul roads sealed / dust suppressed by water carts Site hoardings established with sufficient clearance to public areas SWMS in place for works which include control measures for dust, mists and the like Site speed limits in place Spoil stockpiles protected from erosion (refer WDC) Bulk haul transport loads covered Plant fitted with manufacturers emission controls	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Construction Manager Regional EHS Manager / EHS Manager Integrated Project Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000 EHS Subplan relevant to contamination Managing noise at workplaces – Code of practice Relevant State Government Environment and Planning legislation including the NSW Protection of the Environmnent Operations Act and Environmental Planning and Assessment Act.
Public & Community Interface	LLB	General public access to site and construction works reulting in injury or fatality	C Possible	4 Large	12	Controls required in column K	4.11 Public health exposure	Yes	Hoardings established and inspected Pedestrian access route established and sign posted. Site security and traffic controllers. Fences, hoardings and entry gates with appropriate signage. No parking on site. Traffic management plan developed and implemented. Relevant authorities, neighbours and community to be consulted prior to works. Site access located away from sensitive zones. Adequate signage in place. Site security in place for visitor control. CTMP Developed by RMS approved persn	3. Engineering	Daily	Site Manager	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
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3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
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1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Public & Community Interface	LLB	Vehicle incident accessing site	C Possible	4 Large	12	Controls required in column K	4.14 Vehicle and plant incident (public areas)	Yes	Traffic and Parking EHS Sub Plan in place. Segregation/separation pedestrian and plant movement Designated delivery/unloading zones. Delivery entry/exit procedure CTMP devloped by RMS approved person Delivery of plant and materials must be between hours of 7am - 6pm Monday to Friday 8am - 1pm Saturdays Mobile cranes operating from the road must not be used as a method of demolishing or constructing a building. For special operations (such as delivery of materials, hoisting of equipment, etc) permits must be obtained from Council for the use of a mobile crane. The permits must be obtained 48 hours beforehand for partial road closures which, in the opinion of Council will create minimal traffic disruptions and 4 weeks beforehand in the case of full road closures and partial road closures which, in the opinion of Council, will create significant traffic disruptions.	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia SDDA C4 B17, C11, C12
The Management of Fitness for Work - Drug and/or alcohol impairment	LLB	Worker, visitor or member of the public injury	C Possible	3 Medium	9	Controls required in column K	4.12 Mental health and fatigue	Yes	Drug and Alcohol Testing Plan Implemented	2. Administration	As required	Construction Manager	Open	Fair Work Building Code 2013 Section 19 Work Health and Safety Act 2011, Part 3.2 General Workplace Management
Worker exposure to extremes of hot or cold weather	LLB	Worker occupational illness or fatality	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure	Yes	Subscription to weather notification service Builders brief or other communications to include weather information/alerts Outdoor activities to consider workloads against shade, task rotation, work breaks and worker capability.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS	Construction Manager	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 Part 3.2 General Workplace Management
Visitors and workers unfamiliar with worksite	LLB	Community interactions causing delay or injury to member of the public	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)		Workplace induction and Workplace Rules Must be escorted at all times in case of injury or emergency	2. Administration	Nil	Construction Manager	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 , Part 3.2 General Workplace Management
Visitors and workers unfamiliar with worksite	LLB	Incident with mobile plant or equipment resulting in injury or fatality	C Possible	3 Medium	9	Controls required in column K	4.14 Vehicle and plant incident (public areas), 4.3 Vehicle and plant incident (work sites)	Yes	Pedestrian access route established and sign posted. Site security and traffic controllers. Fences, hoardings and entry gates with appropriate signage. No parking on site. Traffic management plan developed and implemented. Relevant authorities, neighbours and community to be consulted prior to works. Site access located away from sensitive zones. Adequate signage in place Where possible all construction vehicles and movements are to be contained within site. Site security in place for visitor control. CTMP Developed by RMS approved persn	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia SSDA C10 B17
Language miscommunication with speakers of English as a second language	LLB	Worker injury or fatality	D Unlikely	4 Large	8	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Use of translated SWMS and interpreter used for inductions and specific onsite training programs. Employer to provide interpreter.	2. Administration	As required	Construction Manager Subcontractor Manager	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 Work health and safety consultation, cooperation and coordination
Tracking of contaminated sands, hazardous materials or other substances across or off site	LLB	Pollution of the environment (soil, air, water, groundwater) associated with handling/spillage/incident.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Stormwater , Erosion and Sediment Control Management Sub Plan implemented. Contamination Management Sub Plan implemented. Installation of environmental safeguards e.g. silt fences, rumble grids or wheel wash, sediment traps, cover all loads entering/exiting site Vehicle decontamination facilities established at entry/exit of dirty zones Compliance with DA/Consent conditions communicated in Inductions. Works to Proceed	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Relevant State Government Environment Legislation including: Protection of the Environment Operations Act 1997 (NSW) Contaminated land Management Act (NSW) 1997 Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987 LLB Stormwater and Erosion Management Plan SSDA C23
Tracking of contaminated sands, hazardous materials or other substances across or off site	LLB	Unacceptable disposal or reuse of materials on or off-site without approval or to a non-approved facility.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Waste Mangement Sub Plan Implemented. Asbestos Management Sub Plan implemented. Tracking of waste movement and destinations Waste classification and quanities must be obtained and recorded fo rall materials leaving site	2. Administration	As required by EHS sub plan	Project Engineer	Open	Relevant State Government Environment Legislation including: Protection of the Environment Operations Act 1997 (NSW) Contaminated land Management Act (NSW) 1997 Environmental Planning & Assessment Act 1979 Environmental Protection Regs. Waste Classification LLB Stormwater and Erosion Management Plan SSDA C33 C35
Stormwater management	LLB	Excessive stormwater entering site from external areas or rain events eroding topsoil, moving contaminates etc.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Stormwater, Erosion and Sediment Control Sub Plan implemented. Specialist input sought for the design and selection of stormwater controls. Dewatering process documented, approved and supervised to prevent the discharge of contaminants in stormwater.	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987 Stormwater, Erosion and Sediment Management Sub Plan Acid Sulphate Soil Management Plan Relevant State Government legislation including NSW Protection of the Environment Operations Act. SSDA C24, C26

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Stormwater management	LLB	Stormwater runoff causing pollution to local waterways	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Stormwater, Erosion and Sediment Control EHS sub plan implemented. Specialist input sought for the design and selection of stormwater controls.	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987 LLB Stormwater and Erosion Management Plan Acid Sulphate Soil Management Plan Relevant State Government legislation including NSW Protection of the Environment Operations Act. SSDA C24, C26

Workplace Impacts and Hazards Risk Assessment

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Waste management	LLB	Failure to meet Group waste reduction targets	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.13 Degradation and pollution of the environment		Waste Management EHS Sub Plan implemented Waste segregation on-site Use of licenced waste contractors Waste disposal contractor appointed Communicate LL waste reporting targets and building design (e.g. green star) requirements to waste contractors Waste sampling/classification/disposal documentation held on file on site Request waste management plans from major subcontractors addressing waste minimisation in design and construction, waste management, recycling and reuse	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Protection of Environment Operations Act 1997 Protection of Environment Operations Regs 2014 Waste Management Environmental Sub Plan
Waste management	LLB	Rubbish causing unsightly, unhealthy or unsafe work conditions or environmental pollution resulting in damage to receptors or complaints from public/neighbours and/or action from authorities etc.	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.13 Degradation and pollution of the environment		Waste Management EHS sub plan implemented Provide suitably designed and constructed material storage areas (building materials and liquids) to prevent damage to materials and products, and spillage Establish suitably designed and constructed waste, recycling and material re-use areas to encourage waste separation and the reuse of material with value Undertake regular site clean-ups to remove accumulated litter and waste	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Protection of Environment Operations Act 1997 Protection of Environment Operations Regs 2014 Waste Management Environmental Sub Plan
Waste management	LLB	Generation of excessive waste due to poor work planning, materials storage or errors	D Unlikely	1 Very Small	2	Controlled via WDC, SWMS or SWP	4.13 Degradation and pollution of the environment		Waste Management EHS sub plan implemented Request waste management plans from major subcontractors addressing waste minimisation in design and construction, waste management, recycling and reuse	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Protection of Environment Operations Act 1997 Protection of Environment Operations Regs 2014 Waste Management Environmental Sub Plan
Waste management	LLB	Inappropriate disposal of waste on or off site to non-approved/non licenced facility resulting in DA, Green Star or regulatory breach.	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment, 4.11 Public health exposure	Yes	Waste Management Sub Plan implemented Waste classification determined via in-situ sampling and analysis Re-use opportunities identified and implemented Hazardous materials survey conducted Trade waste agreement established Supplier packaging materials return / minimisation Waste segregation on-site Use of licenced waste contractors Waste sampling/classification/disposal documentation held on file on site	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Protection of Environment Operations Act 1997 Protection of Environment Operations Regs 2014 Waste Management Environmental Sub Plan SSDA C35

Workplace Impacts and Hazards Risk Assessment

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Waste management	LLB	Pollution (soil and water) associated with the incorrect use and/ or lack of maintenance of environmental controls including wash out facilities and storage bunds	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Waste Management Sub Plan implemented. Provide suitably designed and constructed material storage areas (building materials and liquids) to prevent damage to materials and products, and spillage. Monitoring site and waste removal activities. Supervision of workers and training in requirements as required.	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan SSDA C35
Concrete waste management	LLB	Impact to the environment resulting from slurry runoff and resulting in authority action. Failure to meet Group waste reduction targets	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.13 Degradation and pollution of the environment		Concrete wash-down area provided Wash waters controlled/captured and disposed of via interceptor/waste contractor Waste concrete disposed of via appointed contractor Waste disposal documentation held on file on site t concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.	3. Engineering	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Protection of Environment Operations Act 1997 Protection of Environment Operations Regs 2014 Waste Management Environmental Sub Plan SSDA C34
Storage and handling of hazardous substances or dangerous goods	LLB	Fire or explosion resulting in injury, fatality, damage or environmental harm.	C Possible	4 Large	12	Controls required in column K	4.5 Fire and explosion	Yes	Chemwatch subscription used to identify suitable alternative non-hazardous or non DG rated product. Hazardous Substances and Dangerous Goods EHS Sub plan in place. Permit to Work system implemented for all hot works. DG & Hazardous substances stored in line with the Hazardous Substances and Dangerous Goods Procedure and regulatory requirements. Fire extinguishers provided across workplace in compliance with AS2444 Routine testing of fire detection and prevention equipment as outlined in the EHS Management Plan Workers trained in first attach fire fighting Building fire mains and riser mains charged as required by BCA E1.9.	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Site Manager Foreman	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Management Work Health and Safety Reg 2017 Chapter 7 Hazardous Chemicals Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 AS2444 Fire Extinguisher and Fire Blankets - Selection and Location Building Code of Australia section E1.9 Fire Precautions
Storage and handling of hazardous substances or dangerous goods	LLB	Spill of contaminant resulting in environmental harm (soil contamination, groundwater impacts, pollution off-site)	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment, 4.11 Public health exposure, 4.10 Occupational health exposure	Yes	Chemwatch subscription used to identify suitable alternative non-hazardous or non-DG rated product Hazardous Substances and Dangerous Goods Sub Plan in place Goods stored in line with the Hazardous Substances and Dangerous Goods Procedure Liquids stored in properly sized bunded areas Hazardous substances and dangerous goods stored away from sensitive receptors Storage and handling guidelines contained with SDS implemented Spill kits located adjacent to storage areas and throughout workplace Workers trained in spill response Plant properly maintained to eliminate container failures Waste liquids disposed of via licenced contractor Waste disposal documentation held on file on site	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Site Manager Foreman	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Managementin Work Health and Safety Reg 2017 Chapter 7 Hazardous Chemicals Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 AS2444 Fire Extinguisher and Fire Blankets - Selection and Location Building Code of Australia section E1.9 Fire Precautions Relevant State Government Environment legislation including the NSW Protection of the Environment Operations Act and Contaminated Lands Act. SSDA C24
Storage and handling of hazardous substances or dangerous goods	LLB	Occupational illness or injury to Workers, Visitors or Members of the Public. Action by regulators.	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure	Yes	Chemwatch subscription used to identify suitable alternative non-hazardous or non-DG rated product Chemwatch able to be accessed to facilitate access to current SDS First aid facilities on site SDS held in first aid office/area and in office SDS controls included in Standard operating procedures / SWMS SDS register onsite Risk assessment conducted for all hazardous substances and dangerous goods Substances banned by WHS legislation not allowed on site Substances restricted for use by WHS legislation only allowed to site with prior approval of Construction Manager Compliant Australian SDS to be provided; international MSDS not allowed Exposure monitoring and health surveillance conducted where required by WHS legislation or the Exposure Monitoring and Health Surveillance procedure	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Site Manager Foreman	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Managementin Work Health and Safety Reg 2017 Chapter 7 Hazardous Chemicals Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 AS2444 Fire Extinguisher and Fire Blankets - Selection and Location Building Code of Australia section E1.9 Fire Precautions
Storage and handling of hazardous substances or dangerous goods	**Various**	Spillage of liquid substance resulting in pollution or ground contamination.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Bunded areas constructed and maintained in accordance with WDC. Spill kits located adjacent to storage areas and throughout workplace Workers trained in spill response Waste liquids disposed of via licenced contractor	6. Elimination	Weekly/monthly EHS inspection	EHs Coordinator Foreman	Open	Relevant State Government Environment legislation including the NSW Protection of the Environment Operations Act Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987

Workplace Impacts and Hazards Risk Assessment

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Out of sequence work	LLB	Worker injury or fatality, environmental impact resulting in long term damage or costly remediation, property damage incurring high financial loss.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object, 4.3 Vehicle and plant incident (work sites), 4.4 Uncontrolled release of electrical energy, 4.5 Fire and explosion, 4.6 Crane and hoisting equipment incident, 4.7 Impact from moving parts of machines, 4.8 Excavation and stockpile collapse, 4.9 Failure of structures (temporary or permanent), 4.10 Occupational health exposure, 4.1 Fall of person, 4.2 Fall of material/object, 4.3 Vehicle and plant incident (work sites), 4.4 Uncontrolled release of electrical energy, 4.5 Fire and explosion, 4.6 Crane and hoisting equipment incident, 4.7 Impact from moving parts of machines, 4.8 Excavation and stockpile collapse, 4.9 Failure of structures (temporary or permanent), 4.10 Occupational health exposure	Yes	Builders Brief or other communication provided daily by LLB. Daily pre-start meetings held by each workgroup. Weekly subcontractor coordination meetings held. Two weekly program established and communicated to subcontractors. Permit to Work system implemented. LLB area foreman supervision. Engineering reviews completed as required. Exclusion zones for all overhead/over/under works.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Construction Manager/SPE/PE/SE/Site Manager Foreman	Open	Work Health and Safety Act 2011 WHS Regulations 2017
Workplace Emergency Response	LLB	Worker injury or fatality and/or environmental damage and/or property damage.	D Unlikely	4 Large	8	Controls required in column K	4.5 Fire and explosion	Yes	Emergency Response Plan developed/established, ERT leader and ERT members appointed, ERT members inducted into ER plan. ERT trained in various scenarios. Fire extinguishers available throughout all work areas and where hot works are undertaken. Personnel trained. Workplace evacuation systems established, workers trained. First Aid risk assessment completed, First aid crane workbox on site, Trained first aiders at workplace, First aid facilities provided. Spill kits available. Workers trained in the use of spill kits. Storage of hazardous substances and dangerous goods in line with the requirements of the Hazardous Substances and Dangerous Goods Procedure. External Emergency Services e.g. DFES, St Johns, SES utilised. Verification of onsite personnel process established Fire brigade invited to construction site upon commencement and regularly thereafter. Hazardous Materials Manifest provided off site. Crisis Management Plan developed.	2. Administration	Quarterly review of ERP	Construction Manager	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Managementin AS3745 Planning for Emergencies in Facilities SSDA C27
Emergency Response - Rescue from suspended safety harness (fall arrest harness)	LLB	Worker injury or fatality	C Possible	3 Medium	9	Controls required in column K	4.1 Fall of person	Yes	Emergency Response Plan established Works involving safety harness use to have specific rescue plan developed and personnel trained in plan. Workers using safety harnesses to trained in work at heights Specific emergency response procedures established Workers trained in scenario specific emergency procedures	2. Administration	Quarterly review of ERP	Construction Manager	Open	WHS Regulations 2017 Chapter 3 General Risk and Workplace Management Code of practice - First aid facilities and services; AS3745 Planning for Emergencies in Facilities
Work experience students (LLB & subcontractor)	LLB	Lack of awareness or understanding resulting in Injury or fatality to work experience personnel.	D Unlikely	4 Large	8	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object, 4.3 Vehicle and plant incident (work sites), 4.11 Public health exposure, 4.14 Vehicle and plant incident (public areas)	Yes	Requirements of the Work Experience and Student Placement procedure in place. New to the workplace inductions or training	2. Administration	As required	Construction Manager	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 WHS Regulations 2017 Chapter 3 General Risk and Workplace Management Code of practice - First aid facilities and services; AS3745 Planning for Emergencies in Facilities
Workers exposed to snake and insect bites	LLB	Worker Injury or fatality	B Likely	3 Medium	12	Controls required in column K	4.10 Occupational health exposure	Yes	Information to be included in site induction. Workers within bush or vegitation areas should be wearing long sleve shirts and long trousers. First Aid to be have treatment information avaliable and snake bite kit to treat snake bites.	2. Administration	As required	Construction Manager	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 WHS Regulations 2017 Chapter 3 General Risk and Workplace Management Code of practice - First aid facilities and services;
Use of ladders	Various	Injury or fatality from fall of persons from ladders or from the fall of materials to persons below. Contact with live electricity	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object	Yes	Step ladder use restricted on site (preference to platform) step ladder risk assessment completed. Platform ladders >2m effective working height risk assessed and controlled via MET / Step ladder risk assessment. All ladders meet the requirements of AS/NZS 1892 (series) Regular inspection of ladders for damage All tools and equipment lanyarded Exclusion zones established that take account of bounce, deflection and arc of fall Ladder set back is required when working near voids or building edges. The set back is to be 1 to 1 rounded up to nearest whole meter, eg working on ladder at height of 1.5m set back must be rounded up to 2m All ladder used as per jurisdictional Codes, Guidance Notes etc.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice GMR 4.1, Fall of Person AS/NZS. 1892 Series Portable ladders

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Use of ladders	Various	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	Electrically insulated ladder used whenever work adjacent to live electricity is planned. No working on live energised systems. Work to follow GMR 4.4. requirements.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice AS/NZS. 1892 Series Portable ladders
Scaffold erection, modification and dismantle	YAGA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Scaffold designed by a competent registered engineer Work completed by licenced scaffolders Scaffold inspections minimum once every 30 days Scaffold components not mixed Lap boards fixed/tied down Handrail/mid-rail and kickboard fitted for all scaffolding Scaffolding encapsulated where workers are working below All tools and equipment lanyarded Exclusion zones established that take account of bounce, deflection and arc of fall 'No Access' signage fixed to scaffolding during construction and when not compliant to requirements e.g. being modified. Deck housekeeping in place with materials not stored on scaffold Exclusion zone established during construction / modification /	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Scaffold erection, modification and dismantle	YAGA	Structural collapse resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.9 Failure of structures (temporary or permanent)	Yes	Scaffold designed by a competent registered engineer. Scaffold certified by competent registered engineer. Inspection to design to be included in handover certificate. Work completed by licenced competent scaffolders Scaffold inspections minimum once every 30 days with handover certificate. Handover certificates provided on initial erection and each inspection. "Danger - Do Not Remove" tag placed on scaffolding components.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding
Scaffold erection, modification and dismantle	YAGA	Fall from height resulting in injury or fatality.	C Possible	3 Medium	9	Controls required in column K	4.1 Fall of person	Yes	Work completed by licenced competent scaffolders. Scaffold erected from behind handrails as practicable. Harness used a secondary fall prevention system. Harnesses use must have 100% hook on at all times. Scaffolder with current Working @ Height Certificate. Scaffold inspections minimum once every 30 days Scaffold components not mixed Handrail/mid-rail and kickboard fitted for all scaffolding. No access signage fixed to scaffolding during construction Access stairs / ladders in place No climbing externally of scaffold permitted	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding
Manual handling of equipment and materials	LLB	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Mechanical aids available on site e.g. pallet trolleys, forklifts etc Manual handling risk assessment conducted by subcontractors and controls identified and implemented Evidence of training in manual handling procedures supplied by sub contractors	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3. Reg. 3.4. Manual handling, Hazardous Hazardous Manual Tasks - Code of practice (harmonised states)
Access lighting	LLB	Insufficient lighting resulting in injury	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	The installation of high intensity lighting such as halogen and metal halide fittings should be avoided as the fixtures present a potential fire hazard. Light Emitting Diode (LED) or other low voltage solutions should be used where reasonably practicable Access and emergency lighting installation must keep pace with the construction program Access light leels should achieve 40lux Powered emergency lighting back-up systems where provided must have sufficient capacity to provide safe emergency egress for one hour in the event of power failure Where the works interface with public areas, e.g. overhead protection or workplace perimeter hoardings, perimeter lighting must be provided to ensure the safety of the public is not affected by construction works or related protective structures	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 Division 1. Part 3. General Duties Code of practice - AS/NZS 1158.3.1 Lighting for roads and public spaces Part 3.1: Pedestrian area (Category P) lighting— Performance and design requirements. SSDA C37
Task lighting	LLB	Insufficient lighting resulting in injury	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Task lighting supplied by contractor and must be LED or other low voltage lighting Halogen and high intensity lighting should be avoided Task lighting must be addressed in the subcontractor SWMS or operating procedure. Regular inspections of the lighting installation must be undertaken and defective or damaged lighting elements replaced or repaired promptly by a licensed electrician Where the works interface with public areas, e.g. overhead protection or	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 Division 1. Part 3. General Duties Code of practice -Managing work enviroments and facilities SSDA C37
Hotwork using welders, grinders, oxy cutting or other spark producing equipment	LLB	Fire or explosion resulting in injury to persons or damage to structure, equipment, materials or bushland	C Possible	4 Large	12	Controls required in column K	4.5 Fire and explosion	Yes	Use if alternative cutting methods e.g. hydraulic sheers Hotwork permit issued Fire watch established including for cooldown periods 9kg ABE fire extinguishers at hotworks work face Energy sources isolated and locked/tagged out All hazardous materials/dangerous goods/combustible materials removed >15m from hot work Flammable/combustible materials unable to be moved physically protected from ignition	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 WA Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Management CoP welding processes AS1674.1 Safety in Welding & Allied

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Traffic management	LLB/Vari	Community impacts (traffic delays, near misses with delivery vehicles, noise, vibration etc) resulting in complaints and authority action	C Possible	4 Large	12	Controls required in column K	4.14 Vehicle and plant incident (public areas)	Yes	Public notices issued. Planning and review meetings i.e. builders brief. Traffic management plan implemented/maintained. Traffic control barricades, warning signs, traffic controllers etc in place. Trained/competent traffic controllers. CTMP developed by RMS approved person	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia SSDA B17, C10, C4
Traffic management	LLB/Vari	Incidents involving light and heavy vehicles and public vehicles or pedestrians/PSP users resulting in damage or injury and/or authority actions	D Unlikely	4 Large	8	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Designated vehicle routes, parking and lay up areas for deliveries. No general site parking. Trucks parked appropriately and switched off. Traffic management plan established, traffic controls and controllers etc. Delivery booking program and tools developed and implemented. Spotters as required e.g. reversing, limited vision, movements close to structures/people.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia Traffic Management Guide - General Guide - SafeWork Australia SSDA B17, C10, C4
Night shift works	LLB	Extended working hours or night shift resulting in fatigue leading to injury or damage including environmental incidents	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Extended working hours risk assessment completed and approved by responsible manager. No HRW undertaken out of normal working hours without: - Risk assessment completed, - Fatigue management plan in place for works/activity. Undertake higher risk work early in out of hours sequence. SWMS updated to include fatigue management procedures. No exceeding 60 per week with minimum 12 hrs between shifts. Limit works to 10 hrs per day (exclusive of breaks) and consider travel time to and from work and travel methods.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 3 General Risk and
Night shift works	LLB	Community impacts (noise, vibration etc) resulting in complaints and authority action	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure, 4.11 Public health exposure		Communication with local community via community contact as required. Site to operate in compliance with DA approval hours. Vehicle access to be managed in a safe manner in compliance with site TMP. Traffic control personnel in place, pedestrians/traffic etc are managed effectively. Site security in place. Minimise noise works out of normal operational hours. All works to be carried out in accordance with site EHS Noise & Vibration Management plan and the SMP requirements. Deliveries / Load out to be planned and managed in compliance with site TMP, operational hours and rules. Any out of hours works minimised including deliveries and shall only be carried out with the permission of LL. Noise management requirements to include parked trucks turned off. Stakeholder consulted / notified of out of hour work. Use of "quiet" equipment specified.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 3 General Risk and SSDA C1, C4, C5, C6
Unloading of trucks	LLB	Fall or persons resulting in injury or fatality	D Unlikely	4 Large	8	Controls required in column K	4.1 Fall of person	Yes	Review of load sizes prior to delivery. Minimise larger loads or packages for smaller. Where possible use mechanical means of unloading trucks I.e. use of forklift to remove materials. Truck to have handrails or barriers installed and safe access means if work from the tray is required. Pre-slinging of loads.	5. Substitution	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Unloading of trucks	LLB	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.2 Fall of material/object	Yes	Trucks to have edge protection installed or alternate means of safe access for unloading. All loads to be loaded onto trucks to enable safe unloading and to be fully restrained against movement during unloading. Deliveries to be checked by competent person prior to removing restraints/straps. Unsafe loads not to have restraints removed or to be unloaded Exclusion zones around high risk loads as required.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risks of plant in the workplace
Unloading of trucks	LLB	Spill of fuels or oils during refuelling of plant causing environmental damage	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.13 Degradation and pollution of the environment		Fuel storage held in bunded area Offsite refuelling services used e.g. mini tankers Spill kits on site Workers trained in spill containment and clean-up	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Managementin Work Health and Safety Reg 2017 Chapter 7 Hazardous Chemicals AS2444 Fire Extinguisher and Fire Blankets - Selection and Location
Unloading of trucks	LLB	Community or environmental impacts resulting in complaints and/or authority actions	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment, 4.14 Vehicle and plant incident (public areas), 4.11 Public health exposure	Yes	Traffic management plan implemented Community complains procedures developed followed SMP and LL noise management plan requirements implemented. Community hotline established. Deliveries / Load out to be planned and managed in compliance with site TMP, operational hours and rules. Any out of hours works minimised including deliveries and shall only be carried out with the permission of LL. Noise management requirements to include parked trucks turned off. Delivery between DA hours of 7am - 6pm Monday to Friday and 8am to 1pm Saturday	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000 EHS Subplan relevant to contamination Managing noise at workplaces – Code SSDA C4
Mobilisation to Site													Open	

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
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4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
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Install site accommodation buildings	LLB	Fall from height resulting in injury or fatality.	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.1 Fall of person		Works completed from ground level where possible High Level works if required completed from MEWP/platform Ladder. Alternatively review use of temporary handrail system. Where harness is required the PTW Harness must be implemented.	6. Elimination	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

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Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install site accommodation buildings	LLB	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.2 Fall of material/object	Yes	Works completed from ground level wherever possible Roof level works if required completed from MEWP/Scaffold Ladder. Tools tethered where possible Exclusion zones established.	6. Elimination	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Install site accommodation buildings	LLB	Work on or near energised electrical installations or services.	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP	4.4 Uncontrolled release of electrical energy		Develop safe work procedures and induct workers prior to commencing. Compliance with electricity regulator requirements e.g. tiger tails and/or isolation of supply. No live work permitted. Excavation permit requirements followed and permit issued.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 WA Work Health and Safety Reg 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites
Install site accommodation buildings	LLB	Use of mobile plant and transport	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking EHS sub plan in place. Segregation/separation pedestrian and plant movement Segregation via barriers i.e. jersey kerb. Designated delivery/unloading zones. Delivery entry/exit procedure. Mobile plant checklist and plant register completed/provided. Mobile plant quick hitch safety pins installed - all applicable plant. SWMS mobile plant and SWMS review checks completed. Prestart completed and recorded, provided on request. Traffic control personnel directing movements.	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia
Install site accommodation buildings	LLB	Failure structures or elements resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.9 Failure of structures (temporary or permanent)	Yes	All installations designed by a competent registered engineer and design must consider wind loads and other forces. installation certified by competent registered engineer. Inspection to design to be included in handover certificate.	3. Engineering	Daily Fence Inspection Safety Observations Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3.2 General Workplace Management, Part 5.1 General plant and structures
Install site accommodation buildings	LLB	Out of Sequence Work	C Possible	3 Medium	9	Controls required in column K		Yes	Subcontractor Work to Proceed completed in timely manner including SWMS review as required. Plant inspection checklists provided. Permits completed and issued i.e. excavation. No work of the roof of structures without edge protection. No lifting from the roof of the temporary buildings. Builders briefs issued daily Subcontractor coordination meetings held weekly	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3.2 General Workplace Management, Part 5.1 General plant and structures
Install site accommodation buildings	LLB	Use of hand held equipment and tools	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.4 Uncontrolled release of electrical energy		Workers to be trainedand compentant in safe use o fhand tols. SoPs developed where required	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017 including Plant, Electricity, Noise and PPE.
Install site accommodation buildings	LLB	Impact to trees and vegetation required to be protected.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Check tree protection plan. Seek advice from arborist if tree, roots or canopy will be potentially affected (immedate and long term) Install tree protection measures as per the Biodiversity and Conservation Management Sub Plan (as required) prior to commencing works. Abrorist appointed to oversea all tree protection requirements	6. Elimination	Inspections	Site Manager CM	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 Arboricultural Development Impact Assessment Report prepared by Birds Tree Consultancy dated 11 September 2020 AS4970-2009 Protection of Trees on Development Sites SSDA C21
Install and management of supplied electrical and/or data services across site	Axis	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	LOTO procedure implemented Live work restriction enforced Safe Work Method Statement in place, workers inducted into content Calibrated meters is use by electrical contractor Electrical equipment Inspection and Testing Procedure implemented AS3012 wiring standards implemented Low voltage lighting installed for access lighting Use of electrically rated platform ladders	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 WHS Regulations 2017 Part 3. AS/NZS3012 Electrical Installations - Construction and Demolition Sites AS/NZS3760 In-service Safety Inspection and Testing of Electrical Equipment AS 2601 Demolition of Structures
Install and management of supplied electrical and/or data services across site	Axis	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3.2 General Workplace Management, Part 4.2 Hazardous manual tasks COP - Hazardous manual tasks

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
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5. Substitution	15	%Controls < Engineering	30%
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3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install and management of supplied electrical and/or data services across site	Axis	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Work from behind handrail or screen systems at all times. Use of MEWP or electrically rated platform ladder. Personnel trained and competent including HRWL for MEWP >11m. or EWP VOC <11,m Remain clear or PEZ where established and no screening protection provided. Use of ladders (step & straight &>2m) by risk assessment and approval only. Develop SWMS for unresolved fall risks. Use of fall prevention harness as last resort and by PTW approval.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding
Install and management of supplied electrical and/or data services across site	Axis	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Floor to soffit live edge protection. Use of exclusion zones where works occurring at height. Spotters in place. Tools and helmets and equipment lanyarded. Use of screens on formwork working and trailing decks. Tools and equipment on lanyards where fall risks exist. PEZ established.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install and management of plumbing/hydraulic services	Axis	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3.2 General Workplace Management, Part 4.2 Hazardous manual tasks COP - Hazardous manual tasks
Install and management of plumbing/hydraulic services	Axis	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Work from behind handrail or screen systems at all times. Use of MEWP or electrically rated platform ladder. Personnel trained and competent including HRWL for MEWP >11m. or EWP VOC <11,m Remain clear or PEZ where established and no screening protection provided. Use of ladders (step & straight &>2m) by risk assessment and approval only. Develop SWMS for unresolved fall risks. Use of fall prevention harness as last resort and by PTW approval.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Install and management of plumbing/hydraulic services	Axis	Injury from fall of Materials/Objects	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Floor to soffit live edge protection. Use of exclusion zones where works occurring at height. Spotters in place. Tools and equipment including PPE lanyarded. Use of screens on formwork working and trailing decks. Tools and equipment on lanyards where fall risks exist. PEZ established.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Install and management of plumbing/hydraulic services	Axis	Failure of pipework, pipe joints or equipment during pipework pressure test resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.15 Uncontrolled release of stored energy (non-electrical)	Yes	All test equipment appropriate for test and certified, inspected and maintained. Exclusion zones with warning signs established around test equipment. Procedures for testing and maintenance developed, personnel trained. Testing completed out of hours where possible to reduce risk. Exclusions zones, spotters or warning signs considered.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017, Plant in the workplace-Guidance note AS 2419.1 - Fire hydrant installations AS 2118.9 - Automatic fire sprinkler systems
General load shifting with mobile plant (cranes, tele handing plant, civil plant)													Open	
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Operators caught between loads being shifted resulting in injury	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Plant & equipment checks completed. Exclusion zones established, spotters as required. Mobile plant used as crane to meet minimum requirements. Load tag lines used. Lifting equipment checks completed, records available. Four chains on all skips/bins. Loads appropriately restrained or secured.	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd Plant and lifting equipment meeting Standards and inspected and maintained Lift coordinator appointed. Appropriate plant, equipment and attachments for job selected as per manufacturers recommendations with appropriate evidence. LLB Slinging and Lifting Guidelines implemented. Exclusion zones established and no persons under lifted loads. Load fully secured with packaging materials/gluts removed. Use of stillage's / bins to lift small / loose items. lifting bins rated.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Failure of load handling equipment i.e. slings/chains including poor selection of fittings/shackles/slings resulting in injury or damage	D Unlikely	4 Large	8	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. LLB Slinging and Lifting Guidelines implemented Slings, chains and shackles certified, rated, inspected and tagged Lift coordinator appointed	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 AS 3775.2 Chain slings - Grade T - care and use AS4497.2 Round slings - Synthetic fibre - Care and Use AS1353.2 Flat synthetic - webbing slings - care and use AS 1418.1 Cranes, hoists and winches - General requirements

Workplace Impacts and Hazards Risk Assessment

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4. Isolation	15		
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1. PPE	0		

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Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Loads arrive to site pre-slung Use of elevated work platform to access loads i.e. elevated walkway Use of MEWP to access loads. Access to truck trays safe with platforms or handrails etc.	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Snagging on adjacent structures causing loads to fall or damage to structures or load including caused by inclement weather.	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Weather monitoring undertaken and conditions appropriate for load. Loads have tag lines fitted Mobile crane critical lift study completed for high risk lifts Crane crews monitoring and controlling all loads.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
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Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Inadequate/poor/changing/failure of ground conditions causing equipment incidents that may result in injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Lift coordinator appointed California bearing ratio (CBR) or equivalent testing completed, communicated and confirmed Crane lift plans specify type and dimensions of outrigger mats After severe weather events within 48 hours of mobile crane lift, adequacy of ground conditions to be re-assessed amend CBR or equivalent retested	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Operation of mobile load shifting equipment outside of manufacturers guidelines resulting in failure, damage or injury	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Plant and equipment checklists completed. Limit switches and alarms fitted for rated lift capacity exceedance Mobile crane critical lift study completed for high risk lifts Lift coordinator appointed	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	High risk lifts, lifts >20 tonne, lifts>95% that manufacturers rated capacity or high risk load items i.e. critical equipment with long lead time, multi crane lifts.	C Possible	5 Very Large	15	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Lift study approved by a qualified engineer Third party independent engineer review and supervision of lift Rigging crew intermediate HRWL Independent rigger in overall control of lift	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes
Load shifting and/or materials handling operations using mobile plant, telehandlers or mobile cranes	LLB	Use of other mobile plant i.e. excavators & FEL as cranes without required controls / standards being met.	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Rated capacity or working load limit marked near lifting point (SWL identified) Load charts available for plant item to be used as a crane Manufacturer approved or engineer designed lifting points/attachments only used (documented) Hooks not used on dipper arms or earthmoving plant Burst protection fitted on plant with a rated capacity exceeding 1 tonne	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.5 Cranes hoists and winches - Mobile cranes
Tree Removal			C Possible		#N/A								Open	
Tree Removal	Plateau Trees	Impact on Natural Habitat	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Obtain environmental/flora and fauna assessment arborist report for the site and adjacent areas (including footpath landscape trees) recommendations communicated to subcontractor Prepare diagram showing the location of vegetation approved for removal, protected trees, clearing limits, nearby natural habitats and control measures. Include information in the Site Induction about the risks and potential impacts of construction activities on flora, fauna and habitats Clearly mark out the excavation footprint, and trees and vegetation to be retained For the duration of the construction works: (a) street trees must not be trimmed or removed unless it forms a part of this development consent or prior written approval from Council is obtained or is required in an emergency to avoid the loss of life or damage to property; (b) all street trees immediately adjacent to the approved disturbance area must be protected at all times during	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Including Ecologist Inspections Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer Ecologist	Open	Work Health and Safety Act 2011 Environmental Planning & Assessment Act 1979 EHS Subplans Conservation Act 2016 SSDA C21,
Tree Removal	Plateau Trees	Fall of person resulting in injury or death	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	only competent persons should undertake the assessment of trees and sites, planning and preparation of the work method determine appropriate control measures in consultation with workers and document the safe work method to serve as evidence of managing risks plan emergency rescue plans, including aerial rescue procedures with everyone involved Arborist to inspect all safety equipment and tree felling items prior to commencing tree climb. Emergency Fall Procedures to be available on site whilst working at heights Ensure inspection of all equipment by trained personnel Any defective / faulty equipment is to be removed from service immediately Safety harnesses and fall protection equipment to be checked daily prior to use and half yearly by a qualified / competent person Log books, registers to be available for fall protection equipment Please refer to Risk ID Landscape 4	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2 WHS Reg 2017 - Chpt 4 Part 4.4 code of practice for the amenity tree industry COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks
Enviromental Impacts													Open	

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
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5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

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Environmental Impacts	Salcorp	Inadequate implementation Stormwater, Sediment and Erosion controls resulting in pollution of environment	B Likely	4 Large	16	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Stage 1 – Works Commencement and Demolition Stage During the demolition phase, all existing stormwater infrastructure is to remain in place and functioning. Stage 2 - Main Works Phase During the main works phase (i.e. bulk earthworks, piling/foundation construction works, service installation, capping, landscaping and other general site activities following demolition), all onsite flows are to be directed into the nominated OSD Drains. Off-site flows will be directed into the existing stormwater drainage (kerb and gutter, pits and pipes) along Upper Fort Street. Treated onsite water is to be pumped (as off-site water) into the existing stormwater system once the required water quality is achieved Stormwater discharge from OSD is to be managed in accordance with JBS&G Soil and Stormwater Management Plan Stormwater and sedimentation controls to be implemented as per the JBS&G Soil and Stormwater Management Plan	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors	Open	Environment Operations Act 1997 and Contaminated Lands Act 1997 DA2018/1332 Condition 925, 2 , 62, 65
Environmental Impacts	Salcorp	Exposing archaeological relics	C Possible	3 Medium	9	Controls required in column K	4.8 Excavation and stockpile collapse	Yes	If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the Heritage NSW contacted Hand digging is to occur in areas identified as potentially containing archaeological or heritage objects or relics. Construction works must be carried out in accordance with the recommendations of Section 6 of the Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared by Curio Projects Pty Ltd and dated 15 July 2020. In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by EES Group and the management outcome for the site included in the information provided to AHIMS. The Applicant must consult with the Aboriginal community representatives, the archaeologists and EES Group to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of EES Group.	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors	Open	Environment Protection and Biodiversity Conservation Act 1999 Aboriginal and Torres Strait Islander Heritage Protection Act Ask First: A Guide to Respecting Indigenous Places and Values (Australian Heritage Commission) National Parks and Wildlife Act 1974 (NSW) (NPW Act); and Environmental Planning and Assessment Act 1979 (NSW) (EPA Act); Sydney Barani 2013, 'Sydney's Aboriginal History', Accessed 7.7.19 from www.sydneybarani.com.au Irish P. and Goward T. 2012, "Where's the evidence? The archaeology of Sydney's Aboriginal history." Archaeology in Oceania, Vol. 47, No. 2 (July 2012), pp. 60-68 Hinkson, M. & Harris, A. 2010, Aboriginal Sydney: a guide to important places of the past and present, 2nd ed, Aboriginal Studies Press, Canberra SSDA C30, C31 C29
Environmental Impacts	Salcorp	Dust emissions during works and impact on Air Quality	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment, 4.11 Public health exposure	Yes	Air Quality Management Plan to be implemented and followed Seal or construct the site access, roads, turning and parking areas using gravel or non-dust generating materials. Seal haul roads outside the bulk excavation area. Limit Speed to 5km around site Maintain the site access and traffic routes in a clean, dust free condition Maintain shaker grid/wheel wash or employ high pressure drive-thru washbay for site heavy duty plant. Avoid demolition excavation and handling during periods of high wind and extreme (wet) weather conditions. dampen down materials during handling. Establish appropriate watering/ fogging/misting/spray systems to control dust at the source. Cover all loads	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors	Open	National Environment Protection (Ambient Air Quality) Measure (NEPM) 1998 Environment Operations Act 1997 and Contaminated Lands Act 1997 DA2018/1332
Environmental Impacts	Salcorp	Impact on Natural Habitat	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment, 4.13 Degradation and pollution of the environment	Yes	Obtain environmental/flora and fauna assessment arborist report for the site and adjacent areas (including footpath landscape trees) recommendations communicated to subcontractor Prepare diagram showing the location of vegetation approved for removal, protected trees, clearing limits, nearby natural habitats and control measures. Include information in the Site Induction about the risks and potential impacts of construction activities on flora, fauna and habitats Clearly mark out the excavation footprint, and trees and vegetation to be retained Maintain and/or provide wildlife corridors to facilitate the movement of native fauna around/through the site. installation of nest boxes and salvaged natural hollows in retained trees as a replacement for the hollows to be lost Rescued animals will be relocated into nest boxes / salvaged hollows as appropriate or given veterinary care if injured Tree and vegetation clearing will be supervised by ecologistaborist to ensure DA requirements CEMC developed and items included in site inductions an dinformation	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Including Ecologist Inspections Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Biodiversity Conservation Act 2016 DA2018/1332, conditions 25, 39 40, 41 57, 58, 59, 40

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
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Environmental Impacts	Salcorp	Incorrect classification of waste resulting in environmental breach or site contamination	C Possible	5 Very Large	15	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Waste Management EHS Sub Plan in place. Waste classification determined via in-situ sampling and analysis. Appointment of consultant / hygienist. Hazardous materials survey conducted. Waste segregation on-site. Use of licenced waste contractors. Waste disposal contractor appointed. Waste sampling/classification/disposal documentation held on file on site.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 Environmental Planning & Assessment Act 1979 EHS Subplans relevant to project JBS&G Construction Soil and Water Management Plan SSDA C26, C24
Environmental Impacts	Salcorp	Impacts on localised air quality (visible dust).	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure, 4.11 Public health exposure	Yes	Implement suppression measures at the source of the dust e.g. spraying of work face. Install dust controls along site boundaries including screens, sprays and sprinkler systems (where assessed as a high risk). Comply with the requirements of the project Air Quality Management Sub Plan. Boundary air sampling/monitoring established. Consultant engaged. Building survey prior to demolition to identify contamination sources	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS SubPlan Airborne Contaminates Management Plan Relevant State Government Environmental Legislation including the Protection of the Environment Operations Act (NSW)
Environmental Impacts	Salcorp	Dust deposition on surfaces and habitat features (aquatic and terrestrial) located close to the site resulting in authority action and/or community complaints.	C Possible	5 Very Large	15	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Implement suppression measures at the source of the dust e.g. spraying of work face. Install dust controls along site boundaries including screens, sprays and sprinkler systems (where assessed as a high risk). Comply with the requirements of the project Air Quality Management Sub Plan. Boundary air sampling/monitoring established. Consultant engaged. Building survey prior to demolition to identify contamination sources	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS SubPlan Airborne Contaminates Management Plan Relevant State Government Environmental Legislation including the Protection of the Environment Operations Act (NSW)
Environmental Impacts	Salcorp	Non-compliance with the project approval and/or air quality criteria resulting in complaints and/or fines	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure, 4.11 Public health exposure	Yes	Establish a complaints registration line and respond to dust complaints immediately Comply with the requirements of the project Air Quality Management Sub Plan.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS SubPlan Airborne Contaminates Management Plan Relevant State Government Planning Legislation including the NSW Environmental Planning and Assessment Act.
Environmental Impacts	Salcorp	Excessive noise levels cause annoyance or a nuisance to project neighbours.	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure, 4.11 Public health exposure	Yes	d EHS Noise/vibration sub plan requirements. Consultation with neighbours. Noise levels minimised, buy quite policy/plans, plant & equipment checklists completed etc. Site to operate in compliance with DA approval hours Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours: (a) 9am to 12pm, Monday to Friday; (b) 2pm to 5pm Monday to Friday; and (c) 9am to 12pm, Saturday Construction, including the delivery of materials to and from the site, may only be carried out between the following hours: (a) between 7am and 6pm, Mondays to Fridays inclusive; and (b) between 8am and 1pm, Saturdays. No work may be carried out on Sundays or public holidays. Communication with local community via community contact for noisy works with sensitive receiver impacts. Works planning for noisy work.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS SubPlan Noise Management Plan Relevant State Government Environmental Legislation including the Protection of the Environment Operations Act (NSW) SSDA C4, C8
Environmental Impacts	Salcorp	Spill of fuels or oils during refuelling of plant causing	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Fuel storage held in bunded area Offsite refuelling services used where possiblee.g. mini tankers Spill kits on site Workers trained in spill containment and clean-up Refueling area where possible with bund to capture any spills Refueling Procedure developed	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997
Environmental Impacts	Salcorp	Excessive vibration levels cause annoyance or damage	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure, 4.11 Public health exposure	Yes	d EHS Noise/vibration sub plan requirements. Consultation with neighbours. Noise levels minimised, buy quite policy/plans, plant & equipment checklists completed etc. Site to operate in compliance with DA approval hours Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours: (a) 9am to 12pm, Monday to Friday; (b) 2pm to 5pm Monday to Friday; and (c) 9am to 12pm, Saturday Construction, including the delivery of materials to and from the site, may only be carried out between the following hours: (a) between 7am and 6pm, Mondays to Fridays inclusive; and (b) between 8am and 1pm, Saturdays. No work may be carried out on Sundays or public holidays. Communication with local community via community contact for noisy works with sensitive receiver impacts. Works planning for noisy work.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regulations 1997 EHS SubPlan Noise Management Plan Relevant State Government Environmental Legislation including the Protection of the Environment Operations Act (NSW) SSDA C4, C8
Demolition													Open	

Workplace Impacts and Hazards Risk Assessment

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1. PPE	0		

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Demolition	Salcorp	Structural collapse resulting in injury or damage	C Possible	6 Large	#N/A	#N/A	4.9 Failure of structures (temporary or permanent)	#N/A	Licenced demolition contractors used. Demolition notification to regulator provided. Demolition sequence and methodology is to be reviewed and approved by a competent independent engineer with experience in type and complexity of works. Hoardings and gantries as required for public protection. Demolition Control Plan to be submitted and reviewed Licensed demolition supervisor to supervise all works. Robust fenced Exclusion zones established to segregate works Temp supports required are to be inspected and checked before during and at completion of works to ensure stability	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer Independent Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 SSDA C3
Demolition	Salcorp	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as skid steers to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - How to manage work health and safety risks Demolition Code Of Practice AS2601
Demolition	Salcorp	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts including but not limited to ACM, SILICA and lead	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided RAP Plan developed for the project	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) SSDA B17 C38
Demolition	Salcorp	Hotworks causing fire or explosion resulting in injury, or property damage	C Possible	3 Medium	9	Controls required in column K	4.5 Fire and explosion	Yes	Use if alternative cutting methods e.g. hydraulic sheers Hotwork permit issued prior to works commencing Fire watch established including for cooldown periods 9kg ABE fire extinguishers at work face Energy sources isolated and locked/tagged out All hazardous materials/dangerous goods/combustible materials removed >15m from hot work Flammable/combustible materials unable to be moved physically protected from ignition	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Reg 2017 Chpt 4, Part 4.3 COP - Managing risks of hazardous chemicals in the workplace COP - Managing the risks of plant in the workplace COP - How to manage work health and safety risks
Demolition	Salcorp	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	LL Supervision is to be consulted prior to removel of any existing handrails.Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Use of mobile scaffold and platform ladders	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011 WHS Reg 2017 Part 3.2, Part 4.4 COP - How to manage work health and safety risks COP - Managing the risk of falls at workplace
Demolition	Salcorp	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011 WHS Reg 2017 Part 3.2, Part 4.4 COP - How to manage work health and safety risks COP - Managing the risk of falls at workplace
Demolition	Salcorp	Roll over of plant item causing injury, environmental harm or property damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	OP/FOPS installed as a mandatory requirement Plant inspection checklists to confirm ROPS/FOPs installation SWMS in place for works Operator verification of competence Traffic management plan developed. Ground conditions monitored daily by competent person. Daily communication at prestart meeting.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2017, WHS Regulation 2017, Part 3.2, Part 4.6, Part 5.1 COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Demolition	Salcorp	Incorrect use of plant item / operation outside of manufacturers guidelines resulting in injury and/or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Operator high risk licence for specified plant items. Verification of competence for plant operators. MET procedure and MET tag in place Manufacturer operating manual in place, operator competent. Plant maintained in line with manufacturer requirements	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2017, WHS Regulation 2017, Part 3.2, Part 4.6, Part 5.1 COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Demolition	Salcorp	Services strike including electrical, gas, telecom, water, sewer causing injury, fatality or damage in Bradfield Shed	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Assessment and protection of overhead services must be conducted. All underground services must be identified and marked up on drawings prior to any distrubance. All existing services to buildings must be identified and disconnected before any strip out or demolition works commence Hold Points to be included to confirm disconnection of all services and disconnection confirmed with LL Site managerment prior to works	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Reg 2017, Chpt 4, Part 4.7 AS/NZS 3012:2010 Electrical installations - Construction and Demolition Sites Electricity (Consumer Safety) Act 2004 Electricity Supply (Safety and Network Management) Regulation 2014 COP - Managing electrical risks in the workplace
Demolition	Salcorp	Contact with pedestrians causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Traffic and Parking Management Plan in Place Traffic controllers in place Spotters where required Plant / pedestrian separation delineated with fences or barriers Pedestrian routes established, signposted and protected with jersey kerbs Plant and pedestrian rules delivered during site inductions	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2017, WHS Regulation 2017, Part 3.2, Part 4.6, Part 5.1 COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Demolition	Salcorp	Collision between mobile plant or light vehicle vs mobile plant items causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Vehicle Movement and Positioning Planned Mobile plant & equipment maintain minimum safe distances (exclusion zones) from piling/boring equipment. Spotters for vehicle/plant movements.	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.2, Part 4.6, Part 5.1 COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Demolition	Salcorp	Spill of fuels or oils during refuelling of plant causing environmental damage	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Fuel storage held in bunded area Offsite refuelling services used e.g. mini tankers where possible Spill kits on site Workers trained in spill containment and clean-up	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Chapter 7 Hazardous Chemicals Work Health and Safety Reg 2017 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan
Demolition	Salcorp	Fire or explosion during refuelling or mobile plant causing injury and/or damage	C Possible	4 Large	12	Controls required in column K	4.5 Fire and explosion	Yes	Fuel storage held in bunded area Offsite refuelling services used e.g. mini tankers where possible Spill kits on site Refuelling procedure established Fire extinguishers located adjacent No hot refuelling (plant items still running)	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audit	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Chapter 7 Hazardous Chemicals Work Health and Safety Reg 2017 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan
Demolition	Salcorp	Inadvertent contact with Asbestos containing materials resulting in occupational illness case (injury or fatality potential) in Bradfield Shed	C Possible	5 Very Large	15	Controls required in column K	4.10 Occupational health exposure	Yes	Building Hazardous Materials survey conducted.Licenced demolition contractors used. Licensed asbestos removalists used. Occupational hygienist appointed. Environmental air quality/fibre monitoring conducted if required Demolition notification to regulator provided. Required PPE identified and worn. Worker decontamination procedures implemented. Worker health monitoring program established. Asbestos EHS sub plan implemented.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Chapter 7 Hazardous Chemicals Work Health and Safety Reg 2017 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan
Demolition	Salcorp	Inappropriate disposal of ACM materials resulting in authority action due to public health risk etc in Bradfield Shed	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Asbestos EHS sub plan established Waste EHS sub plan implemented Licenced contractors used for asbestos removal works (TBA) Waste tracking and retention of waste dockets in place	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits for ACM and Waste Management	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3 & Part 5 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan
Demolition	Kerfoot	Removal of Solar Panels from Building B roof	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object, 4.4 Uncontrolled release of electrical energy	Yes	Isolation of electricity - Lock out & tag out Use of a harness as a secondary measure Tehtering of tools & equipment Rescue plan available and spotter	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits for ACM and Waste Management	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Demolition	Salcorp	Out of Sequence Works	C Possible	4 Large	12	Controls required in column K		Yes	Builders Brief or other communication provided daily by LLB. Daily pre-start meetings held by each workgroup. Weekly subcontractor coordination meetings held. Two weekly program established and communicated to subcontractors. Permit to Work system implemented. LLB area foreman supervision. Engineering reviews completed as required. Exclusion zones for all overhead/over/under works.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	HS Act 2017, WHS Regulation 2017, COP - Construction Work, COP How to Manage Work Health and Safety Risks COP - Consultation
Demolition	Salcorp	Fall of person, Tools & equipment when demolishing exiting boundary chain wired fence	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object, 4.3 Vehicle and plant incident (work sites)	Yes	LL Supervision is to be consulted prior to removel of any existing fencing.Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Use of MEWP MEWP operation as per manufacturer instructions. with prior approal only due to retricted heights and risk of servcie strike in MAC zones	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011 WHS Reg 2017 Part 3.2, Part 4.4 COP - How to manage work health and safety risks COP - Managing the risk of falls at workplace
Structural Steel														
Structural steel erection	TitanSteel	Transportation incident during delivery or other transport circumstance including but not limited to; • Structure falling from delivery truck during transport or unloading • Truck loaded improperly resulting in instability or unable to unload safely • Vehicle collisions	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Subcontractor selection procedures implemented (Works to Proceed etc). Contracts to include CoR conditions. CoR awareness training provided to staff and key workers. Subcontractor selection of competent licensed drivers. Loads restrained appropriately and restraints removed only for unloaded when crane hooked up. Unsafe loads turned away from site.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - CoP Hazardous Manual Tasks - Code of practice Plant in the workplace-Guidance note Powered mobile plant-Guidance note Chain of Custody requirements Heavy Vehicle (Adoption of National Law) Act 2013 Heavy Vehicle (Adoption of National Law) Re

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Structural steel erection	TitanSteel	Collapse of structure including but not limited to; • Inadequate structural support • Improper erection sequencing • Failure of member(s) • inaccurate or incomplete design drawings, details erection plans • Failure of welds	C Possible	5 Very Large	15	Controls required in column K	4.9 Failure of structures (temporary or permanent)	Yes	Design completed by a competent registered engineer Design reviewed by a competent and independent registered engineer Any modification to design to follow the two step design and approval process Structure protected from impact by plant or vehicles Shop drawings comply with the structural design Installation to strictly follow design requirements without variation to agreed methodology and engineering tolerances	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice Plant in the workplace-Guidance note Powered mobile plant-Guidance note Structural steelwork fabrication and erection Code of Practice (all jurisdictions - Australian Steel Institute) AS/NZS 1554 Structural Steel Welding
Structural steel erection	TitanSteel	Crush or entrapment to worker whilst operating MEWP resulting in injury and/or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Secondary operator crush protection on MEWP. MEWP control lever protection to prevent inadvertent activation. Competent operator with evidence of VOC preferably HRWL. Rescue plan in place and personnel available to assist and trained i.e. description of actions to be taken in SWMS. Riggers and MEWP operators with appropriate HRWL and VOC'd. Rigging supervisor / coordinator appointed. Plant and equipment checklists completed.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice Plant in the workplace-Guidance note Powered mobile plant-Guidance note Structural steelwork fabrication and erection Code of Practice (all jurisdictions - Australian Steel Institute)
Structural steel erection	TitanSteel	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Exclusion zones established that account for collapse impact zone Use of permitter screens to prevent fall of materials Use of bolt bags to hold loose bolts/nuts Hand tools lanyarded Elements fully secured in place before slings are released Competent crane crews independently VOC'd used Competent rigging crews independently VOC'd used Lift coordinator appointed	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Construction Work - Steel Erection Information Sheet (harmonised states) AS/NZS 1554 Structural Steel Welding AS4100 Steel Structures Structural steelwork fabrication and erection Code of
Structural steel erection	TitanSteel	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Use of MEWP/platform ladders during installation Construct elements at ground level and crane into position Release loads from the ground using long slings/remote release shackles all single legged lifts to be double wrapped chain around beams	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice Plant in the workplace-Guidance note Powered mobile plant-Guidance note Structural steelwork fabrication and erection Code of Practice (all jurisdictions - Australian Steel Institute)
Structural steel erection	TitanSteel	Out of sequence work resulting in fall of person/object/materials hazards, structural failure etc causing injury or damage	C Possible	3 Medium	9	Controls required in column K	4.2 Fall of material/object, 4.1 Fall of person, 4.3 Vehicle and plant incident (work sites), 4.4 Uncontrolled release of electrical energy	Yes	All changes to established procedures/SWMS/SOP etc require review of work methods and SWMS developed before commencing. All workers appropriately trained. Entire area of works to be an exclusion zone where works are being conducted overhead or there is the possibility of materials falling from height. All items including tools and materials to have appropriate means of restraint when working in close proximity to areas where falls of materials are possible. All agreed/approved edge protection elements	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice Plant in the workplace-Guidance note Powered mobile plant-Guidance note Structural steelwork fabrication and erection Code of Practice (all jurisdictions - Australian Steel Institute)
Structural steel erection	TitanSteel	Struck by mobile plant or equipment resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Traffic management plan developed and implemented. Exclusion zones with physical barriers in place. Mobile plant checks, maintenance etc completed. Competent traffic controllers and equipment operators. Warning signs in place. Designated parking areas. Designated loading/unloading zones.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice Plant in the workplace-Guidance note Powered mobile plant-Guidance note Structural steelwork fabrication and erection Code of Practice (all jurisdictions - Australian Steel Institute)
Façade Installation														
Façade Installation	Foxville	Fall of materials during facade panel / curtain wall panel installation due to: • failure of prop/bracing/support, • failure of fixing/fitting, • failure of facade panel, • unauthorised removal of fixing, • substandard design of panel or support,	B Likely	3 Medium	12	Controls required in column K	4.2 Fall of material/object	Yes	Perimeter containment as noted previously in this IHRA i.e. preference to work behind floor to soffit edge protection systems. Curtain wall / facade design engineered with documentation All Crane Lifted Loads, shifted and landed etc by rigger/dogger etc. Design and installation plan prepared and certified by a competent registered engineer and reviewed by an independent competent registered engineer. Post installation inspection conducted by competent registered engineer	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.7 Cranes (including hoists and winches) - Builders hoists and associated equipment Managing the risk of falls at workplace - Code of practice Powered mobile plant-Guidance note
Façade Installation	Foxville	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Floor to ceiling perimeter containment systems used 1st choice protection for facade / curtain wall install. Handrail systems and safety netting installed where no perimeter protection installed. Work from behind handrail system at all times. Where work required outside dedicated perimeter / handrail system fall protection harnesses used (Permit to Work process). Personnel trained and competent. SWMS developed personnel trained.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.7 Cranes (including hoists and winches) - Builders hoists and associated equipment Managing the risk of falls at workplace - Code of practice Powered mobile plant-Guidance note
Façade Installation	Foxville	Failure of lifting equipment during install including unloading delivery truck resulting in injury or damage.	C Possible	3 Medium	9	Controls required in column K	4.2 Fall of material/object	Yes	Lift coordinator appointed. LLB Slinging and Lifting Guidelines implemented. Slings, chains and shackles inspected and tagged. Load fully secured with packaging materials/gluts removed. Use of stillage's / bins to lift small / loose items. Exclusion zones in place with spotters as required. Overhead protective hoardings where lifting over public areas.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.7 Cranes (including hoists and winches) - Builders hoists and associated equipment Managing the risk of falls at workplace - Code of practice Powered mobile plant-Guidance note
Façade Installation	Foxville	Hazardous Materials	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	MSDS submitted with specific Controls. SWMS submitted and reviewed on a regular basis Daily prestarts and checklists complete Isolation of Work Area Disposal of excess materials / rubbish in sealed bag	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing risks of hazardous chemicals in the workplace - Code of Practice
Formwork														

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Formwork	Rock Form	Structural collapse/failure due to • Inadequate / poor design • Operation / use outside design / manufacturer specification • Structure not adequate to loads/loading/live & dead loads etc • Out of sequence works • Personnel not competent	C Possible	5 Very Large	15	Controls required in column K	4.9 Failure of structures (temporary or permanent)	Yes	Use of LLB concrete pre-pour and post pour checklist Temporary works designed by qualified and registered engineer Temporary works design reviewed by an independent qualified registered engineer Once installed or erected or after a change, installation to be verified by a qualified registered engineer to ensure design intent is met All proprietary systems to be used and installed in accordance with manufacturers recommendations, personnel to be trained appropriately.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulation 2017 AS/NZS 1576 Scaffolding (series applicable elements) AS/NZS 4576:1995 Guidelines for scaffolding AS 3610 Formwork for Concrete Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice General Guide to Formwork and Falsework (harmonised states)
Formwork	Rock Form	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Handrail systems and safety netting installed where no perimeter protection installed. Work from behind handrail system at all times. Where work required outside dedicated perimeter / handrail system fall protection harnesses used (Permit to Work process). Personnel trained and competent. SWMS developed personnel trained. HRWL all rigging work, consider VOC requirements.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 AS 1418.1 Cranes, hoists and winches - General requirements AS 1418.7 Cranes (including hoists and winches) - Builders hoists and associated equipment Managing the risk of falls at workplace - Code of practice Powered mobile plant-Guidance note
Formwork	Rock Form	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Voids physically protected from fall of material risk with mesh, plywood or other suitable covering Penetrations physically protected from fall of materials risk with engineered controls as detailed in WDC Floor to soffit edge protection systems employed to mitigate fall of materials risk from multi storey floors. Auxiliary elements such as hoists, lifts and MEWPs employ a no-gap policy	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 AS/NZS 1576 Scaffolding (series applicable elements) AS/NZS 4576:1995 Guidelines for scaffolding AS 3610 Formwork for Concrete Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice General Guide to Formwork and Falsework (harmonised states)
Formwork	Rock Form	Strippping liners from columns, fall of concrete during stripping	C Possible	3 Medium	9	Controls required in column K	4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent), 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	All changes to established procedures/SWMS/SOP etc require review of work methods and SWMS developed before commencing. All workers appropriately trained. Entire area of works to be an exclusion zone where works are being conducted overhead or there is the possibility of materials falling from height. All items including tools and materials to have appropriate means of restraint when working in close proximity to areas where falls of materials are possible. All agreed/approved edge protection elements i.e. handrails, perimeter screens etc in place before any work with fall hazards commences. Works involving alterations/modifications only following risk assessment procedures with worker briefing and SWMS updated. Exclusion zones and spotters. Formwork erection/stripping sequences developed and personnel trained. if overpour found after liners stripped then straps to be placed around column and work from top down removing a strap at a time once reached	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017
Formwork	Rock Form	Confined Space entry	C Possible	4 Large	12	Controls required in column K	4.19 Confined Space Incident	Yes	All changes to established procedures/SWMS/SOP etc require review of work methods and SWMS developed before commencing. All workers appropriately trained. All 4 openings to open to allow extensive ventilation. Emergency team on standby with exclusion zones in place. 2 way radios to be used with personnel and oxygen monitors to be used as per the LLB Permitprocedure and Regulations. Emergency equipment to be on stand-by. All workers to be briefed	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Trained LLB Foreman in Confined Space Subcontractor Supervisor	Open	Work Health and Safety Act 2011 AS/NZS 2865 - Confined Space AS/NZS 1576 Scaffolding (series applicable elements) AS/NZS 4576:1995 Guidelines for scaffolding AS 3610 Formwork for Concrete Managing the risk of falls at workplace - Code of practice Hazardous Manual Tasks - Code of practice General Guide to Formwork and Falsework (harmonised states)
Waterproofing														
Waterproofing	PolySeal	Exposure to Hazardous Substances	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Exclusion zone to be established around works. Substances to be stored appropriately. SDS to be available on site. Required PPE to be worn when applying substances.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chapter 7 CoP Managing Risks of Hazardous Chemicals
Waterproofing	PolySeal	Combustion or ignition of Hazardous Substances	C Possible	3 Medium	9	Controls required in column K	4.5 Fire and explosion	Yes	Exclusion zone to be established around works. Hot works permit process. Substances to be stored away from ignition sources, in a well ventilated area.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chapter 7 CoP Managing Risks of Hazardous Chemicals
Asbestos													Open	
Asbestos Works	Salcorp/JBS&G	Inadvertent contact with Asbestos containing materials resulting in occupational illness case (injury or fatality potential) in Bradfield Shed	C Possible	5 Very Large	15	Controls required in column K	4.10 Occupational health exposure	Yes	Building Hazardous Materials survey conducted.Licenced demolition contractors used. Licensed asbestos removalists used. Occupational hygienist appointed. Environmental air quality/fibre monitoring conducted if required Demolition notification to regulator provided. Required PPE identified and worn.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Air quality Inspections & Audits	Site Manager Subcontractor Manager Foreman,supervisors and Hygienist EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Chapter 7 Hazardous Chemicals Work Health and Safety Reg 2017 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan

Workplace Impacts and Hazards Risk Assessment

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5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Asbestos Works	Salcorp/JBS&G	Removal of known Asbestos containing materials in Bradfield Shed	C Possible	5 Very Large	15	Controls required in column K	4.10 Occupational health exposure	Yes	Building Hazardous Materials survey conducted. Licensed asbestos removalists used. Occupational hygienist appointed. Environmental air quality/fibre monitoring conducted if required Demolition notification to regulator provided. Required PPE identified and worn. Worker decontamination procedures implemented.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Air quality Inspections & Audits	Site Manager Subcontractor Manager Foreman,supervisors and Hygienist EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Chapter 7 Hazardous Chemicals Work Health and Safety Reg 2017 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol Environmental Protection (Controlled Waste) Regs. 2004 LLB Waste Management Plan
Site Civil Works													Open	
Civil and Excavation works	Salcorp	Contactof mobile plant causing with pedestrians\workers causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place Traffic controllers in place Spotters where required Plant / pedestrian separation via robust barriers Pedestrian routes established, signposted and protected with jersey kerbs Plant and pedestrian rules delivered during site inductions	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management, Chapter 4 Hazourdous Work, Part 6.3 clause 304 Traffic Management Guide - Construction Work SafeWork Australia
Civil and Excavation works	Salcorp	Unloading and delivery to site for 16T excavator using highway zone	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Traffic and Parking Management Plan in Place Traffic controllers in place Spotters where required Pedesterian & cyclist seperation through physical barrier Plant and pedestrian rules delivered during site inductions	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management, Chapter 4 Hazourdous Work, Part 6.3 clause 304 Aprroval letter from City of Sydney to conduct access and work in said area Traffic Management Guide - Construction Work SafeWork Australia
Civil and Excavation works	Salcorp	Collapse of excavation resulting in injury or fatality or damage	C Possible	4 Large	12	Controls required in column K	4.8 Excavation and stockpile collapse	Yes	Geotechnical reviews completed as required. competent person assesses ground conditions daily. Excavations greater than 1m must be benched/shored/battered or sloped to meet qualified engineer design. Where not possible, mechanical shoring to be used. Pumps/dewatering to remove water/prevent build up designed by a qualified engineer. Dewatering as per dewatering plan. Excavated material placed minimum safe distance from excavation. Plant and equipment away from excavation boundary. Spoil and plant locations to consider zone of influence impact or a ground support system implemented. Exclusion zones and spotters. Escape ways from excavations established with safe access/egress.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management, Chapter 4 Hazourdous Work, Part 6.3 clause 304
Civil and Excavation works	Salcorp	Manual Handling injuries	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Where possible use mechanical means of unloading i.e. use of plant such as forklift to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Reg. Part 3 General Powered mobile plant-Guidance note Hazardous Manual Tasks - Code of practice
Civil and Excavation works	Salcorp	Work on or near energised electrical, water and gas installations or services.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. SWMS to be developed, daily team review and briefing completed. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand excavation if uncertainty exists around service location. Use of non-invasive excavation permitted for location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 Powered mobile plant-Guidance note AS/NZS 3012 Electrical installation Construction & Demolition sites
Civil and Excavation works	Salcorp	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks WHS Regulation s50(1) & (2) GMR4.10

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Civil and Excavation works	Salcorp	Exposure to contaminates/hazardous materials etc resulting in injury or illness	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure	Yes	The LL Unexpected Finds protocol is to be adhered to in the event of exposure of unidentified services or substances and/or materials (I.e. Hazardous, Asbestos, Contamination, Archaeological) are located during the processes of excavation. All excavation as per LL excavation permit requirements. Excavation into uncontrolled fill levels to be reviewed and appropriate PPE worn including dust masks. Environmental consultant monitoring excavation works. SMP controls for all other contaminates i.e. ground water PFAS Sub Pan in place as unexpected finds relating to PFAS, some PFAS detected but levels within accepted range.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Div 5. Hazardous substances Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol SMP requirements Environmental Subplan (various) Management Plan
Civil and Excavation works	Salcorp	Collision between mobile plant or light vehicle vs mobile plant items causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Excavation permit implemented. Battering/benching/shoring completed all excavations. Berms/barricades/wheel stops provided all excavations. Mobile plant & equipment maintain minimum safe distances (exclusion zones) from piling/boring equipment. Spotters for vehicle/plant movements. Communication procedures developed/implemented. Pile holes not left open e.g. covered or barricaded. Ground conditions monitored for shifts, movement or collapse.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Reg Part 3.2. Part 5.1 Part 6.3 Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures Site traffic management plan
Civil and Excavation works	Salcorp	Incidents due to out of sequence works resulting in injury, environmental damage or damage to plant, equipment or structures	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Subcontractor Work to Proceed completed in timely manner including SWMS review as required. Builders briefs issued daily Subcontractor coordination meetings held weekly LL excavation permits issued, as con dwg or DBYD reviewed. Permit to work procedures completed and signed off before commencing. The LL Unexpected Finds protocol is to be adhered to in the event unidentified substances (I.e. Hazardous, Asbestos, Contamination, Archaeological) are located during the processes of excavation. Exclusion zones and spotters. SWMS review and worker briefing completed.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures
Civil and Excavation works	Salcorp	Roll over of plant item causing injury, environmental harm or property damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	ROP/FOPS installed as a mandatory requirement Plant inspection checklists to confirm ROPS/FOPs installation SWMS in place for works Operator verification of competence Traffic management plan developed. Ground conditions monitored daily by competent person. Daily communication at prestart meeting.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures
Civil and Excavation works	Salcorp	Plant Impact to structure causing damage	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.3 Vehicle and plant incident (work sites)		Traffic and Parking Management Plan in Place Traffic controllers in place Please refer to Risk ID GEOTEH 2 in the PROA	4. Isolation	Weekly EHS walk Monthly Site EHS Checklist	EHS Committee Site Manager	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures
Civil and Excavation works	Salcorp	Services strike including electrical, gas, telecom, water, sewer causing injury, fatality or damage.	C Possible	3 Medium	9	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand excavation if uncertainty exists around service location. Use of non-invasive excavation permitted for location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment. Spotter required. Permit to Work in place Physical mechanical protection of at risk services	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 6.2 Part 4.7 Emergency Response Plan
Civil and Excavation works	Salcorp	Mechanical failure of plant item resulting in injury, or damage (including environmental)	D Unlikely	4 Large	8	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Daily prestart checks Plant inspection checklist implemented Maintenance records held on file for all plant items Maintenance tracked and recorded on plant register for plant items Plant maintained in line with manufacturer requirements MET procedure and MET tag in place Manufacturer operating manual in place, operator competent.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	LLB Foreman Subcontractor Supervisor	Open	WHS Act 2011 Work Health and Safety Reg 2017 Part 5.1 Plant AS 2294 Earth-moving machinery protective structures Powered mobile plant guidance note Plant in the workplace guidance note
Civil and Excavation works	Salcorp	Worker entanglement in operating machinery causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Daily prestart checks Plant inspection checklist implemented Maintenance records held on file for all plant items Maintenance tracked and recorded on plant register for plant items MET procedure and MET tag in place Plant design registration (certain plant/jurisdictions) Plant registration with state regulator (certain plant/jurisdictions)	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 5 Plant AS 2294 Earth-moving machinery protective structures Powered mobile plant guidance note Plant in the workplace guidance note
Civil and Excavation works	Salcorp	Fire or explosion during refuelling or mobile plant causing injury and/or damage	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.5 Fire and explosion		Refuelling procedure established Fire extinguishers located adjacent No hot refuelling (plant items still running) Offsite refuelling services used e.g. mini tankers	5. Substitution	Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Reg 2017 Work Health and Safety Reg 2017 Part 3.2, Part 6.3 AS 2294 Earth-moving machinery protective structures Powered mobile plant guidance note Plant in the workplace guidance note Emergency Response Plan Waterbank
Civil and Excavation works	Salcorp	Spill of fuels or oils during refuelling of plant causing environmental damage	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.13 Degradation and pollution of the environment		Fuel storage held in bunded area Offsite refuelling services used e.g. mini tankers Spill kits on site Workers trained in spill containment and clean-up	4. Isolation	Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Environmental Planning & Assessment Act 1979

Workplace Impacts and Hazards Risk Assessment

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5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Civil and Excavation works	Salcorp	Collision between mobile plant or light vehicle vs mobile plant items causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place Traffic controllers in place Exclusion zones in place Dedicated radio frequency for mobile plant operations / crane operations Spotter in place	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	EHS Committee Site Manager	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures Site traffic management plan
Civil and Excavation works	Salcorp	Incorrect use of plant item / operation outside of manufacturers guidelines resulting in injury and/or damage	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Operator high risk licence for specified plant items. Verification of competence for plant operators. MET procedure and MET tag in place Manufacturer operating manual in place, operator competent. Plant maintained in line with manufacturer requirementsFully automatic Please refer to Risk ID GEOTEH 2 in the PROA	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	LLB Foreman Subcontractor Supervisor	Open	Manufacturer Operating Manual/Instructions Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 5 Plant
Civil and Excavation works	Salcorp	Failure of quick hitch or incorrect coupling of semi automatic quick hitches resulting in equipment failure, injury or damage	C Possible	4 Large	12	Controls required in column K	4.7 Impact from moving parts of machines	Yes	Fully automatic quick hitches allowed on LLB workplaces Please refer to Risk ID GEOTEH 2 in the PROA	3. Engineering	Plant inspection checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 Quick hitches for Earthmoving Machinery Information Sheet (harmonised states) Manufacturer Operating Manual/Instructions Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant
Civil and Excavation works	Salcorp	Contact with overhead power lines resulting in injury or damage	D Unlikely	5 Very Large	10	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	Powerline de-energised or isolated preferred, where not practicable, Minimum safe distances maintained as per local requirements. Tiger tails fitted to overhead lines. Spotter in place. Exclusion zones established. Competent crane crews (HRWL) independently VOC'd.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	LLB Foreman Subcontractor Supervisor	Open	Manufacturer Operating Manual/Instructions Work Health and Safety Reg 2017 Part 4 Plant Work Health and Safety Reg 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites
Civil and Excavation works	Salcorp	Exposing archaeological relics	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the Heritage NSW contacted Hand digging is to occur in areas identified as potentially containing archaeological or heritage objects or relics. Construction works must be carried out in accordance with the recommendations of Section 6 of the Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared by Curio Projects Pty Ltd and dated 15 July 2020. In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by EES Group and the management outcome for the site included in the information provided to AHIMS. The Applicant must consult with the Aboriginal community representatives, the archaeologists and EES Group to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of EES Group.	2. Administration	As required by EHS sub plan	Construction Manager	Open	Environment Protection and Biodiversity Conservation Act 1999 Aboriginal and Torres Strait Islander Heritage Protection Act Ask First: A Guide to Respecting Indigenous Places and Values (Australian Heritage Commission) National Parks and Wildlife Act 1974 (NSW) (NPW Act); and Environmental Planning and Assessment Act 1979 (NSW) (EPA Act); Sydney Barani 2013, 'Sydney's Aboriginal History', Accessed 7.7.19 from www.sydneybarani.com.au Irish P. and Goward T. 2012, "Where's the evidence? The archaeology of Sydney's Aboriginal history." Archaeology in Oceania, Vol. 47, No. 2 (July 2012), pp. 60-68 Hinkson, M. & Harris, A. 2010, Aboriginal Sydney: a guide to important places of the past and present, 2nd ed, Aboriginal Studies Press, Canberra SSDA C30, C31 C29
Civil and Excavation works	Salcorp	Disturbance to known areas of identified contaminated soil resulting in breach/noncompliance.	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Contamination Management Sub Plan implemented Stop work immediately and implement the unidentified find protocol if contamination is suspected or identified Obtain specialist advice on the methods available for the treatment and disposal of contaminated soils to appropriately licenced waste facility RAP implemenetd at commencment of projetc	2. Administration	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987 Stormwater and Erosion Management Plan Acid Sulphate Soil Management Plan Conservation and Habitat Management Plan Relevant State Government Environmental Legislation including the Protection of the Environment Operations Act (NSW)
Civil and Excavation works	Salcorp	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2)

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
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Civil and Excavation works	Salcorp	Inappropriate disposal of ASS or contaminated soil on and/or off-site resulting in breach/noncompliance.	C Possible	4 Large	12	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Acid Sulphate Soil EHS sub plan implemented Obtain specialist advice on the methods available for the treatment and disposal of ASS and/or contaminated soils to appropriately licenced waste facility	2. Administration	As required by EHS sub plan	Construction Manager	Open	Environmental Planning & Assessment Act 1979 Environmental Protection Regs. 1987 LLB Stormwater and Erosion Management Plan Acid Sulphate Soil Management Plan Conservation and Habitat Management Plan Relevant State Government Environmental Legislation including the Protection of the Environment Operations Act (NSW) and Contaminated Land Act.
Piling and Shoring works													Open	
Piling\Shoring Works	Salcorp/Citi	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Safe access onto plant or equipment for operation, inspection and maintenance. Masts to be lowered for maintenance access or access platforms. Maintenance works completed from ground level maintenance stations prefered. Use of Mew for high access work (ground conditions assessed). Pile holes to be guarded or otherwise protected. Handrails installed on areas of plant where fall risks are present and personnel are required to work. SWMS developed for all activities with piling plant. Fall arrest harness used where other measure impracticable.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2017, WHS Regulation 2017, Part 3.2, Part 4.4 Falls, Part 4.6, Part 5.1 COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Piling\Shoring Works	Salcorp/Citi	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Piling plant to have exclusion zones established around operations. Lifting of materials using piling plant hoists/winches to follow best rigging practises i.e. HRWL operators, rated lifting equipment etc. Piling rig lifting equipment to be rated, inspected and tested appropriately with documentation. Riggers with HRWL only. Crane crew clear area underneath suspended load prior to directing loads down to be landed. Piling plant inspection checklist to be completed all documentation provided.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 Work Health & Safety Regulations 2017 Chapter 5 Plant & Structures Managing the risk of falls at workplace - Code of practice COP - Moving Plant Construction Sites,
Piling\Shoring Works	Salcorp/Citi	Contact with pedestrians causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Exclusion zones established with warning signs. Spotters in place. Limited access to authorised personnel only. Daily communication i.e. builder brief on work program and zones.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Gat Work Sites
Piling\Shoring Works	Salcorp/Citi	Collapse of ground causing injury or fatalitiy	C Possible	3 Medium	9	Controls required in column K	4.8 Excavation and stockpile collapse	Yes	LL excavation permits issued, as-con dwg or DBYD reviewed. All piling/boring to be completed in such a way as to prevent the potential of any subsidence or collapse. All piling/boring must be thoroughly inspected on a daily basis and after any significant rain event which may cause the potential for subsidence. Geotech investigation to be used to determine procedures to be adopted for the safe execution of the works. Plant and equipment checklist completed all documentation provided.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 2017 Part 3. General Risk and Workplace ManagementExcavation Work Code of Practise
Piling\Shoring Works	Salcorp/Citi	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklift to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Hazardous Manual Tasks - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
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1. PPE	0		

Workplace Location:	Fort Street Public School
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Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Piling\Shoring Works	Salcorp/Citi	Collision between mobile plant or light vehicle vs mobile plant items causing injury or damage	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Excavation permit implemented. Berms/barricades/wheel stops provided all excavations. Mobile plant & equipment maintain minimum safe distances (exclusion zones) from piling/boring equipment. Spotters for vehicle/plant movements. Communication procedures developed/implemented.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures Site traffic management plan
Piling\Shoring Works	Salcorp/Citi	Exposure to contaminates/hazardous materials etc resulting in injury or illness	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	The LL Unexpected Finds protocol is to be adhered to in the event of exposure of unidentified services or substances and/or materials (I.e. Hazardous, Asbestos, Contamination, Archaeological) are located during the processes of excavation. All excavation as per LL excavation permit requirements. Excavation into uncontrolled fill levels to be reviewed and appropriate PPE worn including dust masks. Environmental consultant monitoring excavation works. SMP controls for all other contaminates i.e. ground water	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol SMP requirements
Piling\Shoring Works	Salcorp/Citi	Work on or near energised electrical installations or services causing electrocution	C Possible	3 Medium	9	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Minimum safe distances to be maintained from live services. SWMS to be developed, daily team review and briefing completed. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work GMR 4.4 Uncontrolled release of electrical energy
Piling\Shoring Works	Salcorp/Citi	Community complaints due to noise	B Likely	4 Large	16	Controls required in column K	4.10 Occupational health exposure, 4.11 Public health exposure	Yes	Development and inclusion of noise reduction barriers, curtains, attenuating devices etc including Noise Control policy and Buy Quite Policy. SMP and LL noise management plan requirements implemented. Community hotline established. Deliveries / Load out to be planned and managed in compliance with site TMP, operational hours and rules. Any out of hours works minimised including deliveries and shall only be carried out with the permission of LL. Noise management requirements to include parked trucks turned off	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000 EHS Subplan Noise & Vibration Managing noise at workplaces – Code of practice
Piling\Shoring Works	Salcorp/Citi	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Piling\Shoring Works	Salcorp/Citi	Incidents due to out of sequence works resulting in injury, environmental damage or damage to plant, equipment or structures	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	All changes to work program or plan to be risk assessed before changes implemented. Other trades to be involved in all change planning and interface. Risk assessments or SWMS etc reviewed and updated.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk and Workplace Management Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Excavation – Code Powered mobile plant-Guidance note
Piling\Shoring Works	Salcorp/Citi	Water inundation while working inside an excavted pit	C Possible	4 Large	12	Controls required in column K	4.18 Drowning, 4.8 Excavation and stockpile collapse	Yes	Emergency reponse procedure prepared and visually in work areas and no works allowed when wet, access and egress to be maintained and dry	6. Elimination	Daily HRCWC, Weather forecasts, daily observtions	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk and Workplace Management Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Excavation – Code
Scaffold													Open	

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

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Scaffold - Internal - External	Yaga	Structural collapse/failure resulting in injury, death or damage in Bradfield Shed	C Possible	3 Medium	9	Controls required in column K	4.9 Failure of structures (temporary or permanent)	Yes	All Scaffold must be designed by a qualified, competent and registered engineer and be reviewed by a qualified, competent and independently registered engineer. Once installed, erected or after a change to the design the temporary works must be verified by a qualified, competent and independently registered engineer to ensure the design intent is met All proprietary systems must be in accordance with the manufacturer's recommendations. The mixing of components from different proprietary systems is not permitted unless the system is approved by a qualified and registered structural engineer. Any calculations and drawings must clearly communicate requirements to those checking and constructing temporary works, including safe loading limits All scaffolds must be stable and secure to prevent movement and collapse. Scaffolds must be plumb, have adequate cross-bracing, sound footings and be tied into structure where height or base ratio is greater than 2:1. Before use scaffolds must be inspected by a qualified scaffolder and be tagged to show the inspection status 'No Access - Scaffolding Incomplete' sign must be displayed at all times while altering, building, or dismantling scaffolding Areas where scaffold is being erected, modified or dismantled shall be barricaded below with an robust exclusion zone Only competent persons holding the appropriate High	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Scaff Tag, Scaffold Inspections and Handover Certs	Site Manager Subcontractor Manager Foreman and Supervisors	Open	WHS Act 2017, WHS Regulation 2011, Part 4.4 Part 4.5 , COP - Construction Work, COP - Managing Risks of Falls at Workplaces, COP How to Manage Work Health and Safety Risks, LLB GMRs, LLB WDC, General guide for scaffolds and scaffolding work, Guide to scaffold inspection and maintenance, Guide to scaffolds and scaffolding, Guide to suspended (swing stage) scaffolds, Tower and mobile scaffolds information sheet
Scaffold - Internal - External	Yaga	Fall from height resulting in injury or fatality in Bradfield Shed	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	A scaffolding plan that provides for an erection and dismantling work process that eliminates the risk of fall of person or fall of materials A fully decked platform installed every 2 metres and not rotated unless provided for in the scaffold plan Access bay and stairs used at all times while moving from deck to deck and ladders should be the least preferred method of access and where used must be secured against movement. Climbing up and down on standards internally or externally is not permitted as an access method under any circumstances. All lap boards or bridging planks must be tied down. All braces and ties must be installed as per AS1576 or the manufacturer's instruction, and must be fitted as scaffolding is being built. Work platforms must have full deck of boards, handrail, mid-rails, kickboard as a minimum. Where harness is required to manage risk of fall the LLB Harness PTW must be implemented with all controls in place	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Scaff Tag, Scaffold Inspections and Handover Certs	Site Manager Subcontractor Manager Foreman and Supervisors	Open	WHS Act 2017, WHS Regulation 2011, Part 4.4 Part 4.5 , COP - Construction Work, COP - Managing Risks of Falls at Workplaces, COP How to Manage Work Health and Safety Risks, LLB GMRs, LLB WDC, General guide for scaffolds and scaffolding work, Guide to scaffold inspection and maintenance, Guide to scaffolds and scaffolding, Guide to suspended (swing stage) scaffolds, Tower and mobile scaffolds information sheet
Scaffold - Internal - External	Yaga	Fall of materials, equipment or tools from height resulting in injury or damage in Bradfield Shed	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	A scaffolding plan that provides for an erection and dismantling work process that eliminates the risk of fall of person or fall of materials Work platforms must have full deck of boards, handrail, mid-rails, kickboard as a minimum. All fixed scaffolds where personnel are working below shall have mesh and shade cloth installed vertically or an equivalent encapsulations method at the edge to prevent fall of materials. Areas where scaffold is being erected, modified or dismantled shall be barricaded below with an robust exclusion zone Chain Wire Mesh (50x50 2.5mm), or an equivalent proprietary encapsulation system, must be used to contain building materials and debris within scaffold and scaffold stair access structures Debris must not be permitted to build up and housekeeping of deck or other work areas must ensure that safe working load restrictions are following Tethers/lanyards must be used to tie off tools, equipment and materials for all work undertaken outside perimeter edge/opening/void protection systems, all work on permanent or temporary structures all types of working platforms located outside perimeter edge/opening/void protection systems, where full height containment and no gaps cannot be achieved and work is required to be carried out within 3 metres of any live edge of	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Scaff Tag, Scaffold Inspections and Handover Certs	Site Manager Subcontractor Manager Foreman and Supervisors,	Open	WHS Act 2017, WHS Regulation 2011, Part 4.4 Part 4.5 COP - Construction Work, COP - Managing Risks of Falls at Workplaces, COP How to Manage Work Health and Safety Risks, LLB GMRs, LLB WDC, General guide for scaffolds and scaffolding work, Guide to scaffold inspection and maintenance, Guide to scaffolds and scaffolding, Guide to suspended (swing stage) scaffolds, Tower and mobile scaffolds information sheet

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
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5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
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Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Scaffolding for Northern elevation for Site accommodation	Yaga	Fall of person resulting in injury or death and fall o materials/tools	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object		Closure of the Cahil Express way for night works, A scaffolding plan that provides for an erection and dismantling work process that eliminates the risk of fall of person or fall of materials Work platforms must have full deck of boards, handrail, mid-	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS	Site Manager Subcontractor Manager Foreman and Supervisors,	Open	Permit to work outside of DA approved hours and the closure of the Cahil Express Way WHS Act 2017, WHS Regulation 2011, Part 4.4 Part 4.5 COP - Construction Work, COP - Managing Risks
Scaffold - External (B Class Hoarding)		Vehicle Impact Causing Structural collapse/failure resulting in injury, death or damage	C Possible	3 Medium	9	Controls required in column K	4.14 Vehicle and plant incident (public areas), 4.3 Vehicle and plant incident (work sites)	Yes	Ensure any applicable traffic management plans are current and define the controls to minimise the risk of vehicles striking scaffold. Ensure physical barriers are in place to prevent vehicle or plant contact with scaffold. Signage to be displayed Lighting and reflectors to be provided to ensure Barriers to be visible at night and in low visiblity condictions	3. Engineering	Daily Fence inspections Weekly EHS walk Monthly Site EHS Checklist	Site Manager and Foreman	Open	WHS Act 2017, WHS Regulation 2011, Part 4.4 Part 4.5 , COP - Construction Work, COP How to Manage Work Health and Safety Risks, Traffic Management - Guide For Construction Work
Crane Use													Open	
Crane Operation for main site and Bradfield shed	TWC	Workers caught between loads being shifted resulting in injury	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Plant & equipment checks completed. Exclusion zones established, spotters as required. Load tag lines used. Lifting equipment checks completed, records available. Four chains on all skips/bins. Loads appropriately restrained or secured.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Crane Operation for main site and Bradfield shed	TWC	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Plant and lifting equipment meeting Standards and inspected and maintained Lift coordinator appointed. Appropriate plant, equipment and attachments for job selected as per manufacturers recommendations with appropriate evidence. LLB Slinging and Lifting Guidelines implemented. Exclusion zones established and no persons under lifted loads. Load fully secured with packaging materials/gluts removed. Use of stillage's / bins to lift small / loose items. lifting bins rated.	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Equipment inspections and registers	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Crane Operation for main site and Bradfield shed	TWC	Failure of load handling equipment i.e. slings/chains including poor selection of fittings/shackles/slings resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.2 Fall of material/object	Yes	Competent crane crews HRWL holders for works, independently VOC'd. LLB Slinging and Lifting Guidelines implemented Slings, chains and shackles certified, rated, inspected and tagged Lift coordinator appointed Friction type lifting clamps are not permitted Please refer to Risk ID STRUCT 22 Please refer to Risk ID STRUCT 21 of the PROA	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Equipment inspections and registers	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Crane Operation for main site and Bradfield shed	TWC	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Loads arrive to site pre-slung Use of elevated work platform to access loads i.e. elevated walkway Loading platform is to be utilizes wher possible Workers to remain fall prevention barriers when landing or placing loads. Use of MEWP to access loads. Access to truck trays safe with platforms or handrails etc.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Crane Operation for main site and Bradfield shed	TWC	Snagging on adjacent structures causing loads to fall or damage to structures or load including caused by inclement weather.	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Competent crane crews HRWL holders for works, independently VOC'd. Weather monitoring undertaken and conditions appropriate for load. Loads have tag lines fitted Crane crews monitoring and controlling all loads. Subscription to weather alerts	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Crane Operation for main site and Bradfield shed	TWC	Franna Crane accelerating through the palisade fence	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.7 Impact from moving parts of machines	Yes	Competent crane crews HRWL holders for works, independently VOC'd.Spotter required and hard barriers in place to prevent any plant going throguh the fence Weather monitoring undertaken and conditions appropriate for load. Loads have tag lines fitted	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

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5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

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Crane Operation for main site and Bradfield shed	TWC	High risk lifts, lifts>95% that manufacturers rated capacity or high risk load items i.e. critical equipment with long lead time,	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	Lift study approved by a qualified engineer Third party independent engineer review and supervision of lift Rigging crew intermediate HRWL Independent rigger in overall control of lift Please refer to Risk ID STRUCT 22	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations	Site Manager Subcontractor Manager Foreman and Supervisors Crane Coordinator	Open	WHS Act 2017, WHS Regulation 2017, Part 3.1 Part 4.4, Part 4.5, Part 5.1, Part 5.3, COP - Construction Work, COP How to Manage Work Health and Safety Risks, COP - Moving Plant Construction Sites,
Emergency Response - Rescue from suspended safety harness (fall arrest harness)	TWC	Failure to complete rescue resulting in injury or fatality	C Possible	3 Medium	12	Controls required in column K	4.1 Fall of person	Yes	Emergency Response Plan established Works involving safety harness use to have specific rescue plan developed and personnel trained in plan. Workers using safety harnesses to trained in work at heights Specific emergency response procedures established Workers trained in scenario specific emergency procedures PT harness is to be implemeneted	2. Administration	Quarterly review of ERP	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Regulations 2017 Chapter 3 General Risk and Workplace Management Code of practice - First aid facilities and services; AS3745 Planning for Emergencies in Facilities
Mobile or fixed concrete pump and/or placing boom operation													Open	
Mobile or fixed concrete pump and/or placing boom operation	DMG	Flow line failure causing rupture or blockage resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Plant registration (certain jurisdictions) Plant inspection checklists Daily pre-start checks Flowline NDT testing /reports including month / three month / annual inspections with written records completed and signed off. Safety pins installed all pipe clamps	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Mobile or fixed concrete pump and/or placing boom operation	DMG	Plant or ground instability resulting in plant failure / rollover etc causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Competent operators HRWL VOC'd used for Concrete Placement Booms. Adequacy of ground conditions to be assessed/re-assessed before use and after weather events. Boom installed/erected. climbed, inspected, maintained and dismantled in line with manufacturer requirements. Competent rigging/install crews employed for all installation, modification, dismantle activities.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Excavation Code of Practise National Concrete Pumping Guidelines -Concrete Pumping Association Aust.
Mobile or fixed concrete pump and/or placing boom operation	DMG	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Competent operators HRWL VOC'd used for Concrete Placement Booms. Adequacy of ground conditions to be assessed/re-assessed before use and after weather events. Manufacturer instructions followed for plant use e.g. outriggers fully extended, use of ground pads. Safety pins and safety chains installed between pipe sections etc. Pipe inspection completed to manufacturer or regulator requirements.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Excavation Code of Practise National Concrete Pumping Guidelines -Concrete Pumping Association Aust.
Mobile or fixed concrete pump and/or placing boom operation	DMG	Improper set up of operation due to in competent personnel/operatives resulting in injury or damage	D Unlikely	4 Large	8	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Competent operators HRWL VOC'd used for Concrete Placement Booms Manufacturers operating manual available operators trained and signed off. Adequacy of ground conditions to be assessed/re-assessed before use and after weather events. Manufacturer instructions followed for plant use e.g. outriggers fully extended, use of ground pads. Plant & Equipment checklist completed. Please refer to Risk ID STRUCT 22 Please refer to Risk ID STRUCT 21 of the PROA	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Excavation Code of Practise National Concrete Pumping Guidelines -Concrete Pumping Association Aust.
Mobile or fixed concrete pump and/or placing boom operation	DMG	Discharges to ground or water resulting in contamination and authority actions	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Washout facility to be provided for tool cleaning. Concrete waste to be removed by supplier or subcontractor to approved facility. Spills cleaned up immediately. Spill kits available in workplace. Trays used for backwashing concrete pump. Wash out facilities for tools with containment.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Relevant State Government Environmental Legislation including th Protection of the Environment Operations Act 1997 Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Excavation Code of Practise National Concrete Pumping Guidelines -Concrete Pumping Association Aust. Relevant State Government Environment Legislation.
Mobile or fixed concrete pump and/or placing boom operation	DMG	Noise and vibration resulting in community complaints and authority action	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure, 4.12 Mental health and fatigue	Yes	LL plant inspection checklist completed before Concrete Pump operations Procedures to inspection, testing and maintenance of equipment and concrete lines implemented. SMP and LL noise management plan and sub plan requirements implemented. Sound attenuating barriers around static pumps, consider for mobile pumps and ground level concrete lines to attenuate noise levels. Operational hours complied with including Enviro Noise (Construction) Regs.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Relevant State Government Environmental Legislation including th Protection of the Environment Operations Act 1997 Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Excavation Code of Practise National Concrete Pumping Guidelines -Concrete Pumping Association Aust. Environmental Planning & Assessment Regulation 2000 Development Approval Conditions
Mobile or fixed concrete pump and/or placing boom operation	DMG	Fire and/or explosion causing injury or death	C Possible	4 Large	12	Controls required in column K	4.5 Fire and explosion	Yes	Plant risk assessments completed. Plant & equipment inspection & maintenance to manufacturers specifications completed with records. Trained competent personnel. Fire extinguisher on all plant. DS/HS good stored as per requirements DG Act/Reg	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Excavation Code of Practise National Concrete Pumping Guidelines -Concrete Pumping Association Aust.
Concrete installation and finishing													Open	

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
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Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Concrete installation and finishing	DMG	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Screens and catch deck/platforms to be in place during works with fall of material risks. This includes splash guarding. Edge protection and/or screens to be installed to requirements. Catch decks and building fans or netting installed. All items including tools and materials to have appropriate means of restraint when working in close proximity to areas where falls of materials are possible. Pre-pour inspection to be completed. Please refer to Risk ID STRUCT 22 Please refer to Risk ID STRUCT 21 of the PROA	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls -Managing the risk of falls at workplace - Code of practice
Concrete installation and finishing	DMG	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Full perimeter edge protection. Penetrations covered, fixed down and warning signs installed and engineered controls as detailed in WDC. Physical barriers established of sufficient height and strength installed to mitigate risk of fall of person at all perimeter edges or openings not secured as penetrations. Permanent staircases established as soon as practicable.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice
Concrete installation and finishing	DMG	Undertaking high risk or repetitive manual handling tasks resulting in injury	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklift to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training Crew rotation and adequate rest periods	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Concrete installation and finishing	DMG	Out of sequence works resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object, 4.3 Vehicle and plant incident (work sites), 4.4 Uncontrolled release of electrical energy, 4.6 Crane and hoisting equipment incident, 4.7 Impact from moving parts of machines	Yes	Subcontractor review and review meetings. Builders brief issued daily. Changes of planned work identified and risk assessed. No works that breaches GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017
Concrete installation and finishing	DMG	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Concrete installation and finishing	DMG	Contamination of ground or water with concrete wastes	C Possible	3 Medium	9	Controls required in column K	4.13 Degradation and pollution of the environment	Yes	Washout facility to be provided for tool cleaning. Washout facility to contain waste from ground or water sources. Concrete waste/excess to be removed by supplier or subcontractor to approved facility. Spills cleaned up immediately. Spill kits available in workplace. Trays used for backwashing concrete pump.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Relevant State Environment legislation including Protection of the Environment Operations Act 1997 NSW Work Health and Safety Act 2011 WHS Regulation 2017
Concrete installation and finishing	DMG	Concrete Pump kick back causing impact injuries	C Possible	4 Medium	#N/A	#N/A	4.3 Vehicle and plant incident (work sites)	#N/A	Plant registration (certain jurisdictions) Plant inspection checklists Daily pre-start checks Flowline NDT testing /reports including month / three month / annual inspections with written records completed and signed off.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017
Steel Reinforcing Installation													Open	
Steel Reinforcing Installation	Forged Steel	Fall of materials, equipment or tools from height resulting in injury or damage	D Unlikely	4 Large	8	Controls required in column K	4.2 Fall of material/object	Yes	Edge protection and screens to be installed to requirements. Catch decks and building fans or netting installed. All items including tools and materials to have appropriate means of restraint when working in close proximity to areas where falls of materials are possible. Full perimeter edge protection. Penetrations covered, fixed down and warning signs installed and engineered controls as detailed in WDC. Permanent staircases established as soon as practicable. Temporary staircases comply with Scaffolding requirements. MEWP, scaffolding or platform ladders for wall or column fixing. Risers and shafts penetrations covered meshed and warning signs. Materials handling by crane or other suitable equipment minimising dropped materials. Adequate supervision at all times. Please refer to Risk ID STRUCT 22 Please refer to Risk ID STRUCT 21 of the PROA	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Steel Reinforcing Installation	Forged Steel	Hot works resulting in Fire or explosion resulting in injury to persons or damage to structure, equipment or materials	C Possible	4 Large	12	Controls required in column K	4.5 Fire and explosion	Yes	Use if alternative cutting methods e.g. hydraulic sheers Hotwork permit issued Fire watch established including for cooldown periods 9kg ABE fire extinguishers at work face Energy sources isolated and locked/tagged out All hazardous materials/dangerous goods/combustible materials removed >15m from hot work Flammable/combustible materials unable to be moved physically protected from ignition	6. Elimination	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 WA Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Management
Steel Reinforcing Installation	Forged Steel	Use of 9 linch grinder resulting in serious cuts or amputation	C Possible	4 Large	12	Controls required in column K	4.15 Uncontrolled release of stored energy (non-electrical)	Yes	use alternative cutting methods where possible on any sheets Handles fitted to machines Competant users and trained Machines to have clutches fitted guard in place and in correct position No cutting above waist height Correct cutting disk to be used and this to be correctly fitted Change worn disks	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 WA Work Health and Safety Reg 2017 Chpt 3 General Risk and Workplace Management
Steel Reinforcing Installation	Forged Steel	Fall from height resulting in injury or fatality.	D Unlikely	4 Large	8	Controls required in column K	4.1 Fall of person	Yes	Full perimeter edge protection. Penetrations covered, fixed down and warning signs installed and engineered controls as detailed in WDC. Physical barriers established of sufficient height and strength installed to mitigate risk of fall of person at all perimeter edges or openings not secured as penetrations. Permanent staircases established as soon as practicable. Temporary staircases comply with Scaffolding requirements documented within this IHRA MEWP, scaffolding or platform ladders for column pours. Risers and shafts physically protected from fall of person risk with full height protection systems. Access restricted to trained competent personnel. Adequate supervision at all times.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Managing the risk of falls at workplace - Code of practice
Steel Reinforcing Installation	Forged Steel	Undertaking high risk or repetitive manual handling tasks resulting in injury	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklift to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training Crew rotation and adequate rest periods	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Steel Reinforcing Installation	Forged Steel	Out of sequence works resulting in injury or damage	D Unlikely	4 Large	8	Controls required in column K	4.1 Fall of person, 4.2 Fall of material/object, 4.3 Vehicle and plant incident (work sites), 4.6 Crane and hoisting equipment incident	Yes	Subcontractor review and review meetings. Builders brief issued daily. Changes of planned work identified and risk assessed. No works that breaches GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017
Steel Reinforcing Installation	Forged Steel	Injury from hand held tools and equipment	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP			All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.				Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Electrical Trades													Open	
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Service strikes by plant or equipment to live services resulting in injury or damage.	D Unlikely	4 Large	8	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand excavation if uncertainty exists around service location. Use of non-invasive excavation permitted for location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment. Spotter required. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	No live work permitted. LOTO procedures implemented. Develop safe work procedures and induct workers prior to commencing. All circuits / wiring is to be RCD protected and tested as per GMR requirements. Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Spotters used for guidance.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Excavation collapse resulting in worker entrapment causing injury or fatality	D Unlikely	4 Large	8	Controls required in column K	4.8 Excavation and stockpile collapse	Yes	All excavations battered, benched or shored. Competent person inspects daily. All soil/spoil stored away from excavation batter/benching. Plant remains minimum safe distance away. Safe access and egress and means of escape maintained into excavations. Excavations dewatered as required by conditions. All plant to have a spotter, PEZ Zone clearly marked out and all tracks facing parallel to hoarding	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Excavation – Code of Practise
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all excavations and pits or holes. Warning signs in place. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Exclusion zones around excavations and holes etc.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	No worker under raised loads, buckets, plant etc during movements. Materials and equipment stored away from excavations, pits or hole edges/openings. All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters. Safe access into and out of excavations, pits or holes. Spotters/sentries/standby persons at pit or hole openings as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Manual handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Mobile plant or equipment contact causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.7 Impact from moving parts of machines, 4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Traffic and Parking Management Plan in Place Traffic controllers in place Spotters where required Plant / pedestrian separation via jersey kerbs Pedestrian routes established, signposted and protected with jersey kerbs Plant and pedestrian rules delivered during site inductions	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install temporary and permanent electrical and comm's in structure													Open	
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Contact with electricity causing injury or fatality	C Possible	5 Very Large	15	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	No live work permitted. LOTO procedures implemented. Develop safe work procedures and induct workers prior to commencing. All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3monthly. Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work obtained including Drill, Cut and Core. DBYD/As Built review as required. Review of overhead powerlines as required for task. Spotters used for guidance.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	5 Very Large	15	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Permit to Work obtained i.e. Drill, Cut or Core, Excavation etc and must AS Built dwg reviews, service locations positively identified, service protection controls developed and team review and sign off. Lock Out Tag Out Procedures implemented. Live services isolated. Minimum safe distances to be maintained from live services. Spotter to be used as directed by LL or service/asset owner. All inground services positively identified before the use of mechanical equipment. Spotter required. Physical mechanical protection of at risk services. No live work.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Manual Handling injuries	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Install temporary and permanent electrical and comm's in ground on main site and Bradfield shed	Kerfoot	Injury from hand held tools and equipment	C Possible	4 Large	12	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install fire systems													Open	
Install fire systems	ForceFire	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	No live work permitted. LOTO procedure implemented. Develop safe work procedures and induct workers prior to commencing. All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3monthly. Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work obtained including Drill, Cut and Core. DBYD/As Built review as required. Review of overhead powerlines as required for task. Spotters used for guidance.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install fire systems	ForceFire	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	3 Medium	9	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Permit to Work obtained i.e. Drill, Cut or Core, Excavation etc and must AS Built dwg reviews, service locations positively identified, service protection controls developed and team review and sign off. Lock Out Tag Out Procedures implemented. Live services isolated. Minimum safe distances to be maintained from live services. Spotter to be used as directed by LL or service/asset owner. All inground services positively identified before the use of mechanical equipment. Spotter required. Physical mechanical protection of at risk services. No live work.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install fire systems	ForceFire	Manual Handling injuries	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP			Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install fire systems	ForceFire	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install fire systems	ForceFire	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object, 4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Install fire systems	ForceFire	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Install fire systems	ForceFire	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Plumbing Trades													Open	
In ground plumbing or hydraulic services installation	Axis	Contact with electricity causing injury or fatality	C Possible	5 Very Large	15	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work Excavation obtained and requirements complied with. DBYD/As Built review as required. Review of overhead powerlines as required for task.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
In ground plumbing or hydraulic services installation	Axis	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Isolation considered. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand or non distructive excavation if uncertainty exists around service location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment. Spotter required. Asset owner / authority and requirements met. Permit to Work in place Physical mechanical protection of at risk services	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
In ground plumbing or hydraulic services installation	Axis	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
In ground plumbing or hydraulic services installation	Axis	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
In ground plumbing or hydraulic services installation	Axis	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters. Crane crew clear area underneath suspended load prior to directing loads down to be landed.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
In ground plumbing or hydraulic services installation	Axis	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
In ground plumbing or hydraulic services installation	Axis	Collision with or by mobile plant or equipment causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
In ground plumbing or hydraulic services installation	Axis	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
In ground plumbing or hydraulic services installation	Axis	Excavation collapse resulting in worker entrapment causing injury or fatality	D Unlikely	4 Large	8	Controls required in column K	4.8 Excavation and stockpile collapse	Yes	All excavations battered, benched or shored. Competent person inspects daily. All soil/spoil stored away from excavation batter/benching. Plant remains minimum safe distance away. Safe access and egress and means of escape maintained into excavations. Excavations dewatered as required by conditions. Shoring systems must be engineer designed and installed as per manufactures requirements Installation of shoring systems must be inspected by competent person before workers enter When workers want to enter trench without shoring, benching or battering Geotech to undertake inspection and provide written confirmation trench can be entered without shoring Safe access and exit must be provided Daily inspections must be undertaken by competent person	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Excavation – Code of Practise

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Plumbing Installations - Confined Space Works	Axis	Confine space works causing injury or death, including entrapment	B Likely	4 Large	16	Controls required in column K	4.19 Confined space incident	Yes	The LLB Confined Space PTW procdure must be followed An Occupational First Aider shall be available as part of the Emergency Response Team at the workplace where the confined space is to be entered at all times whilst workers are inside the confined space. An Emergency Response Plan is to be in place A standby person shall be located at the entry point to the confined space and record workers entering and exiting the confined space and have positive communication with those in the space. All workers entering a confined space must have completed nationally recognised units of competence delivered by a registered training organisation (RTO) for entering or entering and working in a confined space Be physically able to enter the confined space and carry out the proposed works. All workers appointed as the Standby Person located at the entry to a confined space shall have completed nationally recognised units of competence for gas testing atmospheres Where specialist equipment is proposed e.g. self-contained breathing apparatus (SCBA), rescue tripod or davit arm, training in that rescue equipment and equipment must be inspected and tested prior to use	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist LLB PTW	Site Manager Subcontractor Manager Foreman and Supervisors Engineer	Open	WHS Act 2017, WHS Regulation 2017, Part 4.3 COP - Construction Work, COP How to Manage Work Health and Safety Risks, Confined Space COP, GMR, WDC
Install plumbing or hydraulics to structures	Axis	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install plumbing or hydraulics to structures	Axis	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Install plumbing or hydraulics to structures	Axis	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. LOTO procedures developed and implemented. Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate including drill, cut and core. DBYD / As Built review as required. Permit to work issued. Review of overhead powerlines as required for task. Spotters used for guidance.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install plumbing or hydraulics to structures	Axis	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install plumbing or hydraulics to structures	Axis	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Permit to Work obtained i.e. Drill, Cut or Core, Excavation etc and must AS Built dwg reviews, service locations positively identified, service protection controls developed and team review and sign off. Lock Out Tag Out Procedures implemented. Live services isolated. Minimum safe distances to be maintained from live services. Spotter to be used as directed by LL or service/asset owner. All inground services positively identified before the use of mechanical equipment. Spotter required. Physical mechanical protection of at risk services. No live work	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install plumbing or hydraulics to structures	Axis	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install plumbing or hydraulics to structures	Axis	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install plumbing or hydraulics to structures	Axis	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Install plumbing or hydraulics to structures	Axis	Failure of plant or equipment resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Install plumbing or hydraulics to structures	Axis	Failure of pipework, pipe joints or equipment during pipework pressure test resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.15 Uncontrolled release of stored energy (non-electrical)	Yes	All test equipment appropriate for test and certified, inspected and maintained. Exclusion zones with warning signs established around test equipment. Procedures for testing and maintenance developed, personnel trained. Testing completed out of hours where possible to reduce risk. Exclusions zones, spotters or warning signs considered.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Plant in the workplace-Guidance note AS 2419.1 - Fire hydrant installations AS 2118.9 - Automatic fire sprinkler systems
Install fire systems - hydraulic													Open	
Install fire systems - hydraulic	ForceFire	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install fire systems - hydraulic	ForceFire	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install fire systems - hydraulic	ForceFire	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Install fire systems - hydraulic	ForceFire	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	No live work permitted. LOTO procedures as required. Develop safe work procedures and induct workers prior to commencing. All circuits / wiring is to be RCD protected and tested as per GMR requirements. Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Spotters used for guidance.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install fire systems - hydraulic	ForceFire	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install fire systems - hydraulic	ForceFire	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Permit to Work obtained i.e. Drill, Cut or Core, Excavation etc and must AS Built dwg reviews, service locations positively identified, service protection controls developed and team review and sign off. Lock Out Tag Out Procedures implemented. Live services isolated. Minimum safe distances to be maintained from live services. Spotter to be used as directed by LL or service/asset owner. All inground services positively identified before the use of mechanical equipment. Spotter required. Physical mechanical protection of at risk services. No live work.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install fire systems - hydraulic	ForceFire	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install fire systems - hydraulic	ForceFire	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install fire systems - hydraulic	ForceFire	Failure of plant or equipment resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use. Please refer to Risk ID FIRE 21 in the PROA	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Install fire systems - hydraulic	ForceFire	Structural failure or failure of fixtures and fittings causing fall of materials or equipment injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All supporting structure to be engineer designed and certified for expected loads. Documentation available. Installations inspected by engineer and certified to manufacturer requirements. All load bearing fixtures and fittings to be engineer certified and installed to manufacturer requirements. Personnel trained and competent. Inspection and test program for fixings and equipment. Adequate supervision at all times. Please refer to Risk ID FIRE 21 in the PROA	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork - Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Safe design of buildings and structures - Code WA

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install fire systems - hydraulic	ForceFire	Failure of pipework, pipe joints or equipment during pipework pressure test resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.15 Uncontrolled release of stored energy (non-electrical)	Yes	All test equipment appropriate for test and certified, inspected and maintained. Exclusion zones with warning signs established around test equipment. Procedures for testing and maintenance developed, personnel trained. Testing completed out of hours where possible to reduce risk. Exclusions zones, spotters or warning signs considered.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Plant in the workplace-Guidance note AS 2419.1 - Fire hydrant installations AS 2118.9 - Automatic fire sprinkler systems
Mechanical Trades													Open	
Install mechanical services - electrical	TBA	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install mechanical services - electrical	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Install mechanical services - electrical	TBA	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Install mechanical services - electrical	TBA	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Install mechanical services - electrical	TBA	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install mechanical services - electrical	TBA	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Permit to Work obtained i.e. Drill, Cut or Core, Excavation etc and must AS Built dwg reviews, service locations positively identified, service protection controls developed and team review and sign off. Lock Out Tag Out Procedures implemented. Live services isolated. Minimum safe distances to be maintained from live services. Spotter to be used as directed by LL or service/asset owner. All inground services positively identified before the use of mechanical equipment. Spotter required. Physical mechanical protection of at risk services. No live work.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install mechanical services - electrical	TBA	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install mechanical services - electrical	TBA	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install mechanical services - electrical	TBA	Structural failure or failure of fixtures and fittings causing fall of materials or equipment injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All supporting structure to be engineer designed and certified for expected loads. Documentation available. Installations inspected by engineer and certified to manufacturer requirements. All load bearing fixtures and fittings to be engineer certified and installed to manufacturer requirements. Personnel trained and competent. Inspection and test program for fixings and equipment. Adequate supervision at all times.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork - Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Safe design of buildings and structures - Code WA
Install mechanical services - hydraulic													Open	
Install mechanical services - hydraulic	Axis	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install mechanical services - electrical	Axis	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	Occupational Health & Hygiene Management Sub Plan prepared by an Occupational Hygienist including standardised method for risk assessment of excavation and interfacing trade activities; methods to identify workers for participation in medical assessment and health surveillance (Health Monitoring); exposure control plans specific to trade activities; monitoring to assess and verify the effectiveness of those measure outlined in exposure control plans. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Install mechanical services - hydraulic	Axis	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Install mechanical services - hydraulic	Axis	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. No live work. LOTO procedures implemented. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install mechanical services - hydraulic	Axis	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install mechanical services - hydraulic	Axis	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand excavation if uncertainty exists around service location. Use of non-invasive excavation permitted for location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment. Spotter required. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install mechanical services - hydraulic	Axis	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install mechanical services - hydraulic	Axis	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install mechanical services - hydraulic	Axis	Structural failure or failure of fixtures and fittings causing fall of materials or equipment injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All supporting structure to be engineer designed and certified for expected loads. Documentation available. Installations inspected by engineer and certified to manufacturer requirements. All load bearing fixtures and fittings to be engineer certified and installed to manufacturer requirements. Personnel trained and competent. Inspection and test program for fixings and equipment. Adequate supervision at all times.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork - Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Safe design of buildings and structures - Code WA
Install mechanical services - hydraulic	Axis	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install mechanical services - hydraulic	Axis	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Temporary edge protection must be in place at all openings and penetrations (handrail systems, mesh/netting. perimeter screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Install mechanical services - hydraulic	Axis	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Install mechanical services - hydraulic	Axis	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Install mechanical services - hydraulic	Axis	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install mechanical services - hydraulic	Axis	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand excavation if uncertainty exists around service location. Use of non-invasive excavation permitted for location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment. Spotter required. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Install mechanical services - hydraulic	Axis	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Install mechanical services - hydraulic	Axis	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Install mechanical services - hydraulic	Axis	Structural failure or failure of fixtures and fittings causing fall of materials or equipment injury or damage	C Possible	3 Medium	9	Controls required in column K	4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All supporting structure to be engineer designed and certified for expected loads. Documentation available. Installations inspected by engineer and certified to manufacturer requirements. All load bearing fixtures and fittings to be engineer certified and installed to manufacturer requirements. Personnel trained and competent. Inspection and test program for fixings and equipment. Adequate supervision at all times.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork - Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Safe design of buildings and structures - Code WA
Lift installation													Open	
Lift installation	Liftronic	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Lift openings protected by approved lift gates, installed by competent personnel using approved methods. All work from false cars with appropriate edge protection. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment i.e. HRWL. Temporary fall protection must be in place openings/penetrations as required by GMRs. Fall arrest systems as primary protection by exception and authorisation. Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. Lifts and travelators installed as pre manufacturers directions. Engineer designed and approved equipment and fittings only.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Lift installation	Liftronic	Crush resulting in injury or death	C Possible	4 Large	12	Controls required in column K	4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Only qualified workers are to work in shafts or on top of lift cars SWMS must be developed detailing safe entery and exit LOTTO Procedures must be developed and implemented prior to any workers entering shafts fof complete dor operational lifts to undertake any works Proceduree in place to ensure workers entering car top, car pit or sharft have full control of the unit to prevent uncontrolled movement	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	HS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Lift installation	Liftronic	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Lift installation	Liftronic	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment AS/NZS 4431 Guidelines for safe working on new lift installations in new construction
Lift installation	Liftronic	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Lift installation	Liftronic	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Lift installation	Liftronic	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Lift installation	Liftronic	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Lift installation	Liftronic	Failure of plant or equipment resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.6 Crane and hoisting equipment incident	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Lift installation	Liftronic	Structural failure or failure of fixtures and fittings causing fall of materials or equipment injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All supporting structure to be engineer designed and certified for expected loads. Documentation available. Installations inspected by engineer and certified to manufacturer requirements. All load bearing fixtures and fittings to be engineer certified and installed to manufacturer requirements. Personnel trained and competent. Inspection and test program for fixings and equipment. Adequate supervision at all times.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork - Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Safe design of buildings and structures - Code WA
Brickwork & blockwork installation													Open	
Brickwork & blockwork installation	Lamio	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of scaffold, MEWPs etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. MET tag in place. Competent / licensed operators of plant and equipment with HRWL etc. Scaffolds built by licensed scaffolders and checked & maintained as required GMRs and WDC. Temporary fall protection must be in place openings/penetrations. (handrails mesh screens, penetrations covered etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Brickwork & blockwork installation	Lamio	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Brickwork & blockwork installation	Lamio	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Brickwork & blockwork installation	Lamio	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Brickwork & blockwork installation	Lamio	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Brickwork & blockwork installation	Lamio	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Brickwork & blockwork installation	Lamio	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Brickwork & blockwork installation	Lamio	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Brickwork & blockwork installation	Lamio	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Brickwork & blockwork installation	Lamio	Exposure to heat or cold resulting in injury	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP			Subscription to weather notification service Builders brief or other communications to include weather information/alerts Outdoor activities to consider workloads against shade, task rotation, work breaks and worker capability. Workplace weather/temperature protocol in place Provision of PPE e.g. sun hats, sun screen, cool drinking water, shade tents CW to undertake heat training	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Contruction Work Code of Practice
Brickwork & blockwork installation	Lamio	Failure of blockwork wall due to inclement weather	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	Weather monitoring in place with alert system i.e. daily communication, builders brief, prestart meeting. Brick/block work built following incremental stages to allow setting. High brick/block work braced and supported against high winds. Bracing design to be engineered and all bracing to be inspected New work protected against wet weather and cement washing.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Masonry Wall Safety During Construction Work - Guide WA
Brickwork & blockwork installation	Lamio	Runoff of slurry contaminated water during block cutting and/or cleaning operations into the stormwater system.	C Possible	2 Small	6	Controls required in column K, SWMS	4.13 Degradation and pollution of the environment		Operations to be set up away from stormwater inlets and drainage lines. Bunding provided around blockcutting works to capture slurry runoff. Bunded area/groundcover to be maintained and slurry disposed of appropriately. Subcontractor to maintain area in a tidy and safe condition.	3. Engineering	Daily inspection. Weekly checklists. S/C observations	Foreman Subcontractor manager EHS Coordinator	Open	WHS Act 2011 WHS Regulation 2017 Masonry Wall Safety During Construction Work - Guide WA
Plasterboard ceilings and walls													Open	
Plasterboard ceilings and walls	Foxville	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts, etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required. Temporary fall protection must be in place openings/penetrations. (Handrails mesh/netting etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Managing the risk of falls at workplace - Code of practice
Plasterboard ceilings and walls	Foxville	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Plasterboard ceilings and walls	Foxville	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Plasterboard ceilings and walls	Foxville	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Plasterboard ceilings and walls	Foxville	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Plasterboard ceilings and walls	Foxville	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Plasterboard ceilings and walls	Foxville	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Plasterboard ceilings and walls	Foxville	Failure of fixtures or fittings resulting in fall or materials	C Possible	3 Medium	9	Controls required in column K	4.17 Failure of fixtures or fittings	Yes	All load being fixtures and fittings to be engineer certified and installed to manufacturer requirements. Personnel trained and competent. Inspection and test program for fixings.		Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork - Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Safe design of buildings and structures - Code WA
Rendering and plastering	Foxville	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required. Temporary fall protection must be in place openings/penetrations. (Handrails mesh/netting etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Rendering and plastering	Foxville	Fatality due to long term exposure to uncontrolled Hazardous Chemicals including airborne respirable dusts	D Unlikely	5 Very Large	10	Controls required in column K	4.10 Occupational Health	Yes	use of water supression, vacuum extraction and other engineering controls to tools and other plant and equipment to eliminate uncontrolled dry cutting. Moderate or greater risks to health must be prioritised. Verification, ongoing maintenance and testing of engineering controls must be formalised and documented. Where face masks like P2 ad other respriator protection is used they must be fit tested with evidence provided	3. Engineering	Monitoring of Exposure Control Plans and related controls Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Occupational Hygienist Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS ACT 2011, Section 19 WHS Reg 2017 - Chpt 3 Part 3.2, Part 4.6 COP - Managing the risk of falls at workplace COP - How to manage work health and safety risks Demolition Code Of Practice AS2601 WHS Regulation s50(1) & (2) GMR4.10
Rendering and plastering	Foxville	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice.
Rendering and plastering	Foxville	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Rendering and plastering	Foxville	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Rendering and plastering	Foxville	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Rendering and plastering	Foxville	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
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5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Rendering and plastering	Foxville	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Painting													Open	
Painting	TBA	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. MEWP operation as per manufacturer instructions. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Scaffolds built by licensed scaffolders and checked maintained as required. Temporary fall protection must be in place openings/penetrations. (Handrails mesh/netting etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Painting	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Painting	TBA	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Painting	TBA	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Painting	TBA	Service strikes by plant or equipment to live services resulting in injury or damage e.g. MEWP contact with powerlines.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Permit to work obtained. Isolation must be considered (LOTO). Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Permit to Work in place Physical mechanical protection of at risk services	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Painting	TBA	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Painting	TBA	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
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5. Substitution	15	%Controls < Engineering	30%
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3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Painting	TBA	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Painting	TBA	Pollution associated with paint disposal and washout of tools and equipment.	B Likely	3 Medium	12	Controls required in column K, SWMS	4.13 Degradation and pollution of the environment	Yes	Provide washout/washbox facilities on site and maintain. Subcontractor trained in use of paint washout facilities. Spill kit located close to facility.	3. Engineering	Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Foreman EHS Coordinator Site and Project Engineer	Open	POEO Act NSW 1997
Tiling and Paving													Open	
Terrazo and paving	TBA	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Handrails systems installed all edges. Penetrations covered as per GMRs and warning signage installed. No work where fall risks exist.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Terrazo and paving	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Terrazo and paving	TBA	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Terrazo and paving	TBA	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Terrazo and paving	TBA	Manual Handling injuries	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Terrazo and paving	TBA	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Terrazo and paving	TBA	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Carpet and vinyl													Open	

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Carpet and vinyl	TBA	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Handrails systems installed all edges. Penetrations covered as per GMRs and warning signage installed. No work where fall risks exist.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Carpet and vinyl	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Carpet and vinyl	TBA	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Carpet and vinyl	TBA	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Carpet and vinyl	TBA	Manual Handling injuries	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Carpet and vinyl	TBA	Injury from hand held tools and equipment	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.7 Impact from moving parts of machines		All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Internal joinery and fit out i.e. doors, cabinets etc													Open	
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Temporary fall protection must be in place openings/penetrations. (Handrails mesh/netting etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Permit to Work in place for drill, cut or coring. Physical mechanical protection of at risk services.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Internal joinery and fit out i.e. doors, cabinets etc	Top Knot	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Building signage													Open	
Building signage	TBA	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Temporary fall protection must be in place openings/penetrations. (Handrails mesh/netting etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Building signage	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind perimeter screens, edge protection etc. Consideration to installing secondary catch systems i.e. fans, diaper netting or overhead protection decking (see WDC guideance). Perimeter Exclusion Zones (PEZ) to be established - no loose tools, equipment, materials etc to be in the PEZ (see WDC guideance). All tools, materials etc at risk of falling to areas below to be tethered. Fall risk areas to be exclusion zones. Fall risk area exclusion zones to have physical barriers in place with warning signs and spotters. MEWP work to have competent HRWL operators, and containment and tethering for tools and equipment.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Building signage	TBA	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Building signage	TBA	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Building signage	TBA	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Permit to Work in place Physical mechanical protection of at risk services	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Building signage	TBA	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Building signage	TBA	Injury from hand held tools and equipment	C Possible	3 Medium	9	Controls required in column K	4.7 Impact from moving parts of machines	Yes	All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Building signage	TBA	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Building signage	TBA	Failure of supporting structure resulting in fall of materials	C Possible	4 Large	12	Controls required in column K	4.9 Failure of structures (temporary or permanent), 4.17 Failure of fixtures or fittings	Yes	All structure approved for installation requirments by engineer. All signs engineer designed for installation requirements and certified for structural and wind loads. All fixings rated and tested for load requirements. Inspection and test procedures and documentation provided. Procedures to installation and use of fixture/fittings developed, personnel trained.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS 1170.0 Structural design actions - General principles
Builders clean													Open	
Builders clean	JLP Cleaning	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. All equipment checks as per plant and equipment checklists. Competent / licensed operators of plant and equipment. Temporary fall protection must be in place openings/penetrations	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Please refer to Risk ID ARCH 23 of the PROA	JLP Cleaning												Open	
RPlease refer to isk ID ARCH 25 of the PROA	JLP Cleaning	Cleaning and maintenance of building											Open	
Builders clean	JLP Cleaning	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All work from behind screens, curtain wall or approved edge protection. All tools and materials at risk of falling to areas below tethered and secured or outside Perimeter Exclusion Zones (PEZ). PEZ areas delineated/marked. All rubbish removed at least daily. Stored until removal appropriately	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Builders clean	JLP Cleaning	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Builders clean	JLP Cleaning	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Builders clean	JLP Cleaning	Service strikes by plant or equipment to live services resulting in injury or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Live services to be identified and protected. Minimum safe distances to be maintained from live services e.g overhead powerlines. Spotter to be used in high risk activities. Permit to Work in place Physical mechanical protection of at risk services. Plant & equipment operators competent and trained, HRWL as required.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work Chapter 5 Plant & Structures AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Builders clean	JLP Cleaning	Manual Handling injuries	C Possible	3 Medium	9	Controls required in column K	4.10 Occupational health exposure	Yes	Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Builders clean	JLP Cleaning	Injury from hand held tools and equipment	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP			All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Builders clean	JLP Cleaning	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Builders clean	JLP Cleaning	Pollution associated with the washdown/hosing/pressure clearning of hard surfaces and the entry of dirty water to the stormwater system.	C Possible	4 Large	12	Controls required in column K, SWMS	4.13 Degradation and pollution of the environment		Install controls around stormwater inlets and drains to prevent the entry of polluted washwater. Collect washwater for reuse, recycling or disposal. Spill kit to be available close by. Retain dockets for water disposal.	2. Administration	Daily.	Foreman Site and project Engineers	Open	Relevant State Environmental Legislation incldng Protection of the Environment Operations Act NSW 1997
Window cleaning													Open	
Window cleaning	TBA	Fall from height resulting in injury or fatality.	C Possible	5 Very Large	15	Controls required in column K	4.1 Fall of person	Yes	Use of mobile scaffold, scissor lifts, boom lifts etc for high access requirements. All equipment checks as per plant and equipment checklists. BMU and stages engineer designed and certified, operated as per manufacturer instructions. Personnel trained. Competent / licensed operators of plant and equipment. Temporary fall protection must be in place openings/penetrations. (Handrails mesh/netting etc). Fall arrest systems as primary protection by exception and authorisation.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls Managing the risk of falls at workplace - Code of practice

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Window cleaning	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	All works to be undertaken from protected locations behind handrails or other edge protection etc where preacticable. Entire area of works to be an exclusion zone where works are being conducted overhead or there is the possibility of materials falling from height. All items including tools and materials to have appropriate means of restraint when working in close proximity to areas where falls of materials are possible. No ladders or steps etc on balconies or landings. Window cleaning products are to be non-hazardous. All plant used for access to be appropriate and inspected, maintained and test as noting in this risk assessment.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 4.4 Falls - Part 3. Division 7. Scaffolds, gantries, hoardings & barricades and formwork Managing the risk of falls at workplace - Code of practice
Window cleaning	TBA	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	All circuits / wiring is to be RCD protected and tested as per GMR requirements. Electrical tools and equipment tested and tagged 3 monthly by electrician. All electrical tools and PSOAs industrial rated (no domestic). Live services to be clearly marked with danger tape and Major Areas of Concern (MAC) areas to be sign posted. Permit to Work as required/appropriate. DBYD/As Built review as required. Review of overhead powerlines as required for task. Electrical equipment to be kept dry and out of water/wet areas at all times.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Window cleaning	TBA	Collision with or by mobile plant or equipment causing injury or damage	C Possible	5 Very Large	15	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.9 Failure of structures (temporary or permanent), 4.1 Fall of person, 4.2 Fall of material/object	Yes	Traffic and Parking Management Plan in Place. Traffic controllers in place. Exclusion zones in place. Dedicated radio frequency for mobile plant operations / crane operations. Spotter in place as required. Operator competent and hold appropriate license.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Plant in the workplace-Guidance note Powered mobile plant-Guidance note
Window cleaning	TBA	Manual Handling injuries	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Where possible use mechanical means of unloading i.e. use of plant such as forklist to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training. Load shifting equipment inspected and tested as per GMR requirements.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Window cleaning	TBA	Injury from hand held tools and equipment	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP			All hand held tools and equipment operated to manufacturers requirements/instructions. Personnel trained to use including manufacturer instructions. All guards and protective devices in place as designed. Double eye protection for high speed cutting equipment. Permit to work as required for equipment, areas or risks. All tools and equipment maintained by competent personnel. All electrical tools and equipment tested and tagged 3 monthly.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 AS/NZS 3012 Electrical installation Construction & Demolition sites AS/NZS 3760 In-service safety inspection and testing of electrical equipment Safeguarding of machinery and plant – Code
Window cleaning	TBA	Failure of plant or equipment resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.6 Crane and hoisting equipment incident, 4.2 Fall of material/object, 4.9 Failure of structures (temporary or permanent)	Yes	All plant and equipment to be used in accordance with the manufacturers recommendations and/or specifications. Only qualified / competent persons are to operate plant and equipment. includes HRWL as required. Appropriate exclusion zones for the works being undertaken are to be erected prior to works commencing and monitored throughout the duration of the works. All plant & equipment entering site must be documented in the plant & equipment register. Plant & equipment to be inspected before use.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Safeguarding of machinery and plant – Code Plant in the workplace-Guidance note Powered mobile plant-Guidance note Aust Standards - Various
Window cleaning	TBA	Exposure to hazardouse substances	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP			Use non-hazardous substances as priority. MSDS/SDS to be provided, requirements followed including storgage and handling, PPE, waste and clean up management etc.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 - Part 3. Div. 5 Hazardous substances Control of Workplace Hazardous Substances [NOHSC:2007(1994)] - Safe Work Australia Preparation of Material Safety Data Sheets [NOHSC:2011 (2003)]- Safe Work Australia
Landscaping & irrigation works													Open	
Landscaping & irrigation works	TBA	Mobile plant contact with pedestrians causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Traffic and Parking Management Plan in Place Traffic controllers in place Spotters where required Plant / pedestrian separation via jersey kerbs Pedestrian routes established, signposted and protected with jersey kerbs Plant and pedestrian rules delivered during site inductions	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia
Landscaping & irrigation works	TBA	Collision between mobile plant or light vehicle vs mobile plant items causing injury or damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Excavation permit implemented. Battering/benching/shoring completed all excavations. Berms/barricades/wheel stops provided all excavations. Mobile plant & equipment maintain minimum safe distances (exclusion zones) from piling/boring equipment. Spotters for vehicle/plant movements. Communication procedures developed/implemented. Pile holes not left open e.g. covered or barricaded. Ground conditions monitored for shifts, movement or collapse.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures Site traffic management plan

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

					Formula in Cell ↓	Formula in Cell ↓	Formula in Cell ↓	Formula in cell ↓						
Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating	Controls Required?	Applicable GMR 4 Risk Event	Preventive & Mitigating Controls Required?	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Landscaping & irrigation works	TBA	Mobile plant incident involving drowning	D Unlikely	4 Large	8	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.18 Drowning	Yes	Mobile plant to have SWMS developed that includes works adjacent to waters edge. Ground conditions for mobile plant to be specifically reviewed by competent person/engineer for rollover risk. No work alone over or adjacent to water edge. Lift vests for workers over water. Life saving equipment available e.g. life ring/rope, rescue board, floatation device.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Div 9. Sub.Div.6. Excavations & Earthworks Work Health and Safety Reg 2017 Chapter 5 Plant & Structures Work Health and Safety Reg 20173.30 & 3.31 and other Emergency Regulations noted Excavation – Code Powered mobile plant-Guidance note
Landscaping works	TBA	Roll over of plant item causing injury, environmental harm or property damage	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites)	Yes	ROP/FOPS installed as a mandatory requirement Plant inspection checklists to confirm ROPS/FOPs installation SWMS in place for works Operator verification of competence Traffic management plan developed. Ground conditions monitored daily by competent person. Daily communication at prestart meeting.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	LLB Foreman Subcontractor Supervisor	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures
Landscaping works	TBA	Impact to structure causing damage	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.3 Vehicle and plant incident (work sites)		Traffic and Parking Management Plan in Place Traffic controllers in place	4. Isolation	Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures
Landscaping works	TBA	Collapse of excavation resulting in injury or fatality or damage	C Possible	4 Large	12	Controls required in column K	4.8 Excavation and stockpile collapse	Yes	Geotechnical reviews completed as required. competent person assesses ground conditions daily. Excavations greater than 1m must be benched/shored/battered or sloped to meet qualified engineer design. Where not possible, mechanical shoring to be used. Pumps/dewatering to remove water/prevent build up designed by a qualified engineer. Dewatering as per dewatering plan. Excavated material placed minimum safe distance from excavation. Plant and equipment away from excavation boundary. Spoil and plant locations to consider zone of influence impact or a ground support system implemented. Exclusion zones and spotters. Escape ways from excavations established with safe access/egress.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Excavation Work Code of Practise
Landscaping works	TBA	Fall from height (plant) resulting in injury or fatality.	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.1 Fall of person, 4.2 Fall of material/object, 4.8 Excavation and stockpile collapse		Excavations as per GMR 4.8 Excavation and stockpile collapse. Excavations and trenches to barricaded. Fall risks >1.5m to have handrails or other fall prevention barrier. Includes mobile plant maintenance. Warning signage installed. Safe access onto plant or equipment for operation, inspection and maintenance. e.g. use of platform ladders.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice Excavation – Code Powered mobile plant-Guidance note AS 2294 Earth-moving machinery — Protective structures
Landscaping works	TBA	Fall of materials, equipment or tools from height resulting in injury or damage	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.2 Fall of material/object, 4.8 Excavation and stockpile collapse		Earth moving plant to have compliant ROPS/FOPS installed. Entire area of works to be an exclusion zone with barricades where works are being conducted overhead or there is the possibility of materials falling from height. Mobile excavating plant used as crane must meet GMR/regulator requirements including anti-burst valving, SWL marking, load charts, engineered approved lifting point, dogman conducting lifts etc. Lifting equipment registers provided competent person completes monthly.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice Excavation – Code Powered mobile plant-Guidance note AS 2294 Earth-moving machinery — Protective structures
Landscaping works	TBA	Manual Handling injuries	C Possible	2 Small	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		Where possible use mechanical means of unloading i.e. use of plant such as forklift to remove materials. Minimise load sizes, consider work/task rotation, use of tools such as trolleys etc. All workers are to conduct works using correct manual handling procedures and/or SWMS/JSA. All workers undertaking high risk manual handling tasks completed manual handling training	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulation 2017 Powered mobile plant-Guidance note Hazardous Manual Tasks - Code of practice
Landscaping works	TBA	Exposure to contaminates/hazardous materials etc resulting in injury or illness	C Possible	4 Large	12	Controls required in column K	4.10 Occupational health exposure	Yes	The LL Unexpected Finds protocol is to be adhered to in the event of exposure of unidentified services or substances and/or materials (I.e. Hazardous, Asbestos, Contamination, Archaeological) are located during the processes of excavation. All excavation as per LL excavation permit requirements. Excavation into uncontrolled fill levels to be reviewed and appropriate PPE worn including dust masks. Environmental consultant monitoring excavation works.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Part 3. Div 5. Hazardous substances Environmental Protection Regs. 1987 Environmental Protection (Controlled Waste) Regs. 2004 LLB Unexpected Finds protocol SMP requirements Environmental Subplan (various) Management Plan
Landscaping works	TBA	Community complaints due to noise	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.11 Public health exposure		Development and inclusion of noise reduction barriers, curtains, attenuating devices etc including Noise Control policy and Buy Quite Policy. SMP and LL noise management plan requirements implemented. Community hotline established. Deliveries / Load out to be planned and managed in compliance with site TMP, operational hours and rules. Any out of hours works minimised including deliveries and shall only be carried out with the permission of LL. Noise management requirements to include parked trucks turned off. Environmental noise monitoring at boundary.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Relevant State Government Environment Legislation including: Protection of the Environment Operations Act 1997 (NSW) Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000 EHS Subplan Noise & Vibration Managing noise at workplaces – Code

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Landscaping works	TBA	Incidents due to out of sequence works resulting in injury, environmental damage or damage to plant, equipment or structures	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Subcontractor Work to Proceed completed in timely manner including SWMS review as required. Builders briefs issued daily Subcontractor coordination meetings held weekly LL excavation permits issued, as con dwg or DBYD reviewed. Permit to work procedures completed and signed off before commencing. The LL Unexpected Finds protocol is to be adhered to in the event unidentified substances (I.e. Hazardous, Asbestos, Contamination, Archaeological) are located during the processes of excavation. Exclusion zones and spotters. SWMS review and worker briefing completed.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Relevant State Government Environment Legislation including: Protection of the Environment Operations Act 1997 (NSW) Environmental Planning & Assessment Act 1979 Environmental Planning & Assessment Regulation 2000Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia AS 2294 Earth-moving machinery — Protective structures
Landscaping works	TBA	In-ground services strike including electrical, gas, telecom, water, sewer causing injury, fatality or damage.	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy, 4.15 Uncontrolled release of stored energy (non-electrical)	Yes	Dial Before Your dig or similar obtained including AS Built dwg reviews. Live services to be identified and protected. Permit to work obtained. Minimum safe distances to be maintained from live services. Spotter to be used in high risk activities and close operations or as directed by LL or service/asset owner. Hand excavation if uncertainty exists around service location. Use of non-invasive excavation permitted for location activities e.g. hydro-suction. All inground services positively identified before the use of mechanical equipment. Spotter required. Permit to Work in place Physical mechanical protection of at risk services	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management & Reg 3.21 (Services) Emergency Response Plan
Landscaping works	TBA	Mechanical failure of plant item resulting in injury, or damage (including environmental)	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.3 Vehicle and plant incident (work sites)		Daily prestart checks Plant inspection checklist implemented Maintenance records held on file for all plant items Maintenance tracked and recorded on plant register for plant items Plant maintained in line with manufacturer requirements MET procedure and MET tag in place Manufacturer operating manual in place, operator competent.	2. Administration	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist Plant Inspection Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant AS 2294 Earth-moving machinery protective structures Powered mobile plant guidance note Plant in the workplace guidance note
Landscaping works	TBA	Fire or explosion during refuelling or mobile plant causing injury and/or damage	D Unlikely	4 Large	8	Controls required in column K	4.5 Fire and explosion	Yes	Refuelling procedure established Fire extinguishers located adjacent No hot refuelling (plant items still running) Offsite refuelling services used e.g. mini tankers	5. Substitution	Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Reg 2017 Chapter 3 General Risk & Workplace Management Work Health and Safety Reg 2017 Part 4 Plant AS 2294 Earth-moving machinery protective structures Powered mobile plant guidance note Plant in the workplace guidance note Emergency Response Plan Waterbank
Remove site accommodation buildings													Open	
Remove site accommodation buildings	LLB	Fall from height resulting in injury or fatality.	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.1 Fall of person		Works completed from ground level only. Roof level works if required completed from MEWP/platform Ladder. Alternatively review use of temporary handrail system.	6. Elimination	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Work Health and Safety Reg 2017 Part 3. Div. 7 Scaffolds, gantries, hoardings and barricades and formwork AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Remove site accommodation buildings	LLB	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	3 Medium	9	Controls required in column K	4.2 Fall of material/object	Yes	Works completed from ground level wherever possible Roof level works if required completed from MEWP/Scaffold Ladder. Competent crane crews independently VOC'd used MET procedure implemented for all cranes Lifting and slinging equipment tested and tagged Exclusion zones established.	6. Elimination	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Work Health and Safety Reg 2017 Part 3. Div. 7 Scaffolds, gantries, hoardings and barricades and formwork AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Remove site accommodation buildings	LLB	Work on or near energised electrical installations or services.	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP	4.4 Uncontrolled release of electrical energy		Develop safe work procedures and induct workers prior to commencing. Compliance with electricity regulator requirements e.g. tiger tails and/or isolation of supply. No live work permitted. Excavation permit requirements followed and permit issued.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 WA Work Health and Safety Reg 2017 Chpt 4. Part 4.7 General Electrical Safety in Workplaces and Energised Electrical Work AS/NZS 3012 Electrical installation Construction & Demolition sites
Remove site accommodation buildings	LLB	Mobile plant and transport incidents resulting in injury or damage i.e. Plant vs. Person, Plant vs. Light Vehicle, Plant vs. Plan	C Possible	4 Large	12	Controls required in column K	4.3 Vehicle and plant incident (work sites), 4.14 Vehicle and plant incident (public areas)	Yes	Traffic and Parking EHS sub plan in place. Segregation/separation pedestrian and plant movement Segregation via barriers i.e. jersey kerb. Designated delivery/unloading zones. Delivery entry/exit procedure. Mobile plant checklist and plant register completed/provided. Mobile plant quick hitch safety pins installed - all applicable plant. SWMS mobile plant and SWMS review checks completed. Prestart completed and recorded, provided on request. Traffic control personnel directing movements.	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 3. General Risk and Workplace Management Traffic Management Guide - Construction Work SafeWork Australia

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Remove site accommodation buildings	LLB	Out of Sequence Work	D Unlikely	2 Small	4	Controlled via WDC, SWMS or SWP	4.4 Uncontrolled release of electrical energy		Subcontractor Work to Proceed completed in timely manner including SWMS review as required. Plant inspection checklists provided. Permits completed and issued i.e. excavation. No work of the roof of structures without edge protection. No lifting from the roof of the temporary buildings. Builders briefs issued daily Subcontractor coordination meetings held weekly	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017
Remove site accommodation buildings	LLB	Use of hand held equipment and tools	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.4 Uncontrolled release of electrical energy		WDC, SWMS or SWP	2. Administration	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017 including Plant, Electricity, Noise and PPE.
Remove site accommodation buildings	LLB	Impact from Noise/Vibration	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		WDC, SWMS or SWP.	4. Isolation	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017
Removal of temporary supplied electrical and/or data services across site														
Removal of temporary supplied electrical and/or data services across site	LLB	Contact with electricity causing injury or fatality	C Possible	4 Large	12	Controls required in column K	4.4 Uncontrolled release of electrical energy	Yes	LOTO procedure implemented Live work restriction enforced Safe Work Method Statement in place, workers inducted into content Calibrated meters is use by electrical contractor Electrical equipment Inspection and Testing Procedure implemented AS3012 wiring standards implemented Low voltage lighting installed for access lighting Use of electrically rated platform ladders	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	AS/NZS 3012:2010 Electrical installations - Construction and Demolition Sites WHS Reg 2017 - Chpt 4 Part 4.7 COP - Managing electrical risks in the workplace LLB - Electrical Equipment Inspection and Testing Procedure
Removal of temporary supplied electrical and/or data services across site	LLB	Manual Handling injuries	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP			WDC, SWMS or SWP		Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Work Health and Safety Act 2011 WHS Regulations 2017 COP - Hazardous manual tasks
Removal of temporary supplied electrical and/or data services across site	LLB	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Work from behind handrail or screen systems at all times. Use of MEWP or electrically rated platform ladder. Personnel trained and competent including HRWL for MEWP. Remain clear or PEZ where established and no screening protection provided. Use of ladders (step & straight) by risk assessment and approval only. Develop SWMS for unresolved fall risks. Use of fall prevention harness as last resort and by approval.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Work Health and Safety Reg 2017 Part 3. Div. 7 Scaffolds, gantries, hoardings and barricades and formwork AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding COP - Managing the risk of falls at workplace
Removal of temporary supplied electrical and/or data services across site	LLB	Fall of materials, equipment or tools from height resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Floor to soffit live edge protection. Use of exclusion zones where works occurring at height. Spotters in place. Tools and helmets and equipment lanyarded. Use of screens on formwork working and trailing decks. Tools and equipment on lanyards where fall risks exist. PEZ established.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Managing the risk of falls at workplace - Code of practice
Removal of temporary supplied plumbing/hydraulic services													Open	
Removal of temporary supplied plumbing/hydraulic services	LLB	musculoskeletal injury	D Unlikely	3 Medium	6	Controlled via WDC, SWMS or SWP	4.10 Occupational health exposure		WDC, SWMS or SWP		Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Hazardous Manual Tasks - Code of practice
Removal of temporary supplied plumbing/hydraulic services	LLB	Fall from height resulting in injury or fatality.	C Possible	4 Large	12	Controls required in column K	4.1 Fall of person	Yes	Work from behind handrail or screen systems at all times. Use of MEWP or electrically rated platform ladder. Personnel trained and competent including HRWL for MEWP. Remain clear or PEZ where established and no screening protection provided. Use of ladders (step & straight) by risk assessment and permit approval only. Use of fall prevention harness as last resort and by approval.	3. Engineering	Daily HRWC, Daily Subcontractor Inspections. Safety Observations daily, Inspections & Audits	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Work Health and Safety Reg 2017 Part 3. Div. 7 Scaffolds, gantries, hoardings and barricades and formwork AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding
Removal of temporary supplied plumbing/hydraulic services	LLB	Injury from fall of Materials/Objects	C Possible	4 Large	12	Controls required in column K	4.2 Fall of material/object	Yes	Floor to soffit live edge protection. Use of exclusion zones where works occurring at height. Spotters in place. Tools and equipment including PPE lanyarded. Use of screens on formwork working and trailing decks. Tools and equipment on lanyards where fall risks exist. PEZ established.	3. Engineering	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	LLB Foreman Subcontractor Supervisor	Open	Section 19 Work Health and Safety Act 2011 Work Health and Safety Reg 2017 Part 4.4 Falls Work Health and Safety Reg 2017 Part 3. Div. 7 Scaffolds, gantries, hoardings and barricades and formwork AS 1576 (series): Scaffolding AS 1577: Scaffolding decking components AS/NZS 4576 Guidelines for scaffolding

Workplace Impacts and Hazards Risk Assessment

Hierarchy of Control		Control Selections	
6. Elimination	15	%Controls ≥ Engineering	70%
5. Substitution	15	%Controls < Engineering	30%
4. Isolation	15		
3. Engineering	245	←Check formulas in L2-L7 if you add rows to ensure range is correct	
2. Administration	125		
1. PPE	0		

Workplace Location:	Fort Street Public School
Issue Number:	1.8
Issue Date:	3/06/2022

Activity Description	Responsible Contractor	Hazard / Impact (Worst Credible Consequence)	Likelihood	Consequence	Risk Rating (Formula in Cell ↓)	Controls Required? (Formula in Cell ↓)	Applicable GMR 4 Risk Event (Formula in Cell ↓)	Preventive & Mitigating Controls Required? (Formula in cell ↓)	Critical Control Measures	Hierarchy of Control Highest Level Control?	Monitoring Frequency?	Action by whom (Title)	Status	Legal and other requirements
Removal of temporary supplied plumbing/hydraulic services	LLB	Failure of pipework, pipe joints or equipment during pipework pressure test resulting in injury or damage	C Possible	4 Large	12	Controls required in column K	4.15 Uncontrolled release of stored energy (non-electrical)	Yes	All test equipment appropriate for test and certified, inspected and maintained. Exclusion zones with warning signs established around test equipment. Procedures for testing and maintenance developed, personnel trained. Testing completed out of hours where possible to reduce risk. Exclusions zones, spotters or warning signs considered.	4. Isolation	Daily HRCWC Daily subcontractor observations Weekly EHS walk Monthly Site EHS Checklist	Site Manager Subcontractor Manager Foreman and Supervisors EHS Coordinator Site & Project Engineer	Open	WHS Act 2011 WHS Regulation 2017 Plant in the workplace-Guidance note AS 2419.1 - Fire hydrant installations AS 2118.9 - Automatic fire sprinkler systems
													Open	
													Open	
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													Open	
Activity													Open	
													Open	
													Open	

Appendix H – EHS Site Inspection Checklist and Weekly Inspection Form

ENVIRONMENT, HEALTH AND SAFETY

EHS WEEKLY SITE INSPECTION FORM

Project:		Date:	
Inspection		Area:	

Persons present on this workplace inspection:			
Name	Company	Role	Signature

Other Comments

ITEM	CLASSIFY ALL ITEMS (✓- INSPECTED OR X - NOT INSPECTED / N/A)	✓	X	N/A	ITEM	CLASSIFY ALL ITEMS (✓-INSPECTED OR X -NOT INSPECTED / N/A)	✓	X	N/A	ITEM	CLASSIFY ALL ITEMS (✓-INSPECTED OR X -NOT INSPECTED / N/A)	✓	X	N/A
1	Access - Clear/Non-slip/Designated/Signage.	☐	☐	☐	13	**Excavation** - services identified (depth)/ barricades/shoring/ benching/ battering/ adjacent structures, foundations, plant, materials/ access	☐	☐	☐	25	**Heavy Vehicle/CoR** - Mass/Load/Vehicle Standards compliance/measurement devices in use, weighbridge dockets checked, incidents recorded.	☐	☐	☐
2	**Amenities** - Clean/Adequate.	☐	☐	☐	14	**Exclusion zones -** in place below work at height	☐	☐	☐	26	**Hoist** - maintenance/handover certificate/logbook.	☐	☐	☐
3	**Certificates of competency -** random checks, forklift or other.	☐	☐	☐	15	**Fall of Materials** – works within 3m of live edge has adequate containment or tools/materials/ equipment tethered.	☐	☐	☐	27	**Hot works** – permit issued & followed/flashback arresters/fire extinguishers /clothing /PPE.	☐	☐	☐
4	**Confined Space** – identification/register/ training/Entry Permit/retrieval	☐	☐	☐	16	**Falling objects** - overhead protection/ hoarding/public protection, safety helmets.	☐	☐	☐	28	**Housekeeping** -rubbish removal/litter/debris, slip/ trip hazards.	☐	☐	☐
5	**Cranes** - logs/maintenance/plant registration/anti climb/Security	☐	☐	☐	17	**Fencing/site security** - warning signage, PPE, display of after hours emergency contact details	☐	☐	☐	29	**Lasers** - warning signage, PPE	☐	☐	☐
6	**Consultation**/ Committee/ Rep. meetings/ attendance/minutes displayed.	☐	☐	☐	18	**Formwork** - catch decks/min two plank wide platforms.	☐	☐	☐	30	**Lift Boxes**/brick cages/bins/chains/slings certification / inspection.	☐	☐	☐
7	**Demolition** - licensing/services/felling methodology/SWMS/waste recorded and tracked	☐	☐	☐	19	**First Aid treatments** – records and reporting.	☐	☐	☐	31	**Lift penetrations** - covered/caged and securely locked/mechanically fixed.	☐	☐	☐
8	**Electrical sub-boards**-secure (attached to ground) /lockable lid/RCD/tested and tagged.	☐	☐	☐	20	**First aid facilities/kit -** stocked/trained personnel	☐	☐	☐	32	**Lighting**-Levels acceptable.	☐	☐	☐
9	**Electrical equipment** - tagged/residual current device/leads elevated above head height or protected against mechanical damage.	☐	☐	☐	21	**Fire extinguishers/hose reels** - serviced/ signage/location/register	☐	☐	☐	33	**Masonry walls** (newly laid) - temp bracing.	☐	☐	☐
10	**Elevated work platform** - log book/competency	☐	☐	☐	22	**Handrails/**mid-rails/ toe-boards/ mesh/ brick-guards in place	☐	☐	☐	34	**Manual Handling** - trolley/mechanical aid/work flow.	☐	☐	☐
11	**Emergency** - evacuation plan/contact numbers/ Evacuation Diagram displayed & current.	☐	☐	☐	23	**Haz Chems incl Dangerous Goods** stored in designated areas, signs displayed, different gases min 3m apart unless classified minor storage.	☐	☐	☐	35	**Noise levels** (occupational exposure) - testing, signage, high risk areas identified, signage	☐	☐	☐
12	**Emergency exits** - easily identifiable and clear of obstruction.	☐	☐	☐	24	**Haz Chems (products, materials, substances)** - register/risk assessment/SDSs/ dedicated storage areas, compatible storage	☐	☐	☐	36	**Penetrations** – adequate load bearing covers mechanically fixed and Danger labelled	☐	☐	☐

ITEM	CLASSIFY ALL ITEMS (✓- INSPECTED OR X - NOT INSPECTED / N/A)	✓	X	N/A	ITEM	CLASSIFY ALL ITEMS (✓-INSPECTED OR X -NOT INSPECTED / N/A)	✓	X	N/A	ITEM	CLASSIFY ALL ITEMS (✓-INSPECTED OR X -NOT INSPECTED / N/A)	✓	X	N/A
37	**PPE** – safety helmet/boots/ protective eyewear/gloves. Task Specific PPE e.g. dust mask	☐	☐	☐	48	**Scaffold Mobile** -complete/ guardrails /bracing/ toe-boards/ ladder.	☐	☐	☐	59	**Community**- informed, consulted, complaints register and actions	☐	☐	☐
38	**Plant** – inspection/maintenance/guarding/log book	☐	☐	☐	49	**Tilt-up** or precast -bracing/engineering certification	☐	☐	☐	60	**Dust**- stockpiles managed, site roads stable/sealed, speed limits displayed, water sprays/controls in place, no visible dust leaving site	☐	☐	☐
39	**Plant (mobile**) - spotter/high visibility clothing/separation of pedestrians/ proximity to power lines/flashing beacon/reversing alarm/reversing camera.	☐	☐	☐	50	**Toolbox Talks** -training of employees and records.	☐	☐	☐	61	**Energy**- conservation of electricity, lighting/timers/type (low energy), fuel, plant maintenance	☐	☐	☐
40	**Plant (fixed)** – adequate guarding to moving parts and catch points	☐	☐	☐	51	**Traffic control** - signage/ticketed controller/high viz clothing/protection of work areas.	☐	☐	☐	62	**Erosion/Sedimentation**- disturbed areas stabilised, stormwater flow controls in place, sed fences and controls in operable condition, detention areas maintained.	☐	☐	☐
41	**Plant (high risk)** – SafeWork/WorkSafe Rego, e.g. lifts, mobile cranes > 10t, tower cranes, concrete boom pump	☐	☐	☐	52	**UV exposure** -Sunscreen/UV protection/Policy displayed/shirts worn.	☐	☐	☐	63	**Excavated Materials** - classified, dockets & traceability, transport to lawful facility/location	☐	☐	☐
42	**Platform ladders** - condition/safe use/industrial rated/labels/3 points of contact.	☐	☐	☐	53	**Ventilation**.	☐	☐	☐	64	**Fauna** -identified, escape ramps in trenches	☐	☐	☐
43	**Polices**: EHS, Bullying/Harassment, D&A, Injury Man & RTW, Noise, Smoke Free, Drug & Alcohol	☐	☐	☐	54	**Visitors register** – available, used	☐	☐	☐	65	**Flora/Trees** - protected, tree drip line limits observed with no storage under, 'no entry' areas identified and fenced with signage	☐	☐	☐
44	**Reinforcement-** starter bars capped/protected.	☐	☐	☐	55	**Void Platform -** stairwell or other	☐	☐	☐	66	**Groundwater**- de-watering monitoring, reused.	☐	☐	☐
45	**Rigging and control of loads** - wind/tag line/communications.	☐	☐	☐	56	**Work at height** -fall protection systems/training records.	☐	☐	☐	67	**Heritage**- consultation, protection	☐	☐	☐
46	**Safety harness** - approved anchor/training/fall arrest retrieval plan.	☐	☐	☐	57	**Work platforms**-complete/duty rating.	☐	☐	☐	68	**Housekeeping/Visual**- areas tidy, shade cloth, tracking controlled, storage areas free of spills/leaks	☐	☐	☐
47	**Scaffold** > 4m - Handover Certificates/inspection max 30 days.	☐	☐	☐	58	**Air** - odours, exhaust, plant maintained, control measures in place, complaints	☐	☐	☐	69	**Haz Chem**- roofed, bunded storage, spill kit stocked	☐	☐	☐

ITEM	CLASSIFY ALL ITEMS (✓- INSPECTED OR X - NOT INSPECTED / N/A)	✓	X	N/A	ITEM	CLASSIFY ALL ITEMS (✓-INSPECTED OR X -NOT INSPECTED / N/A)	✓	X	N/A	ITEM	CLASSIFY ALL ITEMS (✓-INSPECTED OR X -NOT INSPECTED / N/A)	✓	X	N/A
70	**Noise**- working hours/compliance with approval, construction noise levels checked, complaints managed	☐	☐	☐	82		☐	☐	☐	94		☐	☐	☐
71	**Noxious Weeds**- identified, quarantined, vehicle wash down facilities	☐	☐	☐	83		☐	☐	☐	95		☐	☐	☐
72	**Stormwater**- polluted stormwater retained onsite, dewatering plan prepared, control measures maintained and reviewed	☐	☐	☐	84		☐	☐	☐	96		☐	☐	☐
73	**Unexpected Finds** – hazardous material/ relic/ heritage/other	☐	☐	☐	85		☐	☐	☐	97		☐	☐	☐
74	**Vehicle Entry/Exit** -roadway clean, loads covered, washdown areas not causing pollution	☐	☐	☐	86		☐	☐	☐	98		☐	☐	☐
75	**Vibration**- levels monitored, structures protected	☐	☐	☐	87		☐	☐	☐	99		☐	☐	☐
76	**Waste**- covered, bins for all waste streams, emptied, skips packed to maximise usage (i.e., no negative space)	☐	☐	☐	88		☐	☐	☐	100		☐	☐	☐
77	**Water**- leaks fixed, efficient use	☐	☐	☐	89		☐	☐	☐	101		☐	☐	☐
78		☐	☐	☐	90		☐	☐	☐	102		☐	☐	☐
79		☐	☐	☐	91		☐	☐	☐	103		☐	☐	☐
80		☐	☐	☐	92		☐	☐	☐	104		☐	☐	☐
81		☐	☐	☐	93		☐	☐	☐	105		☐	☐	☐

Item	Work/Hazard	Specific Area	Rating	Action By	Date to be completed by	Sign Off	Completed Date
	Walk commenced at:						

Item	Work/Hazard	Specific Area	Rating	Action By	Date to be completed by	Sign Off	Completed Date

Guidance for use:

This weekly EHS inspection is an important part of the EHS monitoring and review activity for the workplace identified in the table above. Please note the following:

- Risk assessment in Lendlease Building follows the process outlined in the Lendlease Building EHS Risk Management Procedure
- Impacts or Hazards identified and noted on the EHS Weekly Site Inspection form are to be rectified by the subcontractor / responsible person whose name is listed in the 'Action By' column next to each item.
- Impacts or Hazards are to be assessed using the following table:

Rating		Actual or Potential EHS Consequence
5	**Very Large**	Fatality due to occupational injury/illness, kidnapping of an employee, evacuation of employees due to threat of fatality. Irreversible on-site and/or off-site environmental damage, on site and/or off-site damage with clean up remedy work incurring a very large impact, i.e. Significant Environmental Impact: Permanent long term and extensive environmental damage, causing material harm to the environment.
4	**Large**	Injury or occupational illness that results in a permanent disability. Treatable on-site and/or off-site environment damage with clean up or remedy work incurring a large impact i.e. significant environmental impact: Permanent but localised environmental harm, causing material harm to the environment.
3	**Medium**	Injury or Occupational illness that results in lost time injury resulting in temporary disability; Significant environmental impact: Long term damage or pollution or degradation; clean up remediation or rehabilitation will require greater than 1 month, causing material harm to the environment.
2	**Small**	Occupational injury or illness that results in off-site medical treatment with no lost time injury. Short term localised damage or pollution or degradation; clean up remediation or rehabilitation will require up to 1 month, not causing material harm to the environment.
1	**Very Small**	Injury or occupational illness that results in on-site first aid treatment, minor on-site environmental damage, pollution or degradation event; clean up remediation or rehabilitation will require less than 24 hours, not causing harm to the environment.

- 'Medium', 'Large' and 'Very Large' potential consequence impacts or hazards are to be rectified or made safe immediately you are notified. Items identified as having a 'Small' potential consequence are to be actioned immediately or at least within 24 hours. Impacts or hazards with 'Very Small' potential consequence are to be rectified within a reasonable time frame but in advance of the next EHS Weekly Site Inspection.
- If 'Medium', 'Large' or 'Very Large' hazards are not rectified in the time specified, Lendlease Building may undertake this work for you, at your cost (Refer clause 2.3.22 'Schedule of Safety Requirements' of the contract)
- If you believe any of the items listed for your action are not in fact your company's responsibility, please contact the Lendlease General Foreman/Foreman for your area immediately.
- The Site Manager (or other person nominated by the Construction Manager) shall ensure the requirements of the Lendlease Global Minimum Requirements and Workplace Delivery Code are included in the inspection and the workplace is compliant with their requirements.