Construction Environmental Management Plan

Parramatta Light Rail Stage 1: Package 2 (Westmead Precinct Works)

PLR-HAC-HRW-PE-PLN-000001 (Revision 6)

NSW GOVERNMENT

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Construction Environmental Management Plan

Parramatta Light Rail – Stage 1
Package 2 (Westmead Precinct Works)

February 2020

Document control

Title	Parramatta Light Rail – Stage 1 Construction Environmental Management Plan
Prepared by	[redacted]
Signed	
Dated	February 2020
Approved on behalf of Ford Civil Contracting by	[redacted]
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Dated	
Approved on behalf of Renascent Australia Pty Ltd	[redacted]
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Dated	
Approved on behalf of Donnelley Constructions	[redacted]
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Dated	
Approved on behalf of HAC	[redacted]
Signed	
Dated	
Endorsed by Environmental Representative	[redacted]
Signed	

Dated	
Approved on behalf of Transport for NSW by	[redacted]
Signed	
Dated	

Version control

Revision	Date	Description	Approval
A	January 2019	Initial draft: issued for comment	
B	February 2019	Second draft: government stakeholder comments incorporated	
C	March 2019	Third Draft: ER comments incorporated	
D	March 2019	Fourth Draft: ER comments incorporated	
E	March 2019	Fifth Draft: ER comments incorporated	
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3.2	August 2019	Updated for formatting	
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4.1	September 2019	Updated to address ER comments	
5	November 2019	Issued to DPIE	
6	February 2020	DPIE comments incorporated and final for issue for all Activities	Approved for use for Activity A, B and C on 7 February 2020

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The document is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained by the Quality Manager at the Project office located at Westmead. A copy of this document will also be available on the Project website http://www.parramattalightrail.nsw.gov.au/.

Copy number	Issued to	Version
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2	[redacted] Health Administration Corporation: *Contact*	
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5	[redacted] Renascent Australia Pty Ltd: *Project Manager*	
6	[redacted] Donnelley Constructions: *Project Manager*	
7	[redacted] Artefact Heritage: *Excavation Director*	
8	[redacted] *Environmental Representative*	

List of emergency and key contacts

Position/agency	Name	Phone
Emergency contacts		
Police, Ambulance, Fire and Rescue NSW	-	000 (for pollution incidents that present an immediate threat to human health or property) 1300 729 579 (for pollution incidents that do not present an immediate threat to human health or property)
The Ministry of Health	Westmead Hospital *(Cnr Hawkesbury Road and Darcy Road)*	Main Hospital Telephone: (02) 8890 5555 Emergency Department Telephone: (02) 8890 5555
SafeWork NSW	-	131 050
City of Parramatta Council	-	1300 617 058
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Communications Manager	[redacted]	[redacted]
Foreman	[redacted]	[redacted]
Foreman	[redacted]	[redacted]

Position/agency	Name	Phone
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Construction Environmental and Quality Manager / Environmental Coordinator	[redacted]	[redacted]
Superintendent	[redacted]	[redacted]
Environmental Engineer	[redacted]	[redacted]
Project Engineer	[redacted]	[redacted]
Communications Manager	[redacted]	[redacted]
Site Foreman / Manager	[redacted]	[redacted]
Traffic Management Co-ordinator	[redacted]	[redacted]
Donnelley Constructions Pty Ltd Key Contacts		
Project Manager	[redacted]	[redacted]
Construction Environmental and Quality Manager	[redacted]	[redacted]
Environmental Coordinator	[redacted]	[redacted]
Superintendent	[redacted]	[redacted]
Environmental Engineer	[redacted]	[redacted]
Project Engineer	[redacted]	[redacted]
Communications Manager	[redacted]	[redacted]
Foreman	[redacted]	[redacted]
Traffic Management Co-ordinator	[redacted]	[redacted]
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Environmental Representative	[redacted]	[redacted]

Position/agency	Name	Phone
Construction Environmental Representative	[redacted]	[redacted]
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Transport for NSW Environment Manager	[redacted]	[redacted]
Health Administration Corporation (HAC) Manager	[redacted]	[redacted]
Roads and Maritime Services Traffic Control Centre	[redacted]	[redacted]
Excavation Director	[redacted]	[redacted]

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Glossary/Abbreviations

Abbreviation	Expanded text
AA	Acoustics Advisor
ACM	Asbestos contaminated material
CBD	Central Business District
CCMP	Construction Compound Management Plan
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval as set by NSW Minister for Planning Conditions of Approval
Contractor, The	The company engaged to undertake the Project work. Activity A: Ford Civil Contracting Pty Ltd Activity B: Renascent Australia Pty Ltd Activity C: Donnelley Constructions Pty Ltd
Contractor's Associates, the	This includes all entities working under The Contractor on the project including employees, contractors, sub-contractors, delivery staff and visitors
CoPC	City of Parramatta Council
CSSI	Critical State Significant Infrastructure
DCL	Donnelley Constructions Pty Ltd
Deed, The	HI18356 Westmead Hawkesbury Road Widening Deed, including its supporting Scope of Work and Technical Criteria (SWTC) (NSW Health, 2018)
DPE	NSW Department of Planning and Environment Where reference in the planning approval/ this document and consultation has been made to DPE it should be noted that it has been abolished from 1 July 2019. References made to the Department of Planning and Environment is construed as a reference to the Department of Planning, Industry and Environment (DPIE).
DPIE	Department of Planning, Industry and Environment
ECM	Environmental Control Maps
EIS	Environmental Impact Statement
EMPLAN	Parramatta Local Emergency Plan
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment
Environmental hygienist	Scientist that is trained to assess, and contain, hazardous substances.

Abbreviation	Expanded text
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment
Environmental management documents	All documents pertaining to environmental management including this document, sub-plans, training records, monitoring and compliance reports and community consultation records.
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve
Environmental policy	Statement by an organisation of its intention and principles for environmental performance
EPO	Environmental Performance Outcomes
Environmental requirements	This is the collective controls set out in the CoA, REMMM, EPO and provisioned under legislation, licence, permit and approval that apply to the Project.
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPA	NSW Environment Protection Authority
ER	Environmental Representative - A suitably qualified and experienced person independent of The Contractor and Proponent, and project design and construction personnel, employed for the duration of construction.
ERG	Environmental Reference Group – generally comprising representatives of Transport for NSW, the Environmental Representative, Project delivery team, regulatory authorities, key stakeholders from interfacing projects (e.g. UrbanGrowth and NSW Health) and council (City of Parramatta Council). The ERG will be maintained for the duration of the Project and will meet regularly and undertake environmental inspections. The role of the ERG is to work collaboratively to manage the cumulative impacts of the Project and other interfacing projects.
FCC	Ford Civil Contracting Pty Ltd.
GREP	NSW Government Resource Efficiency Policy
HAC	Heath Administration Corporation (TfNSW has delegated the role of Principal to HAC for Package 2 (Westmead Precinct Works))
HRW	Hawkesbury Road Widening (Activity A)
Hold Point	Is a verification point that prevents work from commencing prior to approval from Transport for NSW
Incident	An occurrence or set of circumstances that causes, or threatens to cause material harm

Abbreviation	Expanded text
Independent Environment Auditor	Independent to the project, the Independent Environmental Auditor will undertake audits in accordance with ISO 19011:2014: Guidelines for Quality and or Environmental Management Systems Auditing.
Material Harm	Is harm that: (a) involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or (b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Minister, the	Minister of the NSW Department of Planning, Industry and Environment (or delegate)
Non-compliance	Failure to comply with the requirements of the Project approval or any applicable licence, permit or legal requirements
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation
NCR	Non-conformance report
OEH	Office of Environment and Heritage Where reference in the planning approval/ this document and consultation has been made to OEH it should be noted that it has been abolished from 1 July 2019. The Environment section is construed as a reference to Department of Planning, Industry and Environment and the heritage component is construed as a reference to Department of Premier and Cabinet (DPC).
Planning Approval	The Planning Approval includes the Conditions of Approval, the EIS and the Submissions and Preferred Infrastructure Report
PLR	Parramatta Light Rail – Stage 1 (Westmead to Carlingford)
Project, the	• Activity A: Hawkesbury Road Widening Works • Activity B: Cumberland Hospital (East Campus) Demolition • Activity C: Cumberland Hospital (West Campus) Demolition
RAL	Renascent Australia Pty Ltd
REMMM	Revised Environmental Mitigation and Management Measures. As listed in the Parramatta Light Rail Stage 1 Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement (the EIS), as amended by the Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report) (February 2018) (the SPIR) and all applicable legislation.
ROL	Road occupancy licence
SCO	Sydney Co-ordination Office – Traffic Management Centre
SDG	Sustainability Design Guidelines
SPIR	Submission and Preferred Infrastructure Report

Abbreviation	Expanded text
SWTC	Scope of Work and Technical Criteria
TfNSW	Transport for NSW (the Proponent)

1 Introduction

This section describes the purpose of this plan and the works to which it applies.

1.1 Context

This Construction Environmental Management Plan (CEMP) has been prepared to support Hawkesbury Road Widening Works, Cumberland Hospital (East Campus) Demolition, and Cumberland Hospital (West Campus) Demolition (the Project). The works are staged as Activity A, B and C respectively for Package 2 of the Stage 1 Parramatta Light Rail project.

A description of the overall Parramatta Light Rail – Stage 1 (Westmead to Carlingford) (PLR) is provided in Section 1.2.

The PLR received planning approval on the 29 May 2018 (SSI 8285). This CEMP has been prepared to address the requirements of the Minister's Conditions of Approval (CoA) and the Revised Environmental Mitigation And Management Measures (REMMMs) listed in the Parramatta Light Rail Stage 1 Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement (the EIS), as amended by the Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report) (February 2018) (the SPIR) and all applicable legislation.

1.2 Parramatta Light Rail Stage 1

Stage 1 PLR is one of the NSW Government's major infrastructure projects being delivered to serve a growing Sydney. It will connect Westmead to Carlingford via Parramatta Central Business District (CBD) and Camellia, and it is expected to be operational in 2023.

Stage 1 PLR will create new communities, connect great places and help both residents and visitors move around and explore what the region has to offer. The dual track light rail network will link Parramatta's CBD and train station to several key locations, including the Westmead and Cumberland Precincts, the Parramatta North Growth Centre, the new Western Sydney Stadium, the Camellia Town Centre, the new Powerhouse Museum and Riverside Theatre arts and cultural precinct, the private and social housing redevelopment at Telopea, the Rosehill Gardens Racecourse and the three Western Sydney University campuses.

Figure 1-1 provides an overview of Parramatta Light Rail Stage 1 route.

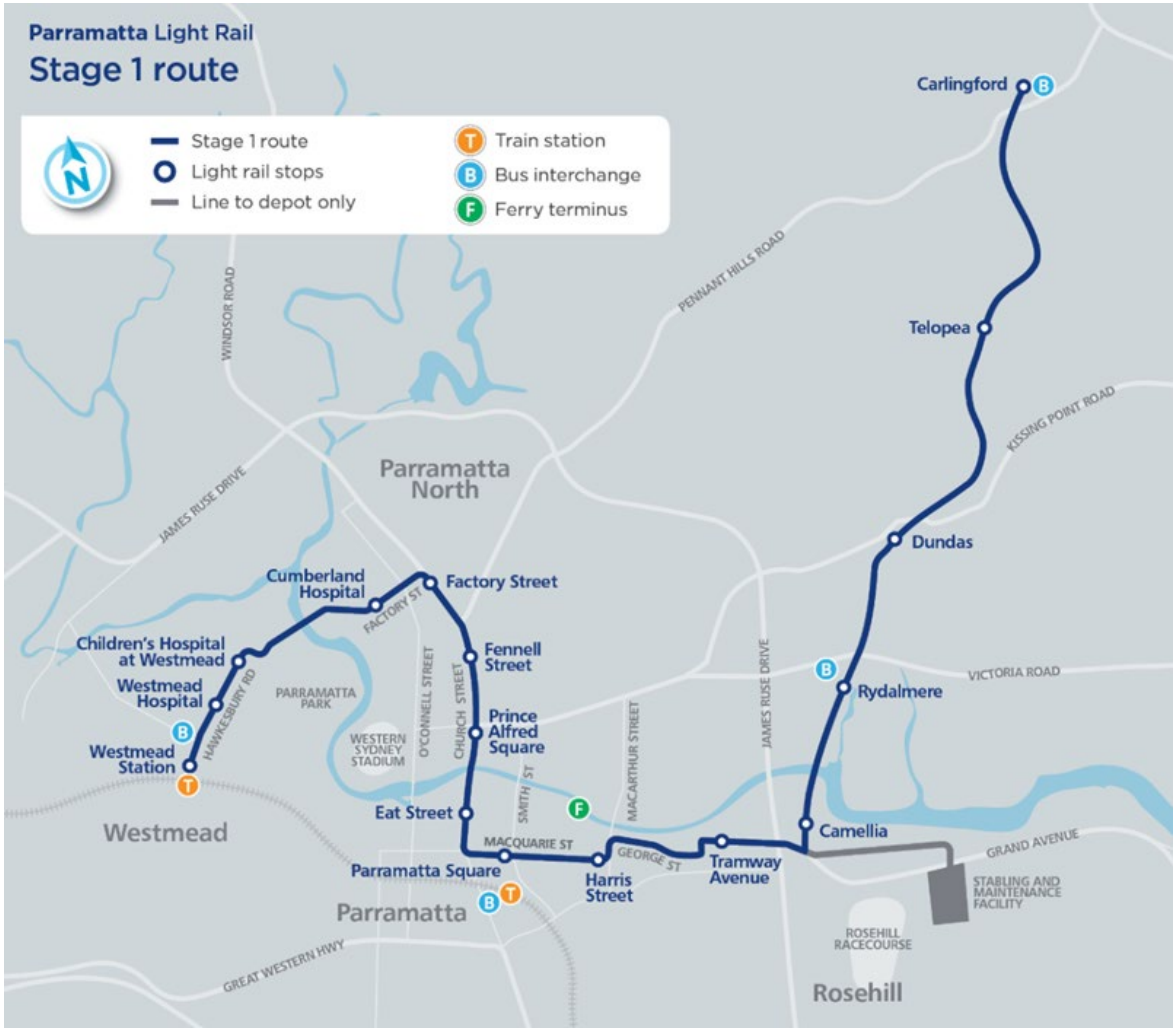

Figure 1-1: Stage 1 Parramatta Light Rail route

1.2.1 Statutory context

Stage 1 PLR was subject to environmental impact assessment under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). It was also declared a Critical State Significant Infrastructure (CSSI) by the Minister for NSW Department of Planning and Environment (the Minister).

1.2.2 Parramatta Light Rail planning approval

Stage 1 PLR was approved on 29 May 2018, in response to an application made by Transport for NSW (TfNSW) on 23 February 2018.

TfNSW prepared an environmental impact statement (EIS) to support the planning application. Following the public exhibition of the EIS, TfNSW prepared a submissions and preferred infrastructure report (SPIR), after which the Minister carried out its assessment and made its determination.

The EIS described the predicted environmental impacts from constructing and operating Stage 1 PLR, including the Project. The SPIR provided further clarification on the Stage 1 PLR's impacts while describing the final project that was consented. The revised environmental management and mitigation measures (REMMM) in the SPIR take precedence over those in the EIS. The Minister's conditions of approval (CoA) were made against the application. In the event of inconsistency, the CoA take precedence over the REMMM.

The planning approval (Infrastructure approval SSI 8285) and related environmental assessment documents are located at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8285

1.3 Purpose of this CEMP

This CEMP and its sub-plans have been prepared to outline and describe how The Contractor and it's Associates, will comply with the environmental requirements detailed within the NSW Minister for Planning's CoA when carrying out the Project. Additionally, it outlines how The Contractor will minimise the environmental risks and achieve environmental outcomes on the Project.

TfNSW is the project proponent and has delegated the role of Principal to HAC to undertake Package 2 (Westmead Precinct Works). The project delivery structure is outlined in Section 3.2.1.

Package 2 of the Stage 1 Parramatta Light Rail project (Stage 1 PLR) has been separated into the following three activities – A, B and C, which this CEMP has been prepared for.

- Activity A: Hawkesbury Road Widening Works
- Activity B: Cumberland Hospital (East Campus) Demolition
- Activity C: Cumberland Hospital (West Campus) Demolition

Each activity will be carried out by a separate contractor, the contractor company for each activity is stated in Section 1.4.

Targeted environmental management sub-plans have been prepared to support the CEMP for the three activities listed above. The sub-plans sit under the CEMP as specific management documents.

The CoA for PLR requires sub-plans for all activities on the following topics:

- Traffic, transport and access (CoA C3 (a))
- Noise and vibration (CoA C3 (b))
- Flood management (CoA C3 (c))
- Heritage (CoA C3 (d))
- Flora and Fauna Biodiversity (CoA C3 (d))

Additionally, the REMMM requires sub-plans for all activities on the following topics:

- Soil and Water (GEN-1)
- Construction Compound Management (GEN-2)

Due to the varying location and scope of works, specific management plans were required for individual activities as noted below:

- Activity A only – Pedestrian and Cyclist Network and Facilities Strategy (CoA E14) – required due to significant impacts on pedestrians and cyclists
- Activity A and B only – Historical Archaeological Research Design and Excavation Methodology (ARD) (CoA E72) – required where excavation works are occurring
- Activity B and C only – Heritage Archival Recording and Salvage Strategy (CoA E70 and E71) – required due to their location within the Cumberland Hospital Heritage Precinct

For Activity A: Hawkesbury Road Widening works, the Construction Compound Management Plan (CCMP) was submitted for information only. A specific CCMP was not required for Activity B and C as ancillary facilities will be used for accommodation, welfare facilities and storage only, information regarding site compounds is captured in this CEMP, Section 4.6.

The CEMP and each sub-plan must be submitted to the Secretary for approval, information or a supplementary document, as shown in Figure 1-2.

The REMMM also include requirements for management of other specific issues such as dust, contaminated land, and waste and resources. These are included in this CEMP.

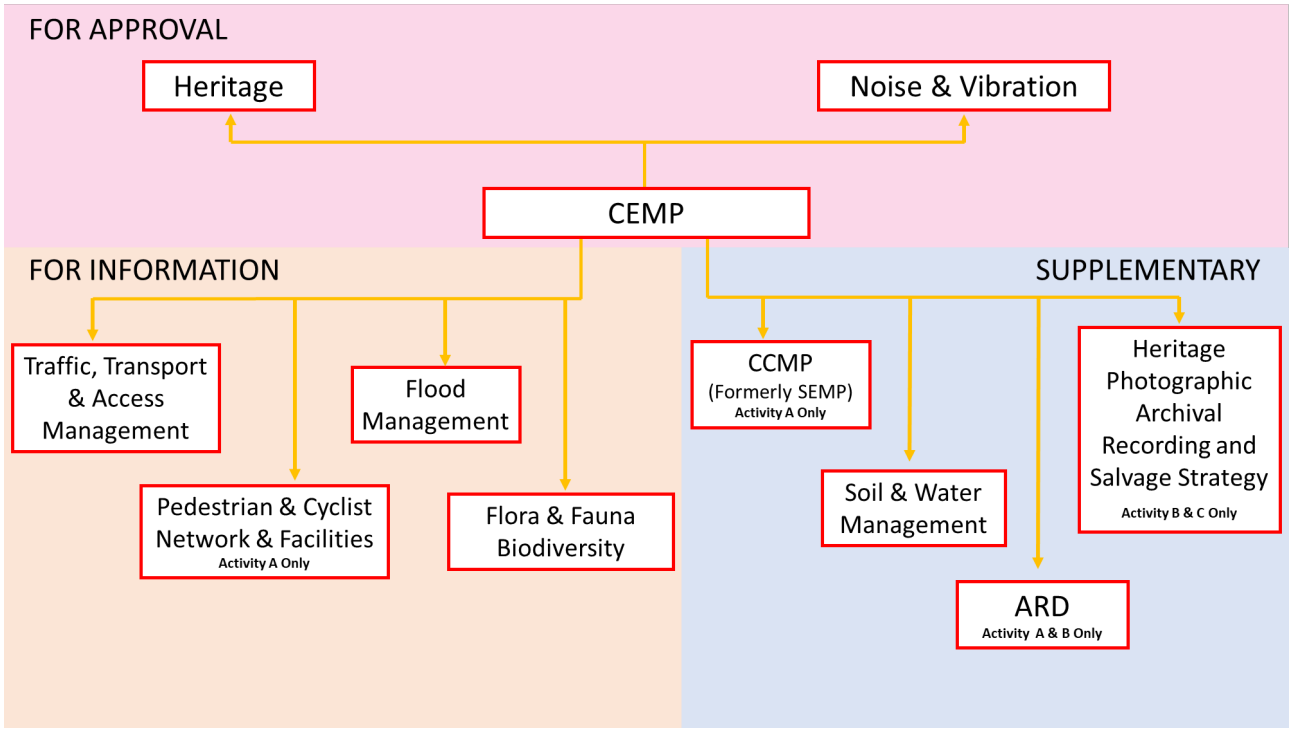

Figure 1-2: Relationship of CEMP and sub-plans

This CEMP is the overarching document in the Project Environmental Management System (EMS) and includes the seven sub-plans. It is applicable to The Contractor and all its Associates. Implementation of the CEMP and sub-plans will enable the Project to meet the requirements of the CoA, REMMM and Environmental Performance Outcomes (EPO).

The CEMP has been prepared in accordance with:

- Environmental Management System Guidelines 3rd Edition (EMS Guidelines, NSW Government, 2013)
- AS/ANZ ISO 14001:2015 Environmental Management Standards (Standards International, 2015)
- HI18356 Westmead Hawkesbury Road Widening Deed, including its supporting Scope of Work and Technical Criteria (SWTC) (NSW Health, 2018) (The Deed).
- Relevant legislative requirements
- The EIS prepared for PLR – Stage 1 (TfNSW, 2017)
- Stage 1 PLR SPIR, including the REMMM (TfNSW, 2018)
- Infrastructure approval SSI 8285 including the CoA (Department of Planning and Environment, 2018)
    - CSSI 8285 MOD 1 determined 21 December 2018
    - CSSI 8285 MOD 2 determined 25 January 2019

This CEMP:

- Defines environmental management, mitigation and monitoring control measures to be implemented to meet the requirements of the CoA, REMMMS and EIS
- Identifies who is responsible for their implementation

- Identifies where the controls will be implemented
- Identifies what reporting and corrective action will be undertaken
- Outlines the environmental management obligations and those of TfNSW and Health Administration Corporation (HAC) for all asset stakeholders, including The Contractors and Associates and other third parties.

Compliance matrices outlining the CoAs, REMMMS and EPOs relevant to the CEMP and how these have been addressed in this CEMP and its sub-plans are provided in Appendix A1.

Legal requirements are listed in Appendix A2.

Agency consultation that has informed the CEMP sub-plans is outlined in Section 2.2.

1.4 Project activities and description

The following three activities form Package 2 of the Stage 1 Parramatta Light Rail project (Stage 1 PLR). More detail on these activities is provided below.

- Activity A: Hawkesbury Road Widening Works
- Activity B: Cumberland Hospital (East Campus) Demolition
- Activity C: Cumberland Hospital (West Campus) Demolition

1.4.1 Activity A: Hawkesbury Road Widening Works

The Hawkesbury Road Widening Works (HRW) (located between Darcy Road and Jessie Street) (shown in Figure 1-3 below) will be carried out as the first activity under Package 2 of the PLR.

These works are necessary due to the identified potential conflicts between the PLR works and the planned NSW Health development on Hawkesbury Road, within the Westmead Hospital Property Boundary. The Hawkesbury Road Widening Works includes services relocations to suit the new road and footpath alignment, new road and footpath construction on the western side of Hawkesbury Road, with a provision of a retention piled wall with a cantilevered footpath that caters for the proposed National Particle Therapy Research Centre development. By providing the widening of the western side of Hawkesbury Road, the disruptions on Hawkesbury Road during the main PLR works would be minimised.

The Contractor undertaking this work is Ford Civil Contracting Pty Ltd.

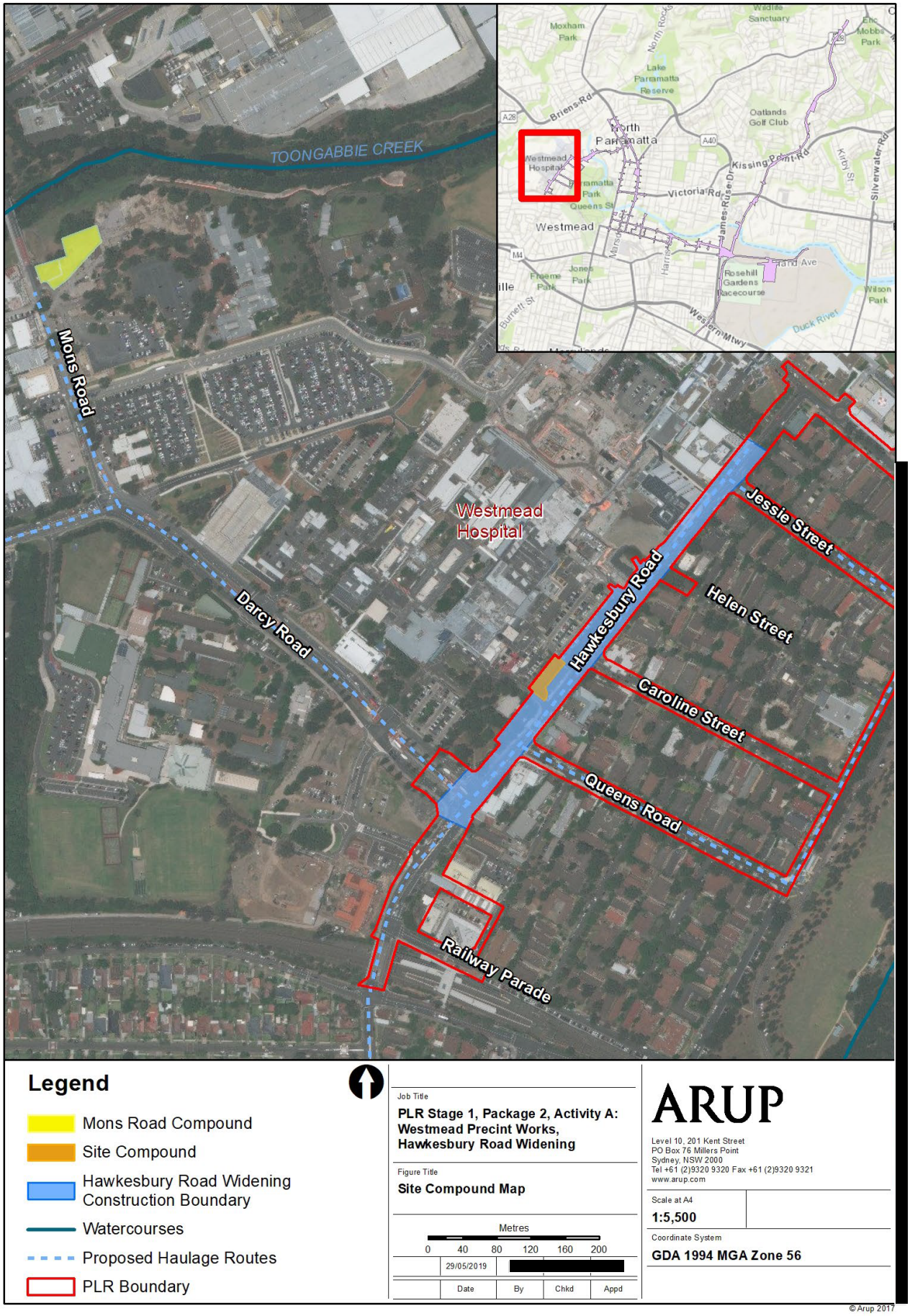

Figure 1-3: Hawkesbury Road Widening site context

1.4.2 Activity B: Cumberland Hospital (East Campus) Demolition

The Cumberland Hospital (East Campus) Demolition (shown in Figure 1-4) will be carried out as the second activity under Package 2 of the PLR.

The Cumberland Hospital (East Campus) demolition includes demolition of five buildings down to slab along the alignment of the PLR through Cumberland Hospital (East Campus). The works will also include capping of utilities and services to these buildings, including Jemena gas pipeline, and reconnection of IT services to building 52 where required.

The Contractor undertaking this work is Renascent Australia Pty Ltd.

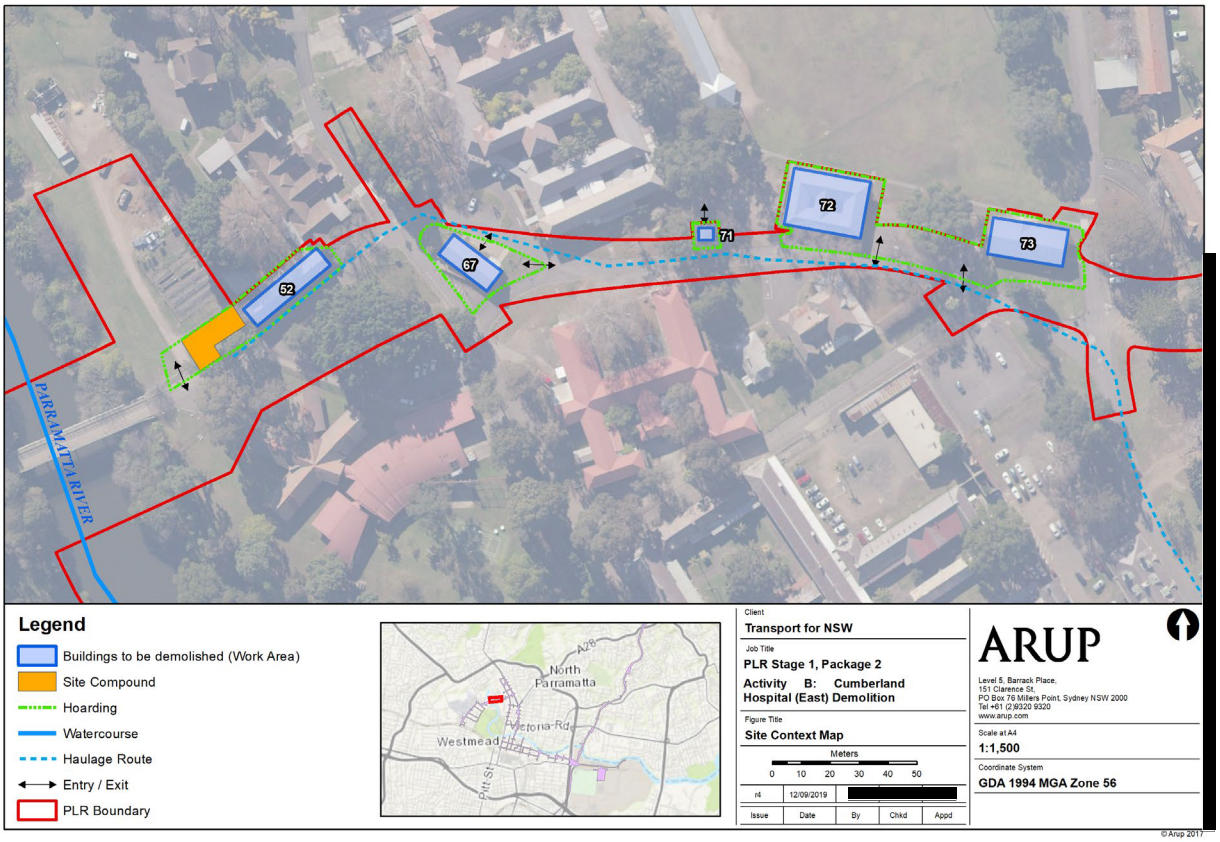

Figure 1-4: Cumberland Hospital (East Campus) site context

1.4.3 Activity C: Cumberland Hospital (West Campus) Demolition

The Cumberland Hospital (West Campus) Demolition (shown in Figure 1-5) will be carried out as the third activity under Package 2 of the PLR.

These works are necessary due to identified potential conflicts between the PLR works and planned NSW Health development within the Cumberland Hospital (West Campus).

The Cumberland Hospital (West Campus) demolition includes demolition of six buildings down to slab along the alignment of the PLR through Cumberland Hospital (West Campus). These buildings include five cottages adjacent to Hainsworth Street and the Boronia Ward which is close to the Parramatta River. Demolition of the cottages will be carried out during stage one, the Boronia Ward will be demolished as a second stage of works as the ability to demolish the Boronia Ward relies on a new ward being separately constructed by NSW Health on adjacent land. Unlike the Cumberland Hospital (East Campus), this activity does not include capping of utilities and services to buildings.

Both stages of work will be completed prior to the construction of the main infrastructure works. The Contractor undertaking this work is Donnelley Constructions Pty Ltd.

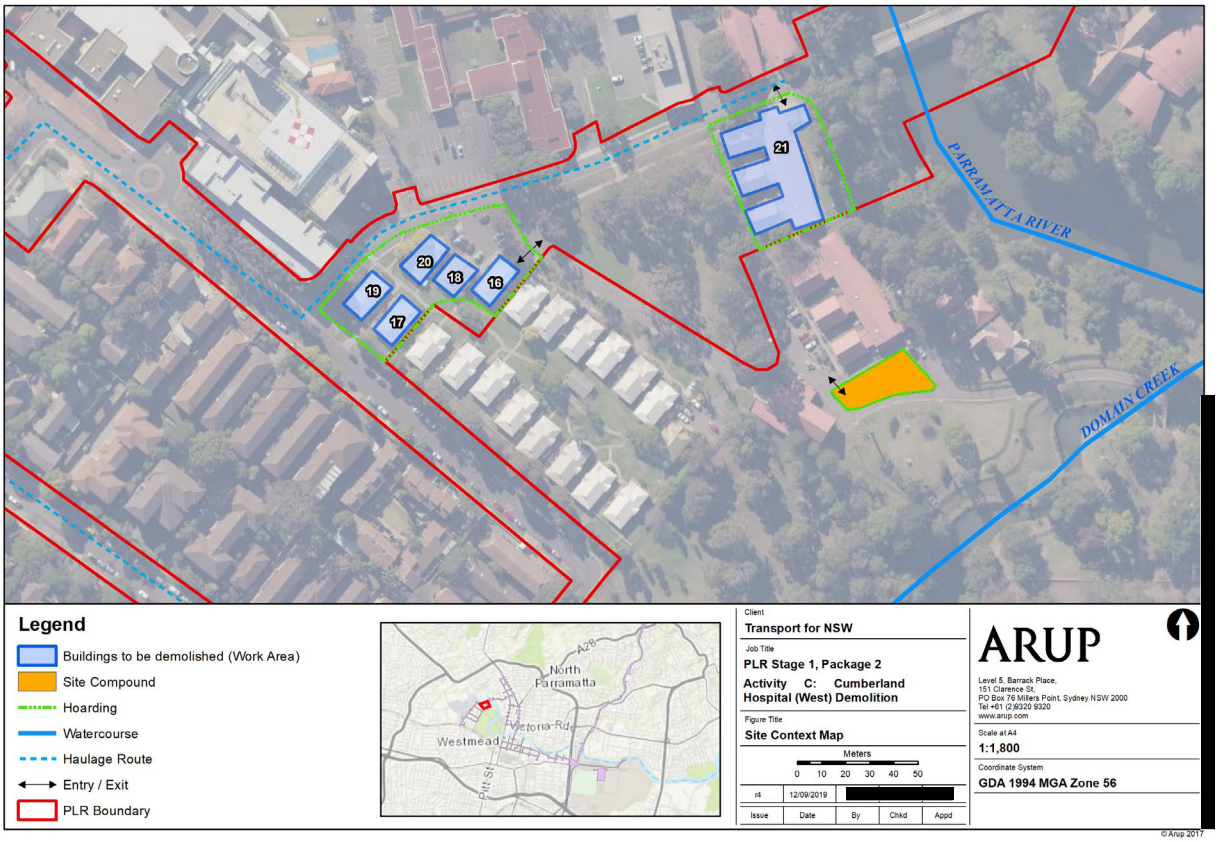

Figure 1-5: Cumberland Hospital (West Campus) site context

1.5 Consistency assessment

This section is applicable to Activity A and C only.

1.5.1 Activity A (Hawkesbury Road Widening)

A Consistency Assessment was prepared to assess alternative site compound locations for Activity A, as those identified in the EIS were no longer deemed feasible given the works associated with Activity A and the timing of these. The below locations identified in the EIS were excluded with the following justification:

- Westmead Station – this site would require demolition of existing buildings before use which is outside the scope of HRW and is not required until a later date;
- Hawkesbury Road – this site would require demolition of existing buildings before use which is outside the scope of HRW and is not required until a later date; and
- Cumberland Hospital – this site is located within close proximity to a sensitive mental health facility and would not be appropriate to occupy for these works.

Two alternative site compound locations were identified, assessed and included as part of the application prepared by Ford Civil Contracting (FCC):

- Hawkesbury Road Construction Compound (an existing carpark)
- Mons Road Construction Compound (an existing compound for another Westmead Hospital development)

Both compounds are located outside of the PLR project boundary. However, the Hawkesbury Road Site Compound is partially within the boundary. The consistency assessment identified that the impacts were consistent with those identified in the EIS/SPIR. The Acoustic Advisor endorsed that the ancillary facilities noise impacts were low impact and the ER approved the low impact of the two minor ancillary facilities.

The assessment was endorsed by the ER on 13 March 2019 and signed by TfNSW on 19 March 2019.

1.5.2 Activity C (Cumberland Hospital West Campus Demolition)

The construction compound identified in the EIS as 'Cumberland Hospital' will not be available for use as this location will be used to construct the replacement Boronia Ward.

An alternative site compound has been identified outside the approved PLR Construction Boundary. The compound will be located on Cumberland Hospital (NSW Health) land and is currently in use as a site compound for works being carried out by NSW Health. A Consistency Assessment was prepared for this site that identified that the impacts were consistent to that identified in the EIS/SPIR and that the use of this compound for the demolition of buildings would not result in any supplementary or additional activities to those already being carried out in its current use as a site compound. This consistency assessment was prepared by Donnelley Construction, endorsed by ER on 11 November 2019 and signed by TfNSW.

1.6 Environmental Management System overview

This section is applicable to Activities A, B and C.

An Environmental Management Policy for each of the three individual Contractors engaged for Activities A, B and C is provided in Appendix A4. Each Policy describes the Contractor's system for environmental management targets continual improvement and reducing environmental harm through policies, objectives, legislation, responsibilities, auditing and document control.

The Contractor's Environmental Management Policy will be available on the Project website and communicated to The Contractor's Associates and other interested parties via inductions and ongoing awareness programs.

Each contractor has a corporate EMS which is ISO 14001 certified. Certification is attached in Appendix A5. The corporate EMS is general and applies to all Contractor activities. The CEMP has been developed to address project specific requirements and complement the corporate EMS. Where inconsistencies may arise, there is no expectation that The Contractor changes its ISO 14001 accredited EMS, rather the CEMP takes precedence.

This document outlines a framework for managing construction impacts, including:

- Traffic, transport and access
- Flora and fauna
- Noise and vibration
- Soil and water
- Heritage
- Site compound and ancillary works
- Air quality and dust
- Emergency and incident response
- Waste and resource
- Landscape

1.7 Program

This section is applicable to Activities A, B and C

An indicative program for Activity A, B and C is provided in Table 1-1.

Table 1-1: Program for Activity A, B and C

Work Description	Indicative Commencement Date	Estimated Completion Date
Activity A: Stage 1 - Site establishment	Q3 2019	Q3 2019
Activity A: Stage 2 - Clearing car park - Retaining wall construction - Piling prep - Telstra work	Q3 2019	Q3 2019
Activity A: Stage 3 - Services Installation - Sewer main crossing - Piling - Block wall	Q3 2019	Q4 2019
Activity A: Stage 4 - Cantilever structure - Piling - Telstra	Q4 2019	Q4 2019
Activity A: Stage 5 - Cantilever structure - Watermain - Stormwater	Q4 2019	Q1 2020
Activity A: Stage 6 - Stormwater - Smart poles - Watermain	Q1 2020	Q2 2020
Activity A: Stage 7 - Road finishes - Kerb gutter	Q2 2020	Q3 2020

Work Description	Indicative Commencement Date	Estimated Completion Date
- Footpaths - Pavement works		
Activity B: Demolition of buildings	Q1 2020	Q4 2020
Activity C: Demolition of cottages	Q1 2020	Q4 2020
Activity C: Demolition of Boronia Ward	Q4 2020	Q1 2021

2 Endorsement and approval

This section summarises the process that was adopted to review and endorse the CEMP and sub-plans. The section also summarises the consultation with authorities and other stakeholders carried out when preparing the CEMP and sub-plans.

This section is applicable to all Activities – A, B and C unless otherwise specified.

2.1 Approval and endorsement of the CEMP

This CEMP has been developed under CoA C1 and C2 for The Contractors. As per CoA C7, the CEMP was endorsed by the Environmental Representative (ER) before submission to the Secretary for approval prior to construction. These approval documents (7 February 2020) are shown in Appendix A9 .

Government agency consultation was required prior to approval of the CEMP, is described in Section 2.2.

The draft CEMP was issued for review and comment to TfNSW and HAC. Collated comments were taken into the draft. The document was then revised and submitted to the ER. After ER endorsement the document was submitted to the Secretary. As per CoA C6, construction will not commence until one month after this CEMP, and all associated sub-plans have been submitted for approval or information (as required). No construction can commence on-site until this CEMP is approved by the Secretary.

2.2 Summary of Government Agency consultation of CEMP sub-plans and construction monitoring programs

The relevant CEMP sub-plans, strategies and construction monitoring programs are listed below in Table 2-1. Strategies were prepared in consultation with the relevant government agencies and interest groups as required by Conditions of Approval C3, C5, C9, E11, E14 and E73. Where relevant CEMP sub-plans exist, the construction monitoring programs were incorporated in the sub-plans as per CoA C17.

Government agencies and interest groups were invited to workshops held on:

- Activity A:
  - 17 December 2018
  - 14 January 2019
- Activity B and C:
  - 23 July 2019
  - 24 July 2019
  - 29 July 2019

The government agencies and interest groups identified in the conditions of approval were invited to the workshops to review and comment on the relevant CEMP sub-plans, strategies and construction monitoring programs described below in Table 2-1 and Table 2-2.

2.2.1 Relevant Government Agency stakeholder consultation

CEMP sub-plans, strategies and monitoring programs were provided to the stakeholders for a fifteen (15) day review period after the workshops. The consultation details of each sub-plan are presented in the individual sub-plans as required by CoA A5. All comments from the relevant Government Agencies and interested parties have been satisfactorily closed-out.

Table 2-1 summarises the relevant CEMP sub-plans, strategies and construction monitoring programs that the Government Agencies and interest groups were consulted on.

Table 2-1: Consultation summary of Government Agencies and interest groups

Plan #	CEMP Sub Plan / Strategy and Monitoring Program	Government Agencies and Interest Groups Consulted	Consultation Section in CEMP Sub Plan / Strategy
1.	Noise and Vibration Management Plan and Construction Monitoring Program (NVMP)	• City of Parramatta Council • Cumberland Council • NSW Health • EPA	• Activity A: Appendix F2 of the NVMP • Activity B and C: Appendix F3 of the NVMP
2.	Heritage Management Plan (HMP)	• City of Parramatta Council • Department of Premier and Cabinet (Heritage) (Formerly: Office of Environment and Heritage (OEH)) • Heritage Council	• Activity A, B and C: Appendix B of the HMP
3.	Historical Archaeological Research Design and Excavation Methodology (ARD) (not applicable to Activity C)	• City of Parramatta Council • Department of Premier and Cabinet (Heritage) (Formerly: Office of Environment and Heritage (OEH)) • Heritage Council	• Activity A and B: Appendix A of the ARD
4.	Construction Compound Management Plan (CCMP) (produced for Activity A only)	• City of Parramatta Council • NSW Health • RMS • SCO	• Activity A: Appendix F of the CCMP
5.	Flora and Fauna Biodiversity Management Plan and Construction Monitoring Program (FFMP)	• City of Parramatta Council • DPIE Environment, Energy and Science (EES) Group (DPIE ESS) (Formerly: Office of Environment and Heritage (OEH))	• Activity A: Appendix I1 of the FFMP • Activity B and C: Appendix I2 of the FFMP

Plan #	CEMP Sub Plan / Strategy and Monitoring Program	Government Agencies and Interest Groups Consulted	Consultation Section in CEMP Sub Plan / Strategy
6.	Flood Management Plan (FMP)	• City of Parramatta Council • DPIE (Climate Change & Sustainability) (Formerly: Office of Environment and Heritage (OEH)) • Sydney Water	• Activity A: Appendix C1 of the FMP • Activity B and C: Appendix C2 of the FMP
7.	Soil and Water Management Plan (SWMP)	• City of Parramatta Council • NRAR • EPA	• Activity A: Appendix B1 of the SWMP • Activity B and C: Appendix B2 of the SWMP
8.	Traffic, Transport and Access Management Plan (TTAMP)	• Bicycle NSW • City of Parramatta Council • Cumberland Council • Fire NSW • NSW Health (including Traffic Consultants and Multiplex for Activity A) • Pedestrian Council of Australia • NSW Police Force (Paramatta) • Roads and Maritime Services (RMS) • Sydney Co-ordination office – Traffic Management Centre (SCO)	• Activity A: Appendix B1 of the TTAMP • Activity B and C: Appendix B2 of the TTAMP

Plan #	CEMP Sub Plan / Strategy and Monitoring Program	Government Agencies and Interest Groups Consulted	Consultation Section in CEMP Sub Plan / Strategy
10.	Pedestrian, Cyclist and Network Facilities Strategy (PCNFS) (Applicable to Activity A only)	• Bicycle NSW • City of Parramatta Council • NSW Health (including Traffic Consultants and Multiplex for Activity A) • Pedestrian Council Australia • Roads and Maritime Services (RMS) • Sydney Co-ordination office – Traffic Management Centre (SCO)	• Appendix C of the PCNFS

2.2.2 NSW Health stakeholder consultations

In addition to the consultation requirements of the Project Approval, consultation was held with NSW Health Stakeholders (refer to Table 2-2).

NSW Health are referenced as a collective in the Plan, but their individual needs were addressed and are recorded in the individual CEMP Sub-plans.

The overarching CEMP (this document) was not issued formally for consultation, however comments from NSW Health received on the sub-plans for Activity B and C were pertinent to this document and additional information was included in the CEMP as a result of this consultation.

Table 2-2: Additional NSW Health consultation

Activity	Date of Consultation	NSW Health Interest Groups Consulted
Activity A	• 08 January 2019: Noise and Vibration Management Workshop focussing on medical facilities and equipment at Westmead. • 16 January 2019: Site visit with medical and research staff to identify sensitive locations for possible monitoring locations. • 24 January 2019: Transport and Traffic Workshop was held focussing on impacts on the hospital, research institutions and the hospital re-development (Multiplex).	• Children's Medical Research Institute (CMRI), • Kids Research (KR) • Multiplex (Hospital Redevelopment Contractor) • Sydney Children's Hospital • University of Sydney • Western Sydney Local Health District (WSLHD) • Westmead Adult Hospital • Westmead Hospital Traffic Consultant • Westmead Institute of Medical Research (WIMR),

Activity	Date of Consultation	NSW Health Interest Groups Consulted
Activity B and Activity C	• 24 July 2019: All sub-plans were presented to NSW Health • 29 July 2019: All sub-plans were presented to NSW Health with a specific focus on Mental Health concerns	• Health Education and Training Institute (HETI) • Western Sydney Local Health District (WSLHD)

3 Construction Environmental Management Plan

This section describes environmental management and control to be implemented prior to, throughout and following the Project.

3.1 Planning

3.1.1 Environmental risk assessment

An environmental risk assessment was conducted for the three activities of work associated with the project (Activity A, B and C).

A review of the generic work activities applicable across the three Activities A, B and C were discussed and reviewed. These include the following, but are not limited to:

- Establishment, operation and decommissioning of the site compound (s), offices and amenities
- Establishment, operation and decommissioning of the material storage, stockpile, lay-down yard (s)
- Initial groundworks and decommissioning across the overall works areas
- Plant maintenance activities, including servicing and breakdowns
- Utility relocation activities
- Vegetation and tree protection, clearing and grubbing activities and locations.
- Additional activities specific to the works and required at each site

Each work activity was assessed to identify the relevant construction activities and associated hazards. Environmental risks were identified and ranked. The controlling management measures set out in the Environmental Requirements and other best-practice documents were then accounted for to determine the likely residual risk. Requirements (where applicable) from the Deed, CoA and REMMM were incorporated into the environmental risk assessment. Management measures identified by the risk assessment have been incorporated into the CEMP and sub-plans as applicable. Appendix A3 includes the environmental risk registers applicable to Activities A, B and C. The environmental risk registers will be reviewed and updated quarterly. An ongoing analysis of risks will be incorporated as an agenda item in the weekly site meeting described in Section 3.13.

3.1.2 Regulatory requirements and compliance

This section describes the statutory framework that will apply to the Project, including relevant legislation and environmental planning instruments.

3.1.2.1 Legislation

Appendix A2 is the register of legal requirements applicable to the Project. This register is maintained as a checklist. It will be reviewed at regular intervals, such as during management reviews, and updated with any applicable legal changes. Any changes made to the register will be communicated to The Contractor and its Associates where necessary through toolbox talks, specific training, and other methods detailed in Section 3.4 of this CEMP.

Appendix A2 is correct at the time of publishing this version of the CEMP. It is a controlled document, which will be managed actively and updated following a change in Project scope, change in legislation or potentially following an emergency, incident, and/or non-conformance as required.

3.1.2.2 Approvals, permits and licences

The following approvals, permits and licences outlined in Table 3-1 will be needed before the Project starts. Hold Points have been included in the sub-plans to confirm any prerequisite documentation is in place before starting work.

Table 3-1: Approvals, permits and licences applicable to the Project

Name of legislation	Who will hold and be responsible for the approval/ permit/licence	Status of the approval/permit/licence	Activity A: Hawkesbury Road Widening	Activity B: Cumberland Hospital (East Campus) Demolition	Activity C: Cumberland Hospital (West Campus) Demolition
Pre-Construction / Pre-Demolition					
DBYD – Dial Before You Dig Plans	The Contractor's Construction Environmental Manager	To be obtained prior to excavation	✓	✓	x
RMS Road Opening Permit	The Contractor's Construction Environmental Manager	To be obtained prior to construction	✓	x	x
RMS Road Occupancy Licence	The Contractor's Construction Environmental Manager	To be obtained prior to construction – every two weeks as required.	✓	x	x
Temporary Road Closure Permit	The Contractor's Construction Environmental Manager	To be obtained as required.	✓	x	x
Temp TCS Plan – Darcy Rd	The Contractor's Construction Environmental Manager	To be obtained as required.	✓	x	x

Name of legislation	Who will hold and be responsible for the approval/ permit/licence	Status of the approval/permit/licence	Activity A: Hawkesbury Road Widening	Activity B: Cumberland Hospital (East Campus) Demolition	Activity C: Cumberland Hospital (West Campus) Demolition
ROL TCS – Roads and Maritime Services Road Occupancy Licence	The Contractor's Construction Environmental Manager	To be obtained prior to construction.	✓	x	x
Out-of-Hours Work Approval	The Contractor's Construction Environmental Manager	To be obtained prior to commencing Out of Hours Work. No out-of-hours works are proposed for Activity B and C however if required approval would need to be sought.	✓	x	x
Cumberland Hospital Disruption Notice	The Contractor's Construction Environmental Manager	To be obtained a minimum of ten days prior to any disruption occurring to the hospital.	x	✓	✓
Safe Work NSW for asbestos removal notification	The Contractor's Construction Environmental Manager	To be obtained prior to demolition for Activity B. No asbestos containing materials have been identified for Activity A and C however if suspect materials are identified during construction/demolition, an unexpected finds procedure will be triggered which may require notification to Safe Work for asbestos removal.	✓	✓	✓

Name of legislation	Who will hold and be responsible for the approval/ permit/licence	Status of the approval/permit/licence	Activity A: Hawkesbury Road Widening	Activity B: Cumberland Hospital (East Campus) Demolition	Activity C: Cumberland Hospital (West Campus) Demolition
Waste Licensing	The Contractor's Construction Environmental Manager	Identify a licenced waste facility and licensed waste transporter (for scheduled waste under the POEO Act) prior to commencing work.	✓	✓	✓
Construction / Demolition					
ROL – Roads and Maritime Services Road Occupancy Licence	The Contractor's Construction Environmental Manager	To be obtained as required.	✓	x	x
Council Tree Removal Notification	The Contractor's Construction Environmental Manager	Pre-approved. Notification to be sent at least 1 week prior to removal or pruning.	✓	x	x
Out-of-Hours Work Approval	The Contractor's Construction Environmental Manager	To be obtained prior to commencing Out of Hours Work. No out-of-hours works are proposed for Activity B and C however if required approval would need to be sought.	✓	x	x
Water Access Licence	The Contractor's Construction	Any excavation is expected to be too shallow to intercept the	✓	✓	x

Name of legislation	Who will hold and be responsible for the approval/ permit/licence	Status of the approval/permit/licence	Activity A: Hawkesbury Road Widening	Activity B: Cumberland Hospital (East Campus) Demolition	Activity C: Cumberland Hospital (West Campus) Demolition
	Environmental Manager	groundwater table therefore no licence is required. However, should the regional water table be intercepted a Water Access Licence or temporary construction dewatering licence will be obtained through DoI Water.			

3.1.2.3 Compliance tracking

The Project as a whole has adopted the PLR Compliance Tracking Program (document reference number: PLR-TFNSW-PJT-PE-PRG-000001) using INX software. The INX software system has been set up so that each work package (i.e. Package 1, 2, 3 etc.) is provided their own set of CoA, REMMM and Environmental Performance Outcomes. The Staging Report (PLR-TFNSW-CBD-PE-RPT-000001) outlines how and when the different CoA's, REMMM and EPOs are triggered throughout the entire duration of the project. Therefore, the CoA, REMMM and Environmental Performance Outcomes have been "not triggered" for conditions that are not applicable to the work covered by this CEMP and can also be set to TfNSW for proponent owned conditions. Activities for Package 2 are part of the 'Enabling Work' Stage (Stage 1) discussed in the Staging Report. Reporting would be done in accordance with Section 3.10.4. The online system produces a report which shows how CoA, REMMM and EPO have been complied with or not triggered.

3.1.3 Environmental objectives and targets

Environmental objectives and targets have been established as a means of assessing environmental performance during the Project. These objectives and targets have been developed to consider key performance outcomes for each key issue, as specified in the Environmental Obligations. The objectives and targets are consistent with The Contractor's Environmental Management Policy and will assist in monitoring whether the commitments of the policy are being met.

The Project's environmental performance will be monitored against the objectives and targets. This monitoring will be documented in the Project construction compliance reports in Project Compliance Tracking Program. Table 3-2 below provides the environmental objectives and targets for the Project as included in the relevant sub-plans.

Table 3-2: Environmental objectives and targets

Objective	Target	Measurement tool	Source
Construction of the Project in accordance with environmental approvals.	Full compliance with statutory approvals.	Audits, construction compliance reporting, management review.	CoA A1 and A2
Compliance with all legal requirements.	No regulatory infringements, or prosecutions.	No formal regulatory warning. Audits, construction compliance reporting, management review.	CoA A1 and A2
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001.	Address non-conformances and corrective actions within 24hrs.	Audits, management reviews.	The Deed
Engage with the affected and broader community, minimise complaints and respond to any complaints within a suitable timeframe.	Disseminate regular updates and other information through the Project website and other tools identified in the Community Consultation Strategy (document reference number PLR-TFNSW-CBD-PE-PLN-000001)	Review complaints register, construction compliance report, audits.	CoA B1 and B6 – B10

Objective	Target	Measurement tool	Source
	Record and respond to complaints within the timeframe specified in the Community Consultation Strategy.		
Continuously improve environmental performance.	Develop and maintain a program of ongoing environmental training. Capture lessons learnt from environmental incidents to minimise repeat issues. Encourage and reward innovation and effort throughout the works force.	Construction compliance report, management review.	Good Practice
Foster environmental awareness and foster genuine environmental protection in employees.	Include environmental awareness training sessions, inductions and toolbox talks. Allocate environmental responsibilities to relevant personnel through the CEMP and sub-plans.	Induction and training register	CoA C2 (i, j)
Protect the area's heritage value with the aim of minimising impacts to the extent as needed to complete the works.	Follow all procedures outlined in Appendix B5, Construction Heritage Management Sub-plan.	Audits	CoA E60 – E63, E65 – E66, E68, E70 – E73
Minimise noise and vibration impact to sensitive receivers throughout construction.	Apply management measures outlined in Appendix B3, Construction Noise and Vibration Management Sub-plan. Provide appropriate respite periods to sensitive receivers. Minimise complaints from the community and stakeholders.	Construction noise and vibration impact statements, Construction compliance report, Review complaints register	CoA E21, E22, E27, E30 – E33, E35-E40
Monitor noise and vibration throughout construction to check compliance with targets.	Comply with the Noise and Vibration Construction Monitoring Program (Section 6.4 in Appendix B3).	Audits, Construction compliance report	CoA C9 – C17

Objective	Target	Measurement tool	Source
Minimise the impact of reduced and relocated parking.	Comply with the Parking Management Strategy (PLR-TFNSW-PJT-PE-RPT-000019).	Audits, Construction compliance report	E11
Protect flora and fauna, minimising impact to the extent needed to complete works.	No impact to flora and fauna outside the proposed construction footprint and associated access roads and site compounds. Follow all procedures outlined in Appendix B2, Construction Flora and Fauna Management Sub-plan.	Audits, Construction compliance report	CoA E100 – E107
Minimise and manage construction impacts on hydrology and flooding so that adverse impacts to people and property are avoided.	Follow all procedures outlined in Appendix B11, Construction Flood Management Sub-plan.	Audits, Construction compliance report	CoA C3, E115
Minimise impacts caused by compound sites and ancillary facilities	Activity A: Follow all procedures outlined in Appendix B10, Construction Compound Management Plan. Activity B and C: Follow all procedures outlined in Section 4.6.	Audits, Construction compliance report	REMM GEN-2
Minimise and manage construction impacts on soil and water quality	Follow all procedures outlined in Appendix B4, Construction Soil and Water Quality Management Sub-plan.	Audits, Construction compliance report	CoA E111

3.1.4 Environmental Control Maps

Environmental Control Maps (ECMs) have been developed to allow for a focused risk assessment of the environmental and community impacts of specific work areas and activities while identifying management measures and controls. The ECMs have been prepared and implemented for each of the three Activities A, B and C prior to construction activities starting and will be reviewed through construction phases.

The ECMs have been reviewed and approved by the ER for Activity A, B and C.

The ECMs meet the requirements of the Guide to Environmental Control Map (3TP-SD-015/8.0, TfNSW, 2016) and include details of:

- Where environmental controls are located and how they are used

- Where and when environmental monitoring is to occur
- How environmental control measures are communicated to project personnel.

Regular monitoring, inspections and auditing of compliance with the ECMs will be undertaken by The Contractor's Project Manager and Construction Environmental Manager. Any non - conformances will be recorded, and corrective actions implemented.

ECMs will be maintained by each Contractor for the three Activities A, B and C (Appendix A7).

3.2 Resources, responsibilities and authority

TfNSW is the project proponent and has delegated the role of Principal to HAC to undertake Package 2 (Westmead Precinct Works)

The following Contractors have been engaged and are responsible for the construction works associated with Package 2:

- Activity A: Hawkesbury Road Widening - Ford Civil Contracting Pty Ltd
- Activity B: Cumberland Hospital (East Campus) Demolition - Renascent Australia Pty Ltd
- Activity C: Cumberland Hospital (West Campus) Demolition - Donnelly Constructions Pty Ltd

3.2.1 Project management structure

The project environmental management roles for the construction phase of the Project are shown in Figure 3-1 for Activity A, Figure 3-2 for Activity B and Activity C.

The scale of Activity B and C is significantly smaller than Activity A and hence have a smaller project team. All roles named in Table 3-3 are shown in the project management structure in Figure 3-2. It should be noted that this applies to the separate Contractors for Activity B and Activity C, i.e. each Contractor will have a dedicated project manager. The Contractor may choose to have one person performing multiple roles. This individual would then take on the responsibilities of each role assigned. Personnel named for specific roles is indicated in the Key Roles and Responsibilities table at the beginning of this document.

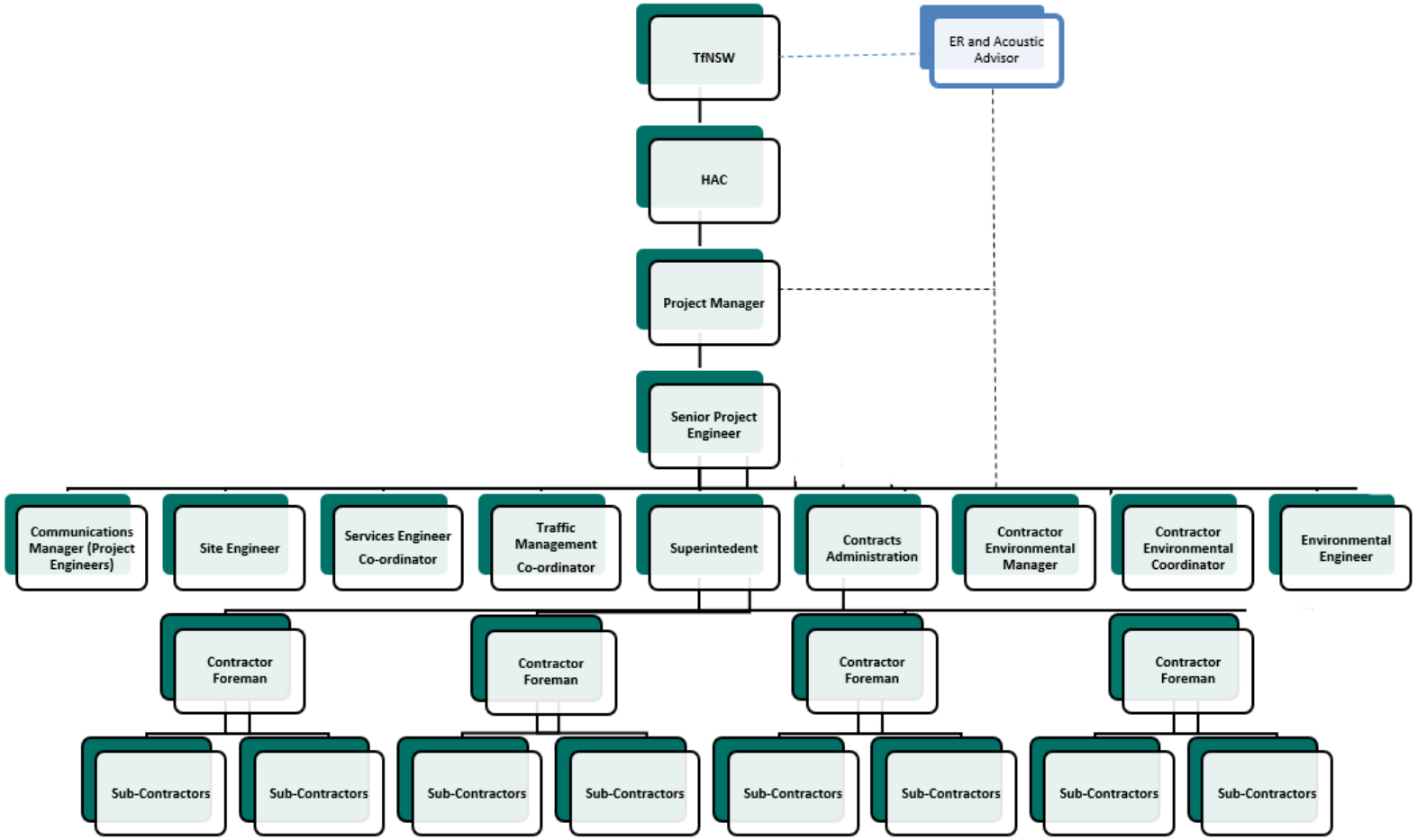

Figure 3-1: Activity A project management structure and environmental roles

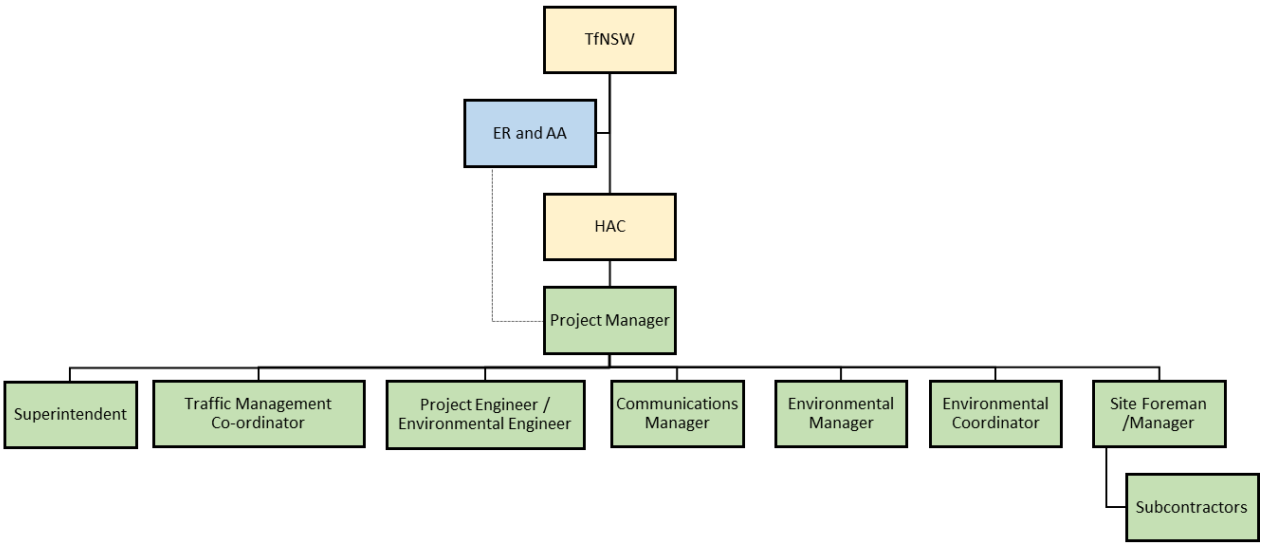

Figure 3-2: Activity B and Activity C project management structure

3.2.2 Roles and responsibilities

This section is applicable to Activity A, B and C.

3.2.2.1 The Contractor and its Associates

The Contractors and their Associates will have the following roles and responsibilities outlined in Table 3-3 under the CEMP and sub-plans.

Section 3.3 describes additional roles and responsibilities of any subcontractors and subconsultants.

Table 3-3: The Contractor and Associate roles and responsibilities for the Project

Role	Responsibilities and accountabilities
The Contractor	
Project Manager	• Responsible for project compliance with all written requirements or directions of the Secretary (CoA A4) • Regularly review that all environmental and contractual obligations are met • Conduct system environmental audits in conjunction with The Contractor's project audit schedule • Implement corrective actions • Lead and manage the Project in accordance with environmental requirements and Obligations • Be available 24-hours a day, seven days a week, and has authority to stop and direct works • Manage teams • Attend and chair meetings • Review progress claims • Assist with reporting • Assist with resourcing and allocation • Responsible for communicating requirements of this CEMP to reporting personnel • Emergency and incident response (Details in Appendix A8) • Provide all documentation requested by ER (CoA A24) • Primary contact for the ER and Government Representatives in conjunction with the construction environmental manager. • Assist the Secretary in the case of an audit of the ER (CoA A25).

Role	Responsibilities and accountabilities
Superintendent	• Direct and implement on site environmental management measures • Organise site activities • Manage selection of foreman • Monitor subcontractors on site and assess subcontractor performance • Organise deliveries • Determine environmental component of pre-starts • Hold toolbox meetings and pre-starts • Maintain toolbox and pre-start meeting registers • Responsible for communicating requirements of this CEMP to reporting personnel • Accompany visitors on site • Conduct all inductions, except environmental inductions • Circulate awareness notes • Emergency and Incident Response (Details in Appendix A8).
Construction Environmental Manager	• Be available 24-hours a day, seven days a week • Follow the intentions of The Contractor's environmental management systems • Follow the intent of ISO14001 • Incorporate HAC requirements • Implements The Contractor's Environmental Management Policy in accordance with The Contractor's EMS • Primary contact for the ER and Government Representatives

Role	Responsibilities and accountabilities
	• Regularly review that all environmental requirements and commitments in sub-plans are being met. Respond to environmental incidents. Prepare documentation to demonstrate construction compliance and report on compliance (CoA A37) using TfNSW INX Software • Implement document control measures • In conjunction with The Contractor's NSW Systems Manager's Project Audit Schedule (Section 3.10), conduct system environmental audits • Notify the ER on becoming aware of the need for emergency construction works (CoA E26) • Implement corrective actions • Lead and manage the Project in accordance with environmental requirements • Help as required to fulfil the requirements of The Contractor's Environmental Management Policy and the expectations of HAC • Responsible for communicating requirements of this CEMP to reporting personnel • Coordinate environmental training (including determine environmental component of pre-starts) • Conduct environmental inductions to contractor staff and associates • Maintain environmental induction register • Has the power to authorise amendments to environmental inductions at any time • Prepare a report every time the EPA/DPIE visits site. Immediately notify HAC of the visit. Provide HAC with the report within one working day of the visit • Emergency and Incident response planning (Details in Appendix A8) • Following Emergency and Incident reporting procedures (refer to Section 3.7) • Site inspections • Respond to Environmental non-conformities • Maintain records of environmental activities

Role	Responsibilities and accountabilities
	• If project change is raised by The Contractor's subcontractor or associate, undertake additional environmental assessment and consistency assessment in consultation with the TfNSW Environmental Manager to determine if a Project modification may be required. • Monitor and communicate fire-bans • Oversee Site Restoration • Submit a copy of Environmental Audit Report within six weeks of completing audit • Assist with project approvals (i.e. out-of hours-approval/tree-removal approval) • Assist with compliance tracking (i.e. completing INX forms) • Review Contractors associates SWMS and other documentation for consistency with the CEMP, as applicable.
Contractor Environmental Coordinator	• Daily and weekly inspections • Organise environment consultants and reporting • Record incidents • Put together reports • Prepare awareness notes • Responsible for communicating requirements of this CEMP to reporting personnel • Assist with ER, DPIE and EPA site visits • Review and approve the induction program (where required) and monitor implementation • Determine environmental component of pre-starts.

Role	Responsibilities and accountabilities
Environmental Engineer / Project Engineer	• Assist with Emergency and Incident response planning (Details in Appendix A8) • Following Emergency and Incident reporting procedures (refer to Section 3.7) • Site inspections • Respond to Environmental non-conformities • Prepare and conduct environmental inductions to contractor staff and associates • Assist with maintenance of an environmental induction register • Assist with ER, DPIE and EPA site visits and reporting • Programming • Subcontractor procurement and management • Contract management • Ordering of major material items. • Client liaison • Emergency and Incident Response (Details in Appendix A8) • Assist with ER, DPIE and EPA site visits and reporting • Client communications • Public communications • Community Liaison and notification • Complaints Management • Provide the AA with the complaints register on a daily basis.

Role	Responsibilities and accountabilities
Contractor Foremen	• Organise work teams within their designated work areas • Organise subcontractors within their work area • Maintain and implement environmental controls within their work area • Manage all vehicle movement in and out of their work area • Secure work compounds at all times • Responsible for communicating requirements of this CEMP to reporting personnel • Circulate awareness notes • Assist with ER, DPIE and EPA site visits • Emergency and Incident Response (Details in Appendix A8) • Daily Site Inspections • Maintain Site Diary.
Communication Manager	• Develop a Community Engagement Plan (CEP) for the project works including: ◦ details of relevant resources, including personnel who may be on call 24/7 and contact details ◦ project-specific issues analysis, including strategies to manage these issues ◦ stakeholder list, highlighting issues, interests and strategies for dealing with each audience ◦ indicative program of community liaison activities, including commencement and completion dates, identification of community impacts and management measures and how the community will be informed ◦ monitoring and evaluation activities to evaluate the effectiveness of the community liaison program • Meet timeframes for review and approval and resources for materials development, consultation and notification described in the CEMP • Adhere to the requirements of the CEMP and associated sub-plans applicable to scope of work, as discussed during site induction.

Role	Responsibilities and accountabilities
Associates	
The Contractors Associates and Subcontractors	• Operate under their supplied Safe Work Method Statements (SWMS) for works being undertaken that will be reviewed/approved by The Contractor and or HAC Environmental Manager or representative • Attend and be advised by induction/toolbox talks on the requirement to report environmental incidents • Attend targeted environmental awareness training (as required) • Respond to awareness notes • Assist with ER, DPIE and EPA site visits • Communicate any project changes to Construction Environmental Manager • Identify and report any environmental incidents to Contractor Foreman or Contractor Superintendent. • In the event of an environmental incident prepare an incident report for submission to HAC within 24 hours.

3.2.2.2 Roles under the approval

- CoA A19 – A25 describes the ER's role as summarised in Table 3-4 below. The Secretary has approved the ER as per CoA A21
- CoA A29 describes the Acoustic Advisor's role as summarised in Table 3-4 below.
- CoA E72, 74 and 78 describe the Excavation Director's role as summarised in Table 3-4 below.

Table 3-4: ER and AA roles and responsibilities for the Project

Role	Responsibilities and accountabilities
Environmental Representative (Pre-Construction Deliverables)	• Must be suitably qualified and experienced person who was not involved in the EIS or SPIR (CoA 21) • Must remain independent from the design and construction personnel for the CSSI and those involved in the delivery of it (CoA 21)

Role	Responsibilities and accountabilities
	• Receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI (CoA A23a) • Consider and inform the Secretary on matters specified in the terms of this approval (CoA A23b) • Consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community (CoA A23c) • Review documents identified in CoA Approval Matrix (Appendix A1) and any other documents that are identified by the Secretary, for consistency, in the opinion of the ER, with requirements in or under this approval and if so: • Make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary, CoA A23d) • Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary for information or are not required to be submitted to the Secretary (CoA A23d) • As may be requested by the Secretary, help plan, attend or undertake audits of the CSSI commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A41 of this approval (CoA A23f) • Assess, and if acceptable approve the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities or other ancillary facilities determined by the ER to have a minor environmental impact (CoA A23h) • Prepare and submit to the Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading “Environmental Representative Monthly Reports.” The Environmental Representative Monthly Report must be submitted within seven days following the end of each month for the duration of the ER’s engagement for the CSSI (CoA A23i) • Can approve low and moderate risk out-of-hours work in consultation with the Acoustics Advisor (CoA E28)

Role	Responsibilities and accountabilities
	• Endorse the Compliance Tracking Program before it is submitted to the Secretary for information at least one month before the commencement of works (CoA A31) • Endorse the CEMP before it is submitted to the Secretary for information at least one month before the commencement of works (CoA C7) • Endorse the Construction Monitoring Programs before it is submitted to the Secretary for information at least one month before the commencement of works (CoA C13)
Environmental Representative (Construction)	• Must be suitably qualified and experienced person who was not involved in the EIS or SPIR (CoA 21) • Must remain independent from the design and construction personnel for the CSSI and those involved in the delivery of it (CoA 21) • Receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI (CoA A23a) • Consider and inform the Secretary on matters specified in the terms of this approval (CoA A23b) • Consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community (CoA A23c) • Review documents identified in CoA Approval Matrix (Appendix A1) and any other documents that are identified by the Secretary, for consistency, in the opinion of the ER, with requirements in or under this approval and if so: • Make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary, CoA A23d) • Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary for information or are not required to be submitted to the Secretary (CoA A23d) • Regularly monitor the implementation of the documents listed in CoA Approval Matrix (Appendix A1) to ensure implementation is being carried out in accordance with the document and the terms of the CoA (CoA A23e)

Role	Responsibilities and accountabilities
	• As may be requested by the Secretary, help plan, attend or undertake audits of the CSSI commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A41 of this approval (CoA A23f) • As may be requested by the Secretary, assist the DPIE in the resolution of community complaints (CoA A23g) • Assess, and if acceptable approve the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities or other ancillary facilities determined by the ER to have a minor environmental impact (CoA A23h) • Prepare and submit to the Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading "Environmental Representative Monthly Reports." The Environmental Representative Monthly Report must be submitted within seven days following the end of each month for the duration of the ER's engagement for the CSSI (CoA A23i) • Can approve low and moderate risk out-of-hours work in consultation with the Acoustics Advisor (CoA E28)
Acoustics Advisor	The AA must: • receive and respond to communication from the Secretary about the performance of the CSSI in relation to noise and vibration; (CoA A29a) • consider and inform the Secretary on matters specified in the terms of this approval relating to noise and vibration; (CoA A29b) • consider and recommend, to the Proponent, improvements that may be made to work practices to avoid or minimise adverse noise and vibration impacts; (CoA A29c) • consider consultation outcomes with affected receivers to determine the adequacy of noise mitigation and management measures including work hours and respite periods; (CoA A29d)

Role	Responsibilities and accountabilities
	• review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary); (CoA A29e) • regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval; (CoA A29f) • in conjunction with the ER, the AA must (CoA A29g) i. as may be requested by the Secretary, help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits; ii. if conflict arises between the Proponent and the community in relation to the noise and vibration performance during construction of the CSSI, follow the procedure in the Community Communication Strategy approved under Condition B3 of this approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary; iii. consider relevant minor amendments made to the CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature and are consistent with the terms of this approval and the management plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, endorse the amendment. This does not include any modifications to the terms of this approval; iv. assess the noise impacts of minor construction ancillary facilities; and • prepare and submit to the Secretary and other relevant regulatory agencies, for information, a monthly Noise and Vibration Report detailing the AAs actions and decisions on matters for which the AA was responsible in the preceding month (or another timeframe agreed with the Secretary). The Noise and Vibration Report must be submitted within seven days following the end of each month for the duration of construction of the CSSI, or as otherwise agreed with the Secretary (CoA A29h).
Excavation Director	• To be a suitably qualified archaeologist whose experience complies with NSW Heritage Council's Criteria for Assessment of Excavation Directors

Role	Responsibilities and accountabilities
	• Advise on archaeological issues • Assist with ER and Heritage Council / Department of Premier and Cabinet site visits • Be available to respond to any unexpected heritage finds • Has authority to stop and direct works in the event of any heritage finds.

3.2.2.3 The Principal and Proponent

TfNSW is the project proponent and has delegated the role of Principal to HAC to undertake Package 2 (Westmead Precinct Works). TfNSW, as the Proponent, will act upon all responsibilities of the Planning Approval in accordance with those stated in the Staging Report and Obligations Matrix of the Deed

The role and responsibilities are as follows in Table 3-5.

Table 3-5: TfNSW roles and responsibilities for the Project

Role	Responsibilities and accountabilities
The Principal Health Administration Corporation (HAC)	• HAC has accepted the responsibilities of TfNSW as the Principal • Report any non-conformance to relevant authorities as necessary. • Ensure CoA requirements for the management of Grey-headed Flying-fox are addressed. Liaise with the Civil contractor on behalf of TfNSW regarding approval requirements. • Has the ability to stop work.
The Proponent TfNSW Environmental Manager	The EM role includes: • Maintaining Compliance Tracking Program • Coordinating approval of OOHW Protocol forms, assist with coordination of respite. • Primary liaison with ER / AA / IA • Submissions to DPIE through TfNSW within nominated timeframe (e.g. monitoring information). • Maintaining staging report • The EM will provide a point of contact between The Contractor and government agencies. Where there is a requirement to contact a government agency in a specified timeframe, TfNSW will assist in facilitating that contact within the timeframe.
The Proponent PLR Communication and Engagement Director	• The Director is responsible for providing a coordinated approach to PLR stakeholder liaison across works packages, construction sites and contractors is necessary to create clear communication with our stakeholders. • Responsible to report directly to DPIE and other relevant Authorities on all matters that fall within the CCSI planning approvals. Prepare, manage and implement the PLR Community Communication Strategy (CCS). • Manage contractor delivery communication teams to fulfil the requirements of the relevant contract. • Maintain relationships with directly affected community during a transition of relationships to contractors

3.2.2.4 The Secretary

The Secretary holds ultimate authority and TfNSW, HAC and The Contractor and Associates must comply with all written requirements or directions of the Secretary as per Conditions of Approval

SSI 8285. The Secretary has final interpretation of any condition and can at any time delegate authority to the ER.

3.3 Selection and management of Subcontractors

The Contractor's environmental control requirements as outlined in the CEMP will be issued to The Contractor's Associates, as applicable to their scope of work. The Contractor will monitor the subcontractor for compliance. Should the environmental controls be lacking, the subcontractor will be given the opportunity to fix the situation before The Contractor corrects the failures at the subcontractor's expense.

Where multiple subcontractors are working in the same areas, the subcontractor that damages the controls will be responsible for repairing them. Where there is a joint sharing of the controls it will be expected that the subcontractors share the responsibilities.

The Contractor, as part of its daily inspections of works (see Section 3.8.1), will inspect the subcontractor's areas for compliance. Should a noncompliance be found the subcontractor(s) will be bound by the same mechanisms as The Contractor for correction and compliance.

Subcontractor performance will be assessed as part of The Contractor's pre-approval process for future works and for reporting back to the client.

3.4 Competence, training and awareness

Each named person in Section 3.2 will be responsible for communicating the requirements of this CEMP to all personnel reporting to them. The Contractor Construction Environmental Manager will coordinate the environmental training in conjunction with other training and development activities (e.g. emergency and incident response, refer to Section 3.7).

All environmental management measures included in this CEMP and sub-plans will be incorporated into training provided to Contractor staff and Associates through the various training methods described in this section (e.g. induction, toolbox talks, targeted training).

3.4.1 Environmental induction

The Contractor and its Associates (including subcontractors) need to attend a compulsory site induction that includes an environmental component prior to commencement onsite. This is done so all personnel involved in the Project are aware of the requirements of the CEMP, sub-plans and Environmental Obligations. For Activity B and C this induction will cover the unique sensitivity of the Cumberland Hospital mental health facility.

Short term site visitors undertaking inspections and/or entering the site (such as regulators) will be required to undertake a visitors' induction. They will always be accompanied by inducted personnel.

Temporary visitors to site for purposes such as deliveries will always be accompanied by inducted personnel.

The Contractor's Construction Environmental Manager (or delegate) will conduct the environmental component of the site inductions.

The environmental component of the induction shall cover all elements of the CEMP, sub-plans and Environmental Objectives, and it will include as a minimum:

- Relevant details of the CEMP including its purpose and objectives
- Due diligence and duty of care Requirements
- Environmental licence, permit and approval conditions
- Potential environmental emergencies onsite and the emergency response procedures
- Pollution and other environmental incidents reporting and notification requirements

- High-risk activities and associated environmental safeguards
- Unexpected Heritage Finds Procedure: Aboriginal and non-Aboriginal Heritage Management
- Working in or near environmentally sensitive areas
- ECMs, their purpose, scope and use
- Specific environmental management requirements and responsibilities
- Environmental management measures
- Incident response and reporting requirements
- Environmental constraint information and locations
- Key environmental issues
- Management of emissions

A record of all environment inductions will be maintained and kept onsite. The Contractor's Construction Environmental 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.

An Induction and Training Register will be kept in each site office for the three Activities (A, B and C).

3.4.2 Daily pre-start meetings

The daily prestart meeting will be used to inform the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards, environmental risks, and other information that may be relevant to the day's work.

The Contractor's Superintendent will conduct a daily prestart meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Daily prestart meetings will be generally succinct in nature and take approximately 10-15 minutes.

Prestart topics, dates delivered, and a register of attendees will be recorded and kept in the site office.

3.4.2.1 Toolbox talks

Toolbox talks will educate personnel on issues related to all aspects of construction including environmental issues. The toolbox talks will be used so environmental awareness continues throughout construction.

Toolbox talks will include relevant details of ECMs. The talks will be tailored to specific environmental issues relevant to upcoming works.

Relevant environmental issues may include, but are not limited to:

- Erosion and Sediment control
- Noise and vibration management
- Waste management
- Hours of work
- Emergency and spill response
- Aboriginal and non-Aboriginal heritage management
- Weed management

- Dust control
- Flood Management
- Management of emissions
- Impacts on the Cumberland mental health facility

Records of Tool box talks will be maintained.

3.4.2.2 Targeted environmental awareness training

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high-risk of environmental impact. Topics covered may include those detailed above, or others deemed necessary in the lead up to, or during construction.

3.4.2.3 Awareness notes

Awareness notes may be used as an additional means to inform construction personnel. These will typically take the form of a poster, booklet, or similar and will be distributed to The Contractor and its Associates with a responsibility for managing specific work locations or activities. This documentation will be used to inform the broader workforce through either daily prestart meeting or provision in worker crib sheds/break facilities.

3.4.2.4 Cumberland Mental Health Facility Targeted Training

This is applicable to Activity B and C and is included as a result of consultation with WSLHD in August 2019.

Cumberland Hospital is an active hospital site, 24 hours per day / 7 days per week, providing mental health services to people living with a mental illness. Patients (referred to as consumers throughout this document) are rarely confined to bed during the day and do use the grounds of the hospital so are likely to move around the hospital during the activities being undertaken for Package 2. All staff of The Contractor and its Associates must undertake training to understand the sensitivity of the hospital and the requirements of any interactions with its consumers i.e. not providing drinks, food or cigarettes to consumers as this could compromise their treatment.

3.5 Working hours

As per CoA E21 and E22 the approved Project working hours are:

- 7am to 7pm Monday to Friday
- 8am to 6pm Saturday
- No work to be undertaken on Sunday or Public Holiday.

As per CoA E27 highly noise intensive work is only permitted:

- Between 8am to 6pm Monday to Friday
- Between 8am to 1pm Saturday
- In continuous blocks not exceeding three (3) hours each with a minimum respite from those activities and works of not less than one (1) hour between each block.

- Unless permitted by an Environmental Protection Licence (EPL)[1] or Out-of-Hours Work Protocol

For Activity A, out-of-hours work is proposed for relocating utilities. This work must be conducted out-of-hours due to the requirement of maintaining emergency vehicle access throughout the day. The out-of-hours work is required early in the program and towards the later part of the program, to help streamline construction.

Full justification for the out-of-hours work of Activity A is provided in Appendix C1.2, Noise and Vibration Management Sub-Plan. All works outside of the approved working hours outlined above (CoA E21, E22 and E27) will be carried out in accordance with the out-of-hours noise protocol (document reference: PLR-TFNSW-CBD-PE-FRM-000002). The protocol provides the following:

- A process for consideration of out-of-hours works against the relevant noise and vibration criteria;
- A process for the identification and implementation of mitigation and management measures for residual impacts, in consultation with community at each affected location, consistent with the requirements of Condition E39;
- An approval process that considers the risk level of activities (in accordance with AS/NZS ISO 31000:2009 “Risk Management”), the proposed mitigation, management and coordination, including where: (i) low and moderate risk activities can be approved by the ER in consultation with the AA, and (ii) high risk activities that are approved by the Secretary; and
- Identify Department and community notification arrangements for approved out-of-hours works, which will be detailed in the Community Communication Strategy (document reference number PLR-TFNSW-CBD-PE-PLN-000001).

No out-of-hours work is proposed for Activity B or C.

3.6 Communication

This section describes the communication methods, frequency and responsibilities within the Project team, separate to training and inductions.

3.6.1 Internal communication

Project meetings, as held by the The Contractor’s Project Manager and the The Contractor’s management team (Project Engineers, Superintendent and Construction Environmental Manager), will:

- Incorporate environmental management as an agenda item
- Be recorded and filed.

3.6.2 Government authority consultation

The Contractor’s Construction Environmental Manager will be responsible for reporting the ongoing environmental performance of the Project and key environmental matters to HAC, TfNSW and the ER through fortnightly performance reports over the duration of the Project work.

[1] It should be noted that the works for Package 2 are not subject of the project-wide EPL as they are classed as enabling works. A separate EPL for the works carried out as Package 2 is not required.

The Contractor's Project Manager and Construction Environmental Manager are 24-hour emergency contacts. They have the authority to halt the progress of the works if necessary, along with the Excavation Director, ER and HAC.

Unless expressly authorised by TfNSW, The Contractors are not authorised to contact the EPA, or any other government agency. TfNSW will retain the responsibility for notification to the EPA and other communications with government agencies where relevant.

The Contractor's Construction Environmental Manager will prepare a report following an EPA visits site. TfNSW will be notified of the site visit as soon as permissible. A report will be provided to HAC who will provide the report to TfNSW following the agreed communication and time protocol.

An Environmental Reference Group (ERG) has been set-up for the project which comprises representatives of TfNSW, ER, Project delivery team, regulatory authorities and key stakeholders from interfacing projects (e.g. UrbanGrowth and NSW Health). The ERG will be maintained for the duration of the Project, including Package 2, and will meet regularly to identify potential cumulative impacts from separate packages of work within the project as well as any interfacing projects managed by others. The role of the ERG is to work collaboratively to plan required works to manage any cumulative impacts of the Project and other interfacing projects. This should include:

- Reviewing current and upcoming development applications
- Identification of key conflict points with other construction projects and PLR packages
- Developing mitigation strategies in order to manage cumulative impacts of PLR and interfacing projects.

Where projects (either packages of PLR or interfacing projects) are identified to overlap and generate cumulative effects, regular project interface meetings will be established between TfNSW and the project contractors to ensure impacts are identified and managed in a collaborative and co-operative manner.

Further details on the management of cumulative impacts across the PLR program, including TfNSW's approach is provided in the Staging Report (PLR-TFNSW-CBD-PE-RPT-000001) and the Out-of-hours work protocol (PLR-TFNSW-CBD-PE-FRM-000002).

3.6.3 Community liaison and/or notification

The CEMP and sub-plans will be made available to the public through the Project website as required by CoA B11.

The Contractor's Communications Manager must provide written notification to the neighbouring community of pending construction activities no later than seven (7) days before starting work. TfNSW must review and approve notifications in a five (5) day period prior to issue to public. All notifications must be distributed in a 500m footprint of the site, or as otherwise agreed with TfNSW. Traffic and access arrangement changes must be identified with signage (electronic and static) five (5) days before being implemented.

If extended working hours are required, notifications must be distributed to all properties within 500 metres of the associated work activity. The Contractor's Communications Manager must proactively consult with surrounding residences to determine scheduling work where out-of-hours construction noise levels exceed approved levels. Additionally, The Contractor's Communications Manager must consult with affected residents regarding construction activity and respite periods for out-of-hours-works including, but not limited to, providing:

- A schedule for likely out-of-hours work for a period of no less than two (2) months for medium to high risk work (CoA E39)
- A schedule for likely out-of-hours work for a period of no less than seven (7) days for low risk work (CoA E39)
- Potential works, location and duration

- Noise characteristics and likely noise levels of the works
- Likely mitigation management measures
- Specific notifications, individual briefings, respite offers and/or alternative accommodation where eligible.

For Activity A, B and C the Contractor's Communications Manager must consult with noise and vibration sensitive receivers to:

- Consider options for installing new monitors and/or relocating sensitive equipment;
- Schedule work outside busy periods; and development of reasonable and feasible noise; and
- Vibration management measures prior to and throughout construction.

Details of consultation undertaken are provided in Section 2.2.2, CEMP and Appendix E, Construction Noise and Vibration Monitoring Plan (PLR-HAC-HRW-NV-PLN-000001).

Community consultation will be conducted as per procedures and protocols outlined in the Community Consultation Strategy (document reference number PLR-TFNSW-CBD-PE-PLN-000001) including:

- Development of a Community Engagement Plan (Section 10.2, PLR-TFNSW-CBD-PE-PLN-000001)
- Engagement with the Communications Management Control Group (Section 10.3, PLR-TFNSW-CBD-PE-PLN-000001)
- Attendance at community forums and event (Section 10.10, PLR-TFNSW-CBD-PE-PLN-000001)
- Response to email and phone enquiries (Section 10.11 and 10.12, PLR-TFNSW-CBD-PE-PLN-000001)
- Installation of site signage, including provision for TfNSW to review artwork and hoardings prior to installation (Section 10.18, PLR-TFNSW-CBD-PE-PLN-000001)
- Specific communication procedures for Cumberland Hospital (Appendix E, PLR-TFNSW-CBD-PE-PLN-000001).

The Contractor will maintain records of community engagement at the site office throughout construction.

3.6.4 Complaints management

TfNSW has developed a complaints management procedure for Stage 1 PLR, see Community Communication Strategy (document reference number PLR-TFNSW-CBD-PE-PLN-000001). It sets out the Project's approach to handling complaints. The procedure will be operational for the Project from the Planning Approval date and for 12-months following completion of construction. The Community Communication Strategy addresses the CoA relating to complaints management procedure (CoA B6 – B10).

Complaints may be received via PLR's 24-hour community information line (1800 139 389), the postal address (Level 10, 130 George Street, Parramatta NSW 2150), the Project's community email address (parramattalightrail@transport.nsw.gov.au), or the PLR website.

The Contractor Communications Manager has the following responsibilities in relation to complaints:

- Answer all phone calls transferred by the call centre from the community information line (calls to be answered by a team member 24-hours per day seven (7) days per week, not an answering machine while construction activities are occurring)

- Refer complaints not associated with contractor activities to HAC immediately.
- Immediately investigate and determine the source of a complaint, including an initial call to the complainant (when received by phone or where a telephone number was provided or available)
- Provide a written response within two hours when receiving any emails during construction hours (or verbally if a phone number is provided or available)
- Outside of construction hours, provide an automated email response confirming receipt and including the 24-hour 1800 Project line explaining that a full response will follow. Then provide a written or verbal response within the first four hours of the next business day as approved or agreed to by PLR
- Provide a written response to letters/faxes within 24 hours (or verbally if a phone number is provided or available)
- Keep the complainant informed of the process until the issue is resolved
- Provide feedback to requests for information from the PLR Communications Team within two hours
- Take all actions and implement all measures to prevent the reoccurrence of the complaint
- Close-out complaints within agreed timeframe with the complainant
- If a complainant requests follow up information and wishes to receive calls, they will be added to the list of specific stakeholders to be called within 7 days ahead of proposed work
- Escalate complaints in accordance with the Escalation and Dispute Resolution Process (as per Section 4.3 in Appendix A, Community Communication Strategy (document reference number PLR-TFNSW-CBD-PE-PLN-000001))
- Record all complaints in Consultation Manager, or where this is not possible, the Complaints Spreadsheet (available in Appendix C1) and send an updated version of the spreadsheet to PLR within 24-hours of an enquiry being received and/or a response being provided or as agreed.

PLR will maintain a Complaints Register to record information on all complaints received during any works and for a minimum of 12-months following the completion of construction.

The Contractor's Communications Manager must record all complaints on the stakeholder database, Consultation Manager, and register complaints on the Complaints Spreadsheet (available in Appendix C1) if Consultation Manager is unavailable. The Contractor Communications Manager is required to report on the day of any complaint (or the following working day if the complaint has been received after 5pm) to the PLR Communication and Engagement Director. The Contractor's must provide a copy of the complaints register to the ER on a daily basis in, accordance with CoA A24, and the Secretary upon request, in accordance with CoA B10.

The Contractor's Communications Manager must report complaints every month to the PLR Communication and Engagement Director. The Monthly Complaints Report must, as a minimum, address and detail:

- Number of complaints received
- Number of people affected in relation to a complaint
- Status of the complaints
- Issues raised
- Action taken to resolve or proposed actions, and whether mediation undertaken
- Location of complainant
- Response times

- Investigations outstanding
- How lessons learnt are being applied across the project to avoid the complaint recurring.

3.7 Emergency and incident planning

Any member of the Project team may raise an environmental incident, incident involving hospital consumers, non-conformance or improvement opportunity.

Emergency and Key Contacts are provided at the beginning of this document.

The Contractors Environmental Manager will provide, to all personnel as part of the general induction described in Section 3.4:

- a safety and emergency response procedure induction
- response to incidents involving Cumberland Hospital Consumers (or Activity B&C only).

3.7.1 Environmental incidents

In the event of an environmental incident, the Site Emergency Management Plan in Appendix A8 will be implemented. Key emergency personnel and their roles are as follows:

Table 3-6: Emergency response roles and responsibility

Emergency Response Role	Emergency Response Responsibility	Activity A Contact	Activity B Contact	Activity C Contact
Emergency Response / Critical Incident Team Leader	Co-ordinating physical response to the incident and updating the client	• Project Manager	• Project Manager	• Site Manager
Emergency / Critical Incident Response Team	Deal with issues on site	• Contractor Superintendent • Contractor Foreman • Project Engineer	• Contractor Superintendent • Contractor Foreman	• Project Manager • Environmental Manager • Communication Manager • Foreman

In the event of a flood, the Parramatta Local Emergency Plan (EMPLAN) will be followed. The EMPLAN broadly advocates an approach of Shelter-In-Place/stay at work rather than evacuation. This is discussed in detail in the Construction Flood Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000007)

3.7.2 Incidents involving Cumberland Hospital consumers (Activity B & C only)

3.7.2.1 Code Black

A Code Black is activated by a Psychiatric Emergency (where a patient has become volatile and is in danger of hurting themselves or others, who is unable to follow instructions and where redirection, de-escalation, etc. have not been successful) or any incident where Cumberland Hospital staff/patients/visitors are being involved in an armed hold up and fear for their personal safety.

To initiate the Code Black Procedure, dial '111' / Use two-way radio. State 'Code Black' giving the exact location (building and room) – Speak slowly, calmly and clearly.

Communicate:

- Your name
- Incident location
- Anybody injured? YES NO
- Note the time
- Type of threat

The Admissions Officer of Cumberland Hospital will announce a Code Black via two-way radio. Cumberland Hospital Code Black Team Members will then respond to the incident.

Any Contractor personnel that are involved in the incident shall:

1. Remain calm - do not panic.
2. Remove yourself and others to a safe area. If possible, attempt to maintain visual contact.
3. Do not attempt any action that puts life in danger – DO NOT BE HEROIC.
4. In the event of armed hold up obey the offender's instructions, do only what is told, nothing more. Do not volunteer any information.

All Contractor personnel that are not involved in the incident shall:

1. Remain in your work area until advised "Code Black all clear". Investigating the incident could place the life of yourself and others in danger.
2. Communication to the admission office should be kept to a minimum. Contact to report emergencies only.
3. If the incident escalates, you will be advised when and of the appropriate action you are required to take.

3.7.2.2 Cumberland Hospital Disaster Controller (Activity B & C only)

The Cumberland Hospital Disaster Controller (HDC) is contactable 24 hours a day through a designated number ([redacted] They will manage any Cumberland Hospital Emergencies in accordance with Hospital procedures.

They shall be notified of:

1. Any actual or imminent emergency that may impact upon Cumberland Hospital Health Services;
2. Emergencies that require, or may require, the coordination of support that utilises emergency management arrangements; and
3. Significant, unusual or newsworthy events with emergency management implications.

3.7.3 Environmental non-conformities

The Contractor's Environmental Management System describes the process for managing non-conforming work practices and initiating corrective/preventative actions or system improvements.

The TfNSW Representative or public authority may raise a non-conformance or improvement opportunity using the same process. A non-conformance is the failure or refusal to comply with the requirements of this CEMP and supporting documentation.

A corrective/preventative action (or actions) must be implemented for each non-conformance identified. Improvement opportunities may also result in the implementation of corrective/ preventative actions.

3.7.4 Reporting all incident / non-conformances / reportable events

All incidents, reportable events and regulatory action will be reported as outlined in the TfNSW's Environmental Incident Classification and Reporting Procedure (TfNSW, 2017, 9TP-PR-105) and in accordance with the Guide to Environmental Incident and Non-compliance Reporting using the INX System (CTP reference number PLR-TFNSW-PJT-PE-PRG-000001). The process is as follows:

- The Contractor's Construction Environmental Manager will provide all records of the environmental incidents, non-conformances and regulatory action to HAC both verbally (immediately) and via INX system as soon as practicable.
- HAC will report this to TfNSW on behalf of The Contractor (immediately).
- Once aware of the incident, TfNSW will notify DPIE (immediately).
- ER to be notified (as soon as practical).
- Where an incident involves a potential impact to an Aboriginal site, the Project Manager will notify the Department of Premier and Cabinet (Heritage) (Formerly: Office of Environment and Heritage (OEH)), Registered Aboriginal Parties and the Excavation Director and their input will be sought in closing out the incident.
- If emergency construction works are required, the Project Manager must notify the ER of the need for these works (immediately). Best practice endeavours will be used to notify all sensitive receivers of the likely impact and duration of these activities.
- If property damage occurs as a result of construction this will be rectified, or the property owner compensated within a timeframe agreed to by the property owner.
- Written report must be submitted by HAC to TfNSW within one (1) week following the incident to allow TfNSW to submit a report and record to DPIE within one (1) week following the incident.
- If statutory notification is provided to the EPA, notification will also be provided to the Secretary within 24 hours.

The Environmental Manager is responsible for ensuring information is delivered in the appropriate timeframe.

3.8 Environmental inspections

The environmental inspections will be undertaken in accordance with The Contractor's Environmental Management System in addition to the requirements of HAC to achieve zero harm to the environment.

3.8.1 Daily environmental inspections

The Contractor's Construction Environmental Manager or nominated representative will conduct daily environmental inspections of the works to identify the suitability of environmental controls and management measures. Where works are occurring in an area of high environmental sensitivity, pre-work inspections must also be conducted.

3.8.2 Weekly and post rainfall site inspections

The Contractor's Construction Environmental Manager will undertake weekly site work area environmental checklist inspections including subcontractor work areas.

Prior to predicted rain events The Contractor's Construction Environmental Manager will assess if there are suitable controls in place across the sites in the event of rain fall.

Post rain events, the sites will be assessed by The Contractor's Construction Environmental Manager to confirm:

- If the implemented controls were suitable and sufficient
- If the implemented controls have been breached, and if any clean-up is underway
- What can be improved
- If it is safe for works to be undertaken.

3.8.3 External inspections

During construction, The Contractor's Environmental Manager will be available to undertake joint planned inspections with the ER, AA and TfNSW. The frequency of these inspections will be determined based on an assessment of risk but as a minimum these inspections would be carried out fortnightly. The EPA and DPIE may conduct an inspection at any time. The Contractor's Environmental Manager or Project Manager must be available to assist with this inspection. This may also consist of site and documentation audits.

For efficiency, the opportunity should be taken to undertake external inspections of numerous packages on the same day.

3.8.4 Environmental inspection report or environmental improvement notice

The Contractor's Construction Environmental Manager or ER may issue an Environmental Inspection Report for deficiencies that are minor in nature but require rectification. Where more serious issues require an immediate need for action, or for repeat non-conformances an Environmental Improvement Notice will be issued.

The Contractor's Construction Environmental Manager Inspection Report will be updated with date of close out and any necessary notes.

The Contractor's Construction Environmental Manager, The Contractor's Project Manager, HAC Manager, or Excavation Director has the authority to stop non-conforming activities if necessary, in consultation with The Contractor or delegate. The associated works will not commence until a corrective/preventative action has been closed out and project quality system requirements are addressed.

3.8.5 Environmental inspection reports

Copies of all environmental inspection reports and Environmental Improvement Notices prepared by ER and The Contractor's Environmental Manager will be tracked, closed out within the agreed timeframes and records maintained with the project documentation system.

3.9 Environmental monitoring

Environmental monitoring will be undertaken to:

- Validate the Project's predicted impacts;
- Measure the effectiveness of environmental controls and implementation of this CEMP, and;
- Address approval requirements.

Environmental monitoring requirements identified within the CoA, REMMM and EPO are detailed in the relevant environmental management sub-plans. Table 3-7 presents the relevant monitoring requirements for the project and which sub-plan they can be found in.

Table 3-7: Relevant construction phase environmental monitoring required by the Project approval

Topic	Environmental Requirement	Relevant Plan
General	CoA A37 Construction Compliance Reports	Section 3.10.3 of this CEMP
	CoA – E135 Before construction identify utilities, services and other infrastructure and property potentially affected by construction to determine requirements for access to, diversion, protection, and/or support.	Section 4.8 of this CEMP
Heritage	CoA E74 Archaeological Monitoring	Section 8.3 of Appendix B5: Construction Heritage Management Sub-Plan
	SPIR AB-2 Heritage monitoring and auditing requirements.	
	SPIR HE-21 Archaeological monitoring of construction excavation activities	
Noise and Vibration	CoA C9(b) Noise and Vibration Monitoring	Section 6.4, Construction Noise and Vibration Management Sub-Plan (Appendix B3)
	CoA E43 Vibration monitoring prior to and during vibrating works	
	CoA E45 and E46 Building surveys to be undertaken prior to and after construction	
	SPIR NV-2 Regular compliance checks for noise emissions from all plant and machinery used for the project	
	SPIR NV-3 In the event of exceeded out-of-hours noise goals ongoing noise monitoring is required	
Traffic, Transport and Access	CoA E11(f) Monitoring of efficacy of Parking Management Strategy	Section 5.1.3, 5.2.3 and 5.3.3, Construction Traffic, Transport and Access Management Sub-Plan (Appendix B1)

Topic	Environmental Requirement	Relevant Plan
Biodiversity	SPIR BI-3 Weed management focusing on monitoring for early identification of invasive weeds and pathogens	Section 10.3, Construction Flora and Fauna Management Sub-Plan (Appendix B2)
	CoA C9(c) and CoA E101 Grey-headed flying fox management, including control measures, monitoring and roles and responsibilities	Section 9.1.2 and 9.1.3, Construction Flora and Fauna Management Sub-Plan (Appendix B2)
Water Monitoring	CoA C9(a) Water quality (turbidity) monitoring	As per Section 5.2.1, Construction Soil and Water Management Sub-Plan (Appendix B4) and the Staging Report (PLR-TFNSW-CBD-PE-RPT-000001), water quality monitoring is not required for package 2 as there is limited potential for impacts.

3.10 Auditing

3.10.1 Contractor internal audits

Internal auditing will be undertaken on a six-monthly basis throughout the Project. The Construction Environmental Manager will lead the audit with input from the ER. The purpose of auditing is to verify compliance with:

- This CEMP and sub-plans
- The Approval and Environmental Requirements
- Any relevant legal and other requirements (e.g. licenses, permits, regulations, TfNSW contract documentation).

An audit checklist has been developed and it will be amended as necessary to reflect changes to this CEMP, subsequent approvals, and changes to Acts, regulations or guidelines.

3.10.2 Independent audits

Auditing will also be undertaken by an Independent Environment Auditor to the Project in accordance with ISO 19011:2014: Guidelines for Quality. TfNSW will co-ordinate the independent audits.

Table 3-8 below presents Project auditing requirements.

Table 3-8: Contractor and Independent Audit requirements

Requirement	Timing	Responsibility	Recipient
1: Internal audit			
Verify compliance with approval and legal requirements, TfNSW specifications, and construction documentation.	The first audit within three months of the commencement of construction and then at six monthly intervals there-after. The final submitted within five working days of contract completion date.	The Contractor's Construction Environmental Manager	PLR Project manager, TfNSW
2: Independent audit			
Verify compliance with approval and legal requirements, TfNSW specifications, construction documentation, and any other commitments.	Six-monthly	TfNSW	Secretary via TfNSW

As per CoA A43, a copy of the Environmental Audit Report must be submitted to the Secretary for information within six weeks of audit completion, including a response to any recommendations.

3.10.3 Construction phase compliance tracking

The TfNSW PLR Project Wide Compliance Tracking Program (CoA A30 to CoA A33) was adopted on the project and sets out a program and frequency for compliance reporting and independent auditing that the prescribed requirements of includes:

- Provisions to periodically (quarterly) review Project compliance with the Environmental Requirements. CoA A37 requires 6-monthly construction compliance reports to be submitted to the Secretary for information.
- Provision to carry out an independent environmental auditing program in accordance with ISO 19011:2014 - Guidelines for Quality and/ or Environmental Management Systems Auditing (Section 3.10)
- Mechanisms to report and record incidents and actions taken in response to those incidents (Section 3.7.4)
- Provisions to report environmental incidents to DPIE during construction (Section 3.7.4)
- Procedures to fix any non-compliance identified during the environmental auditing, review of compliance or incident management processes (Section 3.7.3 and Section 3.7.4).

The Construction Environmental Manager is responsible for compliance reporting required under the Compliance Tracking Program.

3.10.4 Other reporting

As per CoA A37, Construction Compliance Reports must be prepared and submitted to the Secretary for information every six (6) months from the date of the commencement of construction for the duration of construction.

The Construction Compliance Reports must include:

- a results summary and analysis of environmental monitoring;
- the number of complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints;
- details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting period;
- a register of any reviews of consistency undertaken including outcome;
- results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit;
- a summary of all incidents notified in accordance with Conditions A44 and A46 of this approval (Section 3.7); and
- any other matter relating to compliance with the terms of this approval or as requested by the Secretary.

The Environmental Manager will make all reports publicly available and DPIE will be notified in writing when this is complete (CoA 33).

The Contractor's Environmental Manager will be responsible for ensuring all environmental inspections, audits and reports are complete in a timely manner. Where a report is required to be delivered to the Secretary or DPIE, The Contractor must issue the document to HAC who will review the document and issue it to TfNSW who will issue the document to the relevant stakeholder.

Where a report is to be issued within one (1) week to an external stakeholder, The Contractor must provide the document to HAC for review two (2) days prior to close of the reporting period.

Where a report is to be issued within a timeframe greater than a week to an external stakeholder, The Contractor must provide the document to HAC five (5) days prior to close of the reporting period. Reporting requirements are summarised in Table 3-9 along with total time for reporting to external stakeholders.

Table 3-9: Summary of inspection, audit and incident reporting with issue timeframes

Reporting Type	Details	Timing
Community Notification	Refer to Section 3.6.3	Draft notification will be issued to TfNSW minimum of 12 days prior to commencing construction. TfNSW has five (5) days to review and approve the notification. The notification must be issued to the community a minimum of seven (7) days prior to commencing construction.
Pre-work Inspection	Refer to Section 3.8.1	Internal inspection, report to be complete on day of inspection.
Weekly and pre and post rainfall inspection	Refer to Section 3.8.2	Internal inspection, report to be complete on day of inspection.
External Inspection	Refer to Section 3.8.3	Report to be provided to external party within one (1) week of completing inspection.

Reporting Type	Details	Timing
Environmental Audit Report	Refer to Section 3.10	The Proponent must submit a copy of the Environmental Audit Report to the Secretary for information, with a response to any recommendations contained in the audit report within six (6) weeks of completing audit. (CoA A43)
Construction Compliance Reports	Refer to Section 3.10.3	Provide to Secretary six (6) monthly from commencement of construction.
Emergency incident or non-compliance	Refer to Section 3.7.4	Report all incidents or non-compliance to HAC verbally and in written form immediately The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one) and set out the location and nature of the incident. (CoA A44)
Incident or non-compliance report	Refer to Section 3.7.4	Within one week of notification of an incident under Condition A44 of this approval, the Proponent must submit a report to the Department providing the time and date of the incident, details of the incident and must identify any consequent non-compliance with this approval. (CoA A45)
Incident Response	Refer to Section 3.7.4	If an incident occurs or if statutory notification is given to the EPA as required under the *Protection of the Environment Operations Act 1997* in relation to the CSSI, such notification must also be provided to the Secretary within 24 hours after the notification was given to the EPA. (CoA A47)

3.11 Environmental records, review and document control

This section describes how environmental activities will be recorded and is applicable to all Activities (A, B and C).

3.11.1 Environmental records

The Contractor's Construction Environmental Manager is responsible for maintaining all Environmental Management Documents and records as current at their point of use. Types of documents and records include:

- All monitoring, inspection and compliance reports/records
- Public authority correspondence
- Induction and training records
- Environmental incident, other environmental non-conformance, complaints and follow-up action reports
- Community engagement information
- CEMP and construction environmental management system review meeting minutes and evidence of any action taken
- CEMP and sub-plan updates
- ECM updates.

3.11.2 CEMP revision

The CEMP, sub-plans and other procedures and documents are to be updated over the course of the Project. These should be reviewed or revise for update following:

- Reportable environmental incidents
- Identification of new risks, including risks identified during risk register updates
- Non-compliances are identified
- Environmental audits that identify matters that require attention

In response to Project change, including modifications within three months of any of the above occurrences or annually as part of a continuous improvement process.

All Environmental Management Documents are subject to ongoing review and continual improvement. This includes changes to the timing of scheduled activities or to legal licensing changes.

Only the Contractor's Construction Environmental Manager, or delegate, has the authority to change any of the Environmental Management Documents. The ER can approve minor amendments to documents (CoA C8).

DPIE has the authority to approve major amendments to plans.

A minor change (not material) is considered to be a change that is insignificant to the implementation of the approved document or plan, such as administrative changes or content that does not change the implementation of previously approved documents. Anything not considered a minor change would be considered as major.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure (refer to Section 3.11.3 of the CEMP).

3.11.3 Document control

The Contractor's Construction Environmental Manager will coordinate preparing, reviewing and distributing, as appropriate, the Environmental Management Documents listed in Section 1.3. During the Project, the Environmental Management Documents will be stored at the site office.

The Contractor's Construction Environmental Manager will implement a procedure to control the flow of documents within and between TfNSW, stakeholders and subcontractors.

Documentation will be:

- Developed, reviewed and approved prior to issue
- Issued for use
- Controlled and stored for the legally required timeframe
- Removed from use when superseded or obsolete
- Archived.

A register and distribution list will identify the current document, record or data version. Appendix A6 includes the Project Document Register.

3.12 Changes to the Project

Project refinements may result from changed circumstances during construction. TfNSW needs to seek formal approval from the Minister for any Project modifications and for documenting refinements that are consistent with the approved Project.

Should the consistency assessment determine that a Project modification may be required (e.g. the impacts are of a nature and scale that it is not considered consistent with the Project approval) the ER will be informed and a modification application under Section 115ZI (2) of the EP&A Act will be made by TfNSW to the Secretary for determination.

Where there is uncertainty regarding if the project modification is significant, guidance of the ER shall be sought. Should modification be determined significant, an updated plan shall be resubmitted for approval.

3.13 Project meetings

Table 3-10 summarises Project meetings including timings and attendees. The purpose of these meetings is to conduct performance review and identify improvement methods.

Table 3-10: Management review plan

Meeting	Purpose and suggested outcomes	Frequency	Attendees
Prestart meeting	Held each morning before works commence for all persons involved. The meeting will discuss the works for the day including risks (environmental, safety and public) based on site inspections, observations and auditing results.	Daily	Foreman, Subcontractors, The Contractor's Associates
Toolbox Talks	Discuss key issues including, but not limited to: safety alerts client information, reinforcement of key items.	Weekly	Subcontractors, The Contractor's Associates
Site Meeting	These meetings will be used to address programme and resourcing, subcontractor performance and management, design issues, allocation of staff and plant and any items of	Weekly	Project Engineers, Foreman, Project Manager/Construction manager

Meeting	Purpose and suggested outcomes	Frequency	Attendees
	concern in relation to safety, environment and quality (risk review).		
Health Meeting	This meeting will address key items raised or outstanding items of concern from The Contractor's Site Meeting agenda. This meeting will also be used to discuss any issues in relation to financial, stakeholders, programme and design.	Weekly	The Contractor's Project Team and HAC Manager.
Stakeholder Meeting	This meeting is designed to keep critical stakeholders updated on critical items included, but not limited to: Out-of-Hours Works (not applicable to Activity B and C) Change in Work Areas Upcoming works (including hospital disruptions) Any incidents onsite.	Fortnightly (Activity A) Weekly (Activity B and C)	Representatives of The Contractor, HAC Manager (or representative) and relevant stakeholders (e.g. NSW Health, the LHD (including the Mental Health Executive)).

4 Specific environmental management

This section outlines control measures for specific environmental aspects requiring management that are not covered in the sub-plans.

4.1 Contaminated material

This section is applicable across the three Activities (A, B and C).

This section presents procedures relevant to contaminated land or material management during construction. The Project does not require a Site Contamination Report to be prepared in accordance with CoA E119.

4.1.1 Procedure

If contaminated materials are encountered, the subsequent procedure is to be followed to manage the situation in a safe and appropriate manner. This procedure shall be communicated by The Contractor's Construction Environmental Manager during project induction;

"If you or any of your work colleagues encounter potential contaminated materials, such as visibly different to surrounding material, fibrous in nature, exhibits hydrocarbon or chemical odours or other unexpected characteristics, unknown containers, piping, underground storage tanks, or similar structures are discovered), the following shall be carried out without exception:

Immediately cease all works and follow the nominated process. There are no exceptions to this rule.

1. Advise your Foreman, the safety officer and environmental manager/officer.
2. Demarcate and secure the area (unless deemed unsafe to do so). Securing the area can involve covering the affected area or material with plastic or geo-fabric and demarcating with barricades, tape and warning signs.
3. Implement dust suppression techniques (i.e. wetting down) as required for contaminated material that may be blown offsite. Where wetting down is used, runoff must be contained (e.g. use sandbags and bunding).
4. Contact a qualified consultant (e.g. environmental hygienist) to assess the material and confirm the presence/absence of contaminants (to be contacted by the Foreman, Environmental Manager or Project Engineer).
5. The consultant will confirm the presence/absence of contaminants (or advise on additional testing where required) and supervise the management/removal of confirmed or suspected contamination.
6. Once the status of the material has been confirmed, any contaminated material must be removed by appropriately licensed contractors or treated (e.g. capped on site) in accordance with the specialist advice. All contaminated material must be taken directly to a licensed facility, with waste facility dockets supplied to the Environmental Manager.
    a. Contaminated material will not be deposited at any stockpile area before being taken offsite.
7. Only once the material has been removed and the area deemed as clear by an environmental hygienist, or suitable specialist based upon the contamination, can works re-commence within the area."

This procedure will be implemented throughout construction (Activity A), and demolition (Activity B and C) in accordance with CoA E126.

4.2 Air quality

This section presents obligations, procedures and management measures relevant to air quality management during construction and is applicable across the three Activities (A, B and C).

4.2.1 Activity A

Construction works will be carried out in close proximity to sensitive receivers including residential and commercial properties on the eastern side of Hawkesbury Road and Westmead Hospital on the western side of Hawkesbury Road. Sensitive receivers are shown in Figure 4-1.

Construction of the proposed works have the potential to generate dust during site establishment, earthworks, piling, drilling etc. due to the movement of spoil and construction materials. The air quality assessment undertaken as part of the EIS determined that impacts on air quality during the construction phase could be managed effectively through the implementation of proven and established management measures. These include measures to minimise the generation and spread of dust and minimising emissions from construction vehicles and on-site machinery.

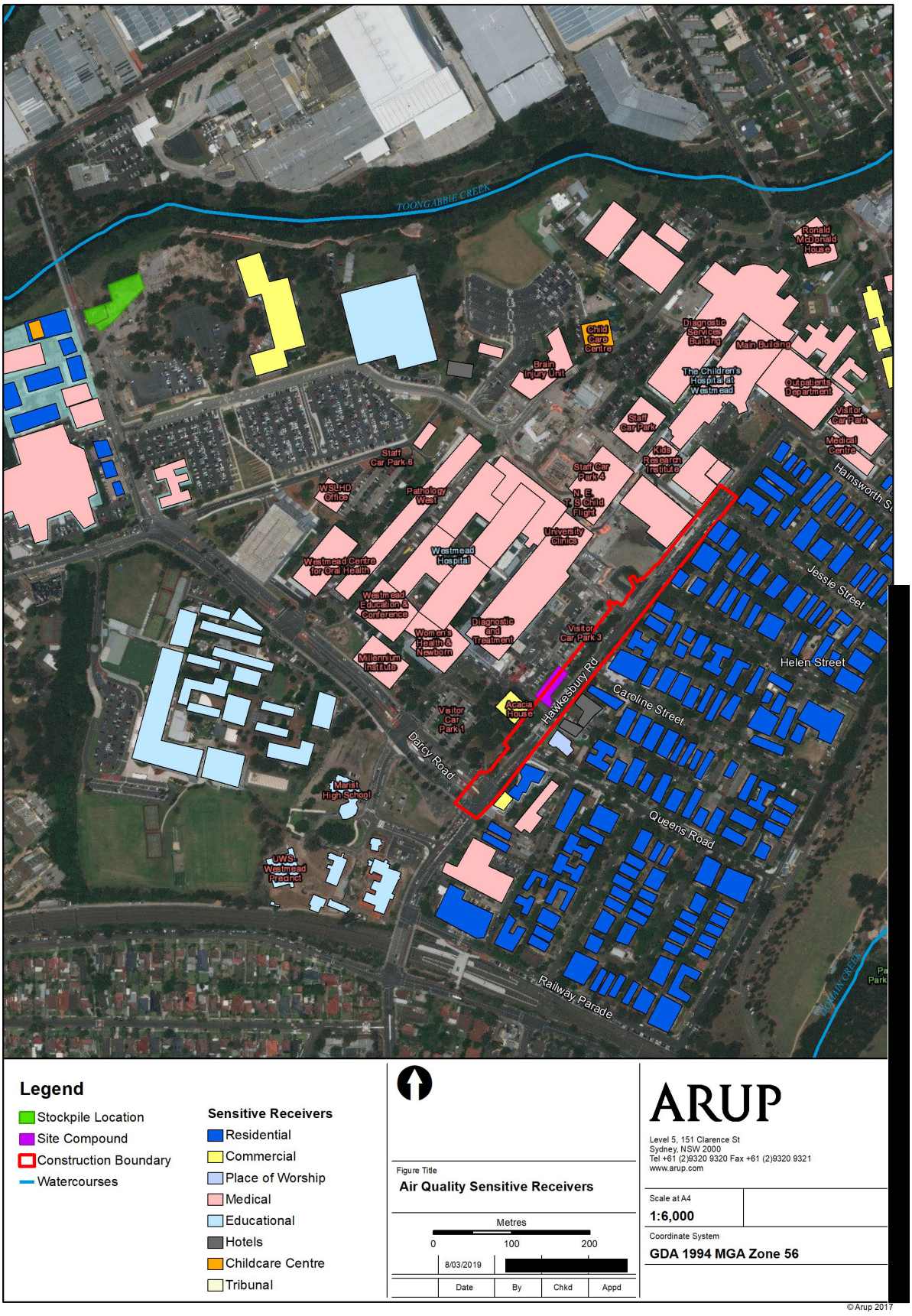

Figure 4-1: Activity A - Sensitive receivers likely to be affected by dust nuisance

4.2.2 Activity B and C: Cumberland Hospital (East and West Campus) Demolition

Demolition of buildings will be carried out in close proximity to sensitive receivers including medical wards and administrative buildings on the east and west campus of Cumberland Hospital. Sensitive receivers are shown in Figure 4-2.

The air quality assessment undertaken as part of the EIS determined that impacts on air quality from demolition would be unlikely if managed effectively through the implementation of proven and established management measures. These include measures to minimise the generation and spread of dust from demolition material and minimising emissions from construction vehicles and on-site machinery.

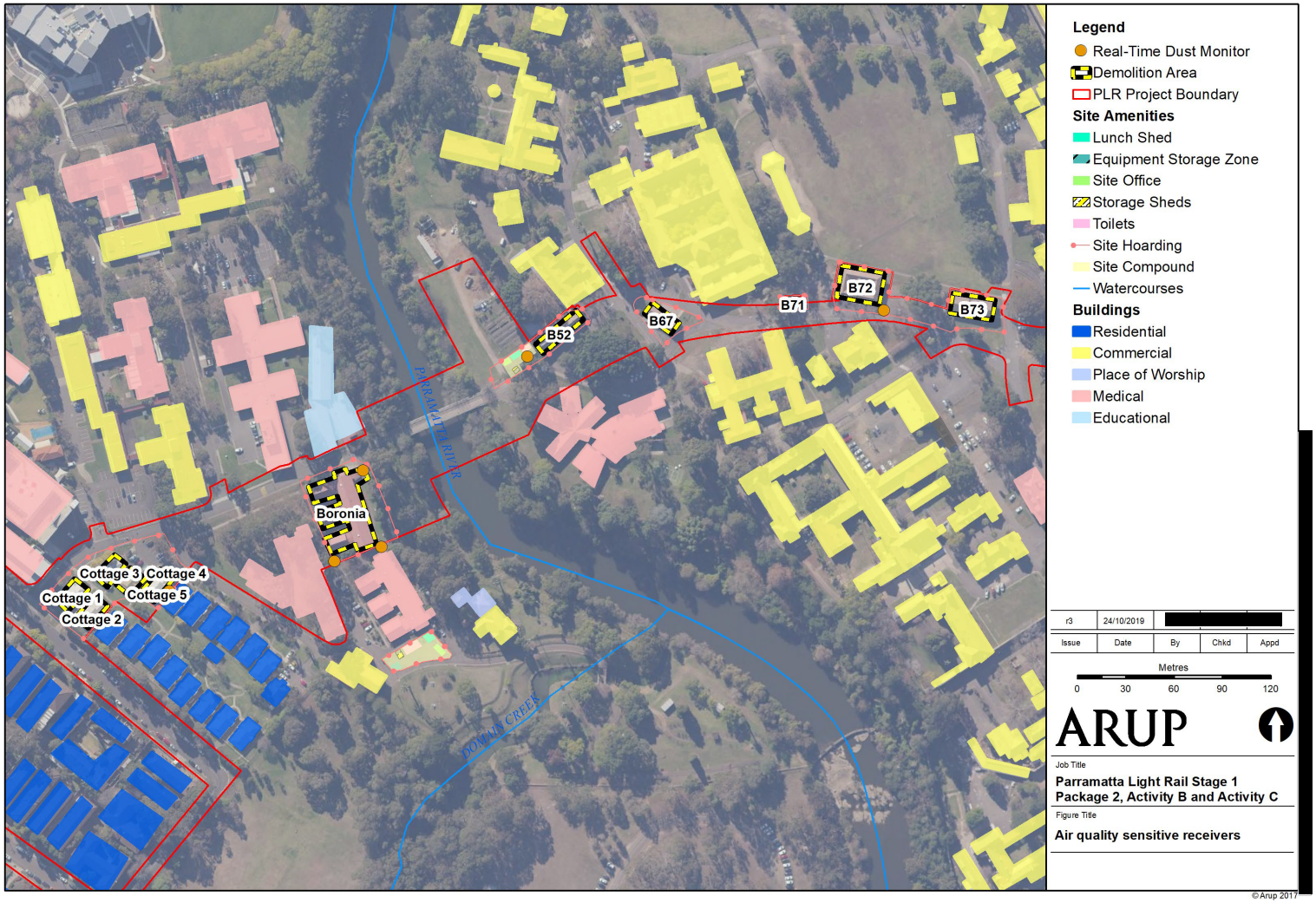

Figure 4-2: Activity B and C - Sensitive receivers likely to be affected by dust nuisance

4.2.3 Management measures

The management measures and procedures applicable to each activity is shown in Table 4-1. These management measures and procedures will be implemented by The Contractors and their Associates to manage the Project in a way that prevents or minimises dust and pollutant release into the atmosphere.

Table 4-1: Air quality management measures for the Project to be implemented by contractors

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Air quality control measures included in this table will be incorporated into training provided to Project personnel, including relevant sub-contractors (e.g. inductions, toolboxes and targeted training, refer to Section 3.4)	All staff	Prior to and during construction	AQMM-1	✓	✓	✓
Air quality measures described in this table will be included in relevant Environmental Work Method Statements (EWMS) and/or Environmental Control Maps (ECM).	Construction Environmental Manager	Prior to and during construction	AQMM-2	✓	✓	✓
Install wheel-wash or rumble grid facilities at the Mons Road site compound to remove loose material and prevent the tracking of spoil debris onto local roads.	Project Manager, Construction Environmental Manager, Site Manager	Prior to construction	AQMM-3	✓	X	X
Clean loose materials and debris from the tailgate of vehicles unloading materials to stockpiles prior to departure from site.	All staff	During construction	AQMM-4	✓	X	X

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Conduct monthly servicing and maintenance, and subsequent inspections to check that equipment continues to operate within relevant air quality guidelines and standards. Equipment operating poorly shall be demobilised off site for service and maintenance.	Project Manager, Construction Environmental Manager	During construction	AQMM-5	✓	✓	✓
Cover all loads when spoil, demolition waste and other materials are being hauled.	All staff	During construction	AQMM-6	✓	✓	✓
Compact or seal compound area surfaces to limit the potential for dust generation.	Construction Environmental Manager	Prior to and during construction	AQMM-7	✓	✓	✓
Structures will be inspected by a suitably qualified person to confirm that they do not contain any hazardous materials (e.g. asbestos) which could be broken and mobilised during demolition. Where such materials are encountered unexpectedly, follow the procedure in Section 4.1.1. Where such materials are identified, adhere to the requirements for removal and disposal listed in the *Work Health and Safety Act 2011*, and Work health and Safety Regulation 2011.	Project Manager, Construction Environmental Manager	Prior to construction	AQMM-8	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Impose low speeds limits (5 kph) around compound sites to limit the generation of dust from vehicle movements.	Project Manager, Construction Environmental Manager	During construction	AQMM-9	✓	✓	✓
Install dust monitoring devices to quantify dust levels and determine whether control measures are adequate or whether further actions are required. (Monitoring locations illustrated in Environmental Control Maps, Appendix A7) Refer to Section 4.2.4 for project specific detail.	Project Manager, Construction Environmental Manager	Prior to and during construction	AQMM-10	✓	✓	✓
Install perimeter fencing/screening around demolition areas and where there is a potential to generate emissions to air and around long-term compound and stockpile locations, as shown on the ECM.	Project Manager, Construction Environmental Manager	Prior to construction	AQMM-11	✓	✓	✓
Monitor weather forecasts for strong winds and/or hot weather. Plan activities and avoid weather conditions which may result in the generation of off-site dust impacts.	Project Manager, Construction Environmental Manager	During construction	AQMM-12	✓	✓	✓
Position demolition waste, other materials and stockpiles of spoil as far away as possible from surrounding sensitive receivers	Project Manager, Construction Environmental Manager	Prior to and during construction	AQMM-13	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Regularly water exposed and disturbed areas and stockpiles especially during inclement weather conditions.	Construction Environmental Manager	During construction	AQMM-14	✓	X	X
Water demolition areas as necessary to minimise the generation of dust.	Construction Environmental Manager	During construction	AQMM-15	✓	✓	✓
Wherever possible and practical, limit the amount of materials stockpiled, extent of disturbed and exposed surfaces. Restoration of cleared areas to occur as soon as possible.	Construction Environmental Manager	During construction	AQMM-16	✓	✓	✓
Apply odour supressing agents to materials as necessary to minimise related odour impacts should any contaminated or hazardous materials be uncovered during the works.	Construction Environmental Manager	During construction	AQMM-17	✓	X	X
On a daily basis remove or cover any demolition materials that have the potential to result in the generation of dust.	Construction Environmental Manager	During construction (daily)	AQMM-18	X	✓	✓
All chemicals and fuels will be stored in sealed containers as per appropriate regulations and guidelines.	Project Manager, Construction Environmental Manager	Prior to and during construction	AQMM-19	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
The on-site storage of fuel will be kept to a minimum. Where chemical fuels are required these will be contained in hazardous bunded cabinets.	Project Manager, Construction Environmental Manager	Prior to and during construction	AQMM-21	✓	✓	✓
Unloading of fuels (for example, diesel) will be vented via return hoses that recirculate vapours from delivery to receiver.	Construction Environmental Manager	During construction	AQMM-22	✓	✓	✓
On dry days unsurfaced haul roads will be watered to aid dust suppression.	Construction Environmental Manager	During construction	AQMM-23	✓	X	X
Stockpiles left for extended periods will be grassed or covered with appropriate material.	Construction Environmental Manager	During construction	AQMM-24	✓	X	X
Chemical/fuel storage tanks will be fitted with a conservation vent (to prevent air inflow and vapour escape until a pre-set vacuum or pressure develops).	Project Manager, Construction Environmental Manager	Prior to and during construction	AQMM-25	✓	✓	✓
Prior to demolition of buildings, inspect and remove heavy dust loadings from within the buildings, including ceiling spaces.	Project Manager, Construction Environmental Manager	Prior to construction	AQMM-26	X	✓	✓

4.2.4 Dust monitoring

AQMM-10 requires dust monitoring equipment to be installed to monitor dust generation and to check that management measures are effective or if further actions are required.

Monitoring gauges will be carried out in accordance with:

- EPA Approved method for the sampling and analysis of pair pollutants (January 2007)
- AS/NZS 3580.1.1:2007: Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment
- AS/NZS 3580.10.1:2003 (R2014): Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method

Indicative monitoring locations are shown in the ECMs provided in Appendix A7, however final locations would be selected during site set-up. Monitoring shall begin a month before construction starts to establish an appropriate baseline for dust levels in the area.

Activity A

Given the scale and extent of Activity A: Hawkesbury Road widening enabling works, dust monitoring will be undertaken using dust deposition gauges to assess deposited matter over periods of 30 days throughout the construction period. One monitoring location has been identified close to dust generating activities at the site boundary. The prevailing wind direction in the area of the works is westerly, however this varies seasonally.

Activity B and C

HAC has produced requirements for dust monitoring to be carried out on NSW Health land. Due to the high sensitivity of receivers at Cumberland Hospital and the proximity of works to medical facilities, it is also proposed that dust monitoring is carried out. Monitoring will be carried out in real-time, with alerts provided to the Construction Environmental Manager and HAC if a set trigger level is exceeded.

The, the monitored baseline sets the site trigger level to be adhered to during demolition. If this is exceeded during demolition, an alert will be sent to the construction environmental manager and HAC, the cause will be investigated and if necessary Works will cease and alternate demolition methods and controls will be considered.

4.2.5 Sustainability

This section is applicable for Activity A only (Refer to Section 4.9 for details).

This section describes strategies for carrying out construction in a sustainable manner and minimising air quality impacts from construction equipment and machinery.

Greenhouse gas emissions will be reduced by 5% from the project baseline level in accordance with Sustainable Design Guideline (SDG) requirement 1 (Refer to Section 4.9). This will be established by using the Carbon Estimate and Reporting Tool (CERT). A copy of the tool is provided in Appendix C2. Compliance with this requirement will be audited every 6 months throughout construction.

Management actions will include:

- Reduction of fuel consumption through;
  - Use of biodiesel and other low carbon fuels in vehicles and equipment,
  - Use of fuel-efficient construction equipment,
  - Local procurement of construction services and materials (where feasible and cost effective)
  - Efficient delivery planning to reduce the number of trips

- Energy efficiency;
  - Use of energy efficient construction practices,
  - Use of energy efficient or solar powered lighting for temporary construction facilities,
  - Switching off construction equipment and vehicles when not in use
- Selection of material with low embodied carbon, or recycled material including (if feasible):
  - Use of recycled materials, such as the maximum permitted recycled content for asphalt and concrete (including use of fly ash and blast furnace slag).
  - Use of modular, prefabricated and precast structural and finishing materials.
- Use of low volatile organic compound surface coatings
- Offset of greenhouse gas emissions associated with electricity consumption by targeting minimum 6% green power use as specified in the NSW Government Resource Efficiency Policy (GREP) (State of NSW and Office of Environment and Heritage, 2014)

In accordance with SDG requirement 10, all mobile non-road diesel plant and equipment (with an engine greater than 19kW) will have energy standards in accordance with current United States Environmental Protection Agency (US EPA), European Union (EU) or similar. Demonstration of compliance with this is presented in Appendix C2, *Air Emission Data Workbook – 9TP-FT-439*.

Activity B and C should also implement these measures, where practical, to drive better performance for their sites.

4.3 Fire safety and burning off

This section is applicable to the three Activities (A, B and C).

Burning of any materials is not permitted on the project site.

All site plant and equipment will be fitted with the appropriate size and type of fire extinguisher for the piece of plant and equipment. A water cart will be available onsite for Activity A.

Fire Hydrants located in Cumberland Hospital will be used for Activity B and C. The closest fire hydrants to the works area are illustrated in Figure 4-3.

Figure 4-3: Fire hydrant locations for Activity B and C

The site compounds will have extinguishers in each shed, next to the flammable cabinet and within easy reach of storage containers. The Contractor's Foreman will check all firefighting equipment as

part of the daily prestart inspection in addition to the mandatory six-monthly external check by a third-party organisation.

Site firefighting equipment will be identified for each activity as no single solution will address all the fire risks.

The Contractor, its Associates and subcontractors will check whether fire bans are in place during prolonged/high temperature days by checking the Bureau of Meteorology (BoM) website (www.bom.gov.au). If there is a local partial or total fire ban in place The Contractor's Construction Environmental Manager will include this in the daily prestart meeting. It will also be documented in The Contractor's Foreman's site diary.

The following operations may generate sparks or artificial heating onsite:

- Welding
- Grinding
- Oxygen cutting
- Demo sawing

In the event of a fire ban all hot work activities where, activities/materials require heating or generate sparks will not proceed. The Contractor's will not issue a hot work permit on these days.

4.4 Waste management and resource recovery plan

This section presents obligations, procedures and sustainability measures relevant to waste management during construction and is applicable to the three Activities (A, B and C). It has been informed by the Parramatta Light Rail Sustainability Plan and the Waste Avoidance and Resource Recovery Act 2001.

All waste will be managed in accordance with the waste hierarchy established under the Waste Avoidance and Resource Recovery Act 2001, illustrated in Figure 4-4.

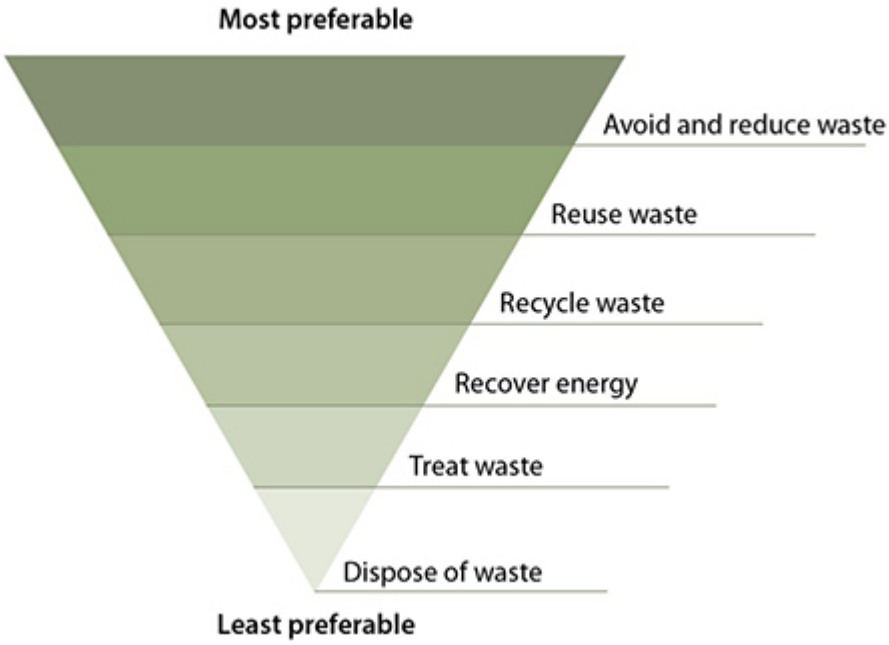

Figure 4-4: Waste hierarchy established under the Waste Avoidance and Resource Recovery Act 2001

Waste will be separated on site where practical and possible. This will not be practical for all material for Activity B and C due to the nature of works. General waste will be processed on site in

the following way (contaminated waste will be managed in accordance with the implementation measures in Section 4.4.1):

Activity A: Sort construction waste on site, provide separate bins / stockpiles of spoil, concrete, steel, timber, paper and cardboard and vegetation to make it easier to recycle components and prevent cross contamination

Activity B: The mixed demolition waste (timber, gyprock, carpet, FC sheeting etc) will be separated on site, using the excavator and labourers, from the recyclable brick, concrete and tiles.

Activity C: General demolition waste will put into a 9m^3 skip bin. The waste will be sorted offsite into its recyclable fraction.

Where waste reaches disposal stage it will be classified prior to removal from site in accordance with the EPA Waste Classification Guidelines and the and Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014). The process is summarised in Figure 4-5.

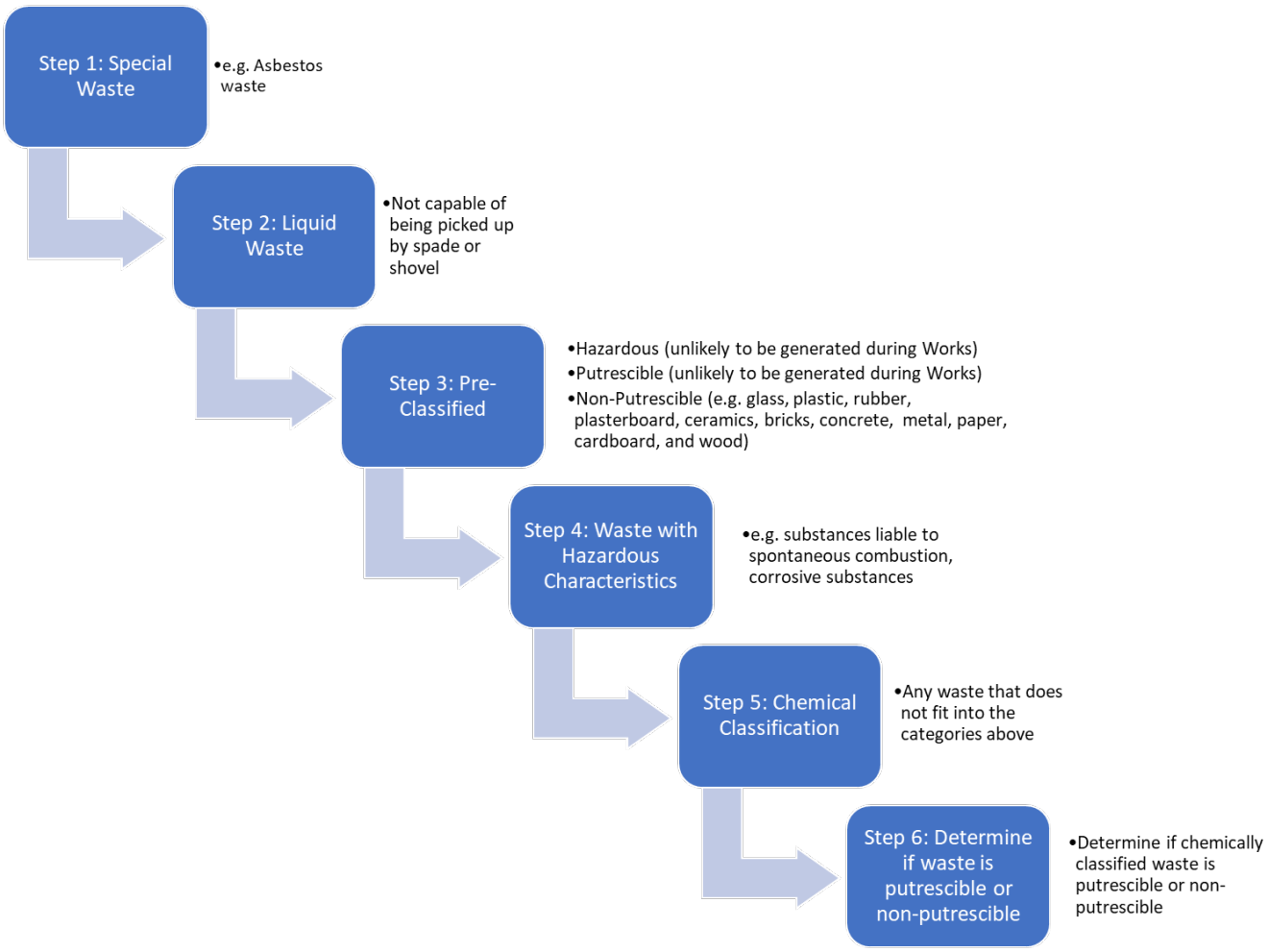

Figure 4-5: Waste classification process

4.4.1 Management measures

The control measures in Table 4-2 will be used to minimise solid waste generation and dispose of any waste appropriately.

Table 4-2: Waste and resource management measures

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Contaminated Material						
Contaminated Material Waste will only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste. Facilities identified for each activity are provided in Table 4-3	Construction Environmental Manager	During construction	WRM-01	✓	✓	✓
If unexpected contaminated material is discovered, follow the unexpected finds procedure (Section 4.1.1)	All Staff	During construction	WRM-02	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
In the event that contaminated materials are uncovered during activities associated with the works they will be strictly managed in accordance with the requirements under the Protection of the Environment Operations (Waste) Regulation 2014. This includes: • Transporting asbestos in a sealed, covered and leakproof container • Notify the EPA of how much asbestos waste is being transported and where it is being transported to • Maintain records of contaminated material uncovered and disposal process	Construction Environmental Manager	During construction	WRM-03	✓	✓	✓
No contaminated materials will be stored on site or in the stockpile area. Temporary storage prior to disposal is permitted.	Construction Environmental Manager	Prior to and during construction	WRM-04	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Disturbance, movement and disposal of asbestos containing materials (ACM) will be carried out in accordance with the Work Health and Safety Regulation 2011 and other relevant guidelines. This includes, but is not limited to: • Providing appropriate training to staff • No use of high-pressure water spray or compressed air on asbestos or ACM • Responsibility to engage a licenced removalist • Air monitoring of the work area during removal for exposure standards. If standards are exceeded, take action to notify those working at the time. • Dispose of asbestos or ACM at a site authorised to accept that waste	Construction Environmental Manager	Prior to and during construction	WRM-05	✓	✓	✓
All asbestos waste weighing more than 100 kilograms or consisting of more than $10m^2$ or $10m^3$ of asbestos sheeting in one load will be tracked through EPA's WasteLocate service	Construction Environmental Manager	Prior to and during construction	WRM-06	✓	✓	✓
All asbestos waste will be removed from buildings prior to demolition commencing.	Construction Environmental Manager	Prior to construction	WRM-07	X	✓	X

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Demolition Waste						
Activity B: Demolition waste will be sorted on site into mixed demolition waste and recyclable brick, concrete and tile using the excavator and labourers. Material will be transported to licenced facilities. Material will be recycled where possible (e.g. brick, concrete). All records will be obtained and maintained in accordance with WRM-17.	Construction Environmental Manager	During construction	WRM-08	X	✓	X
Activity C: Demolition waste will be placed into skip bins on site or directly loaded into trucks. The bins will be transported offsite for sorting and recycling. All records will be obtained and maintained in accordance with WRM-17.	Construction Environmental Manager	During construction	WRM-09	X	X	✓
General						
Avoid the generation of waste material wherever possible (e.g. procure materials on an 'as needed basis to avoid over ordering)	All Staff	Prior to and during construction	WRM-10	✓	✓	✓
Install separate bins to encourage and collect waste for recycling. Where recycling is not possible, waste should be disposed of at Local Government designated sites	Construction Environmental Manager	Prior to and during construction	WRM-11	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
There will be no waste importation for this project	Construction Environmental Manager	Prior to and during construction	WRM-12	✓	✓	✓
Maintain work areas and site compounds in a tidy condition Maintain a high-quality of housekeeping and do not leave materials where they can be washed or blown away to become litter	All Staff	During construction	WRM-13	✓	✓	✓
Collect lubricating oil from the construction plant and equipment and send it to a recycler	Construction Environmental Manager	During construction	WRM-14	✓	✓	✓
Remove and appropriately dispose of any solid waste or spoil material as soon as possible after it is generated Using the waste hierarchy matrix (Figure 4-4) and waste classification process (Figure 4-5) to determine appropriate disposal	Construction Environmental Manager	During construction	WRM-15	✓	✓	✓
Waste will be managed in the following order of priority: 1. Avoid waste generation, where this is not reasonably practical (e.g. demolition), reduce waste generation 2. Where waste generation is unavoidable, waste will be utilised in	Construction Environmental Manager	Prior to and during construction	WRM-16	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
the following streams (in order of preference): reuse, recycle, recover or disposal of. a. Separate bins will be provided on site to classify waste into appropriate waste streams (classification process is described in Figure 4-5) b. Waste for disposal must be taken off-site to facility licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste. Waste collection will be arranged at regular intervals to minimise the presence of waste on-site						

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Records						
Maintain a register and records of: • Pre-classification of material • Classification of all waste • Waste recycled, reused, disposed including waste classification (for sustainability targets) • Waste transporters (licence#), Landfill Licences #. • Record of asbestos and other hazardous/contaminated waste also on register All records and dockets will be retained for audit purposes. Where wastes are sorted into their recyclable fraction at an offsite facility, these records shall be obtained from the off-site facility.	Construction Environmental Manager	Prior to and during construction	WRM-17	✓	✓	✓
Spoil						
Spoil shall be beneficially reused on site where possible such as temporary noise barriers or backfilling.	Construction Environmental Manager	During construction	WRM-18	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Spoil taken off site for beneficial reuse shall be classified ENM or VENM and controlled under S143 certificate.	Construction Environmental Manager	During construction	WRM-19	✓	✓	✓
Activity A: In accordance with SDG requirement 5 (refer to Section 4.9.2), 100% of usable spoil (by weight) will be beneficially reused. Spoil will be stored at the stockpile area on Mons Road. If soil is not to be re-used within the project area it will be transported offsite along haulage routes as identified in Figure 1-3.	Construction Environmental Manager	During construction	WRM-20	✓	X	X
Activity B: Minimal spoil is anticipated from the utility work in Activity B. Spoil would be beneficially reused to fill the excavation cavity.	Construction Environmental Manager	During construction	WRM-21	X	✓	X
Activity C: As no excavation works are proposed, no spoil is anticipated from Activity C	Construction Environmental Manager	N/A	WRM-22	X	X	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Sustainability						
The project will achieve 90% diversion of construction waste (by volume) through appropriate logistics planning (e.g. waste sorting before disposal, recycling material where possible) with a target of 95% in accordance with REMMM WM-3. Contaminated material will be disposed of at a secure facility (refer to WRM-01 - WRM-06 for detail) and will not be included in this calculation.	Construction Environmental Manager	Prior to and during construction	WRM-23	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
To implement correct waste management construction waste will be segregated and stockpiled into (as a minimum) spoil, concrete, steel, timber, paper and cardboard and vegetation. Materials such as bricks and tiles, timber, plastic and metals will be separated where practicable and sent to a waste facility with recycling capabilities. Materials likely to be recyclable: • Aluminium • Bricks • Concrete • Copper • ENM and VENM for beneficial reuse to a non-licensed facility under s143 certificate • Glass • Office waste • Pavement and road base • Roof Sheeting • Steel • Timber	Construction Environmental Manager	During construction	WRM-24	✓	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity A	Activity B	Activity C
Vegetation						
Chip, mulch, reuse and/or appropriately dispose of all waste vegetation on or offsite. Do not burn any vegetation Dispose of weeds offsite at general landfill which accepts green waste	Construction Environmental Manager	During construction	WRM-25	✓	✓	✓
Waste Sorting						
Do not mix waste loads. Store all solid waste in appropriately designated areas/ bins and areas for recyclable material	All Staff	During construction	WRM-26	✓	✓	✓
Construction waste will be segregated and stockpiled on site. Where possible materials (such as brick and tiles, timber, plastics, metals) will be separated and taken to a facility with recycling capabilities	Construction Environmental Manager	During construction	WRM-27	✓	✓	X
Stockpile material will be separated according to class / type to avoid detrimental mixing and / or cross contamination. Pre-classified contamination materials will not be stockpiled on site, they will be immediately transferred directly into haulage trucks for off-site disposal	Construction Environmental Manager	During construction	WRM-28	✓	✓	✓

The facilities identified in the table below have been identified as suitable facilities to process waste generated during the Works.

Table 4-3: EPA licensed facilities to accept contaminated material

Activity	Facility Name	Licence Number	Accepted waste types	Location
Activity A and C	Dial A Dump Industries	4679 (licence listed under corporate address [redacted]	• Most Non-putrescibles, including Asbestos (e.g. glass, plastic, rubber, plasterboard, ceramics, bricks, concrete, metal, paper, cardboard, wood, building cavity dust waste, building and demolition waste)	[redacted]
Activity B	SUEZ Kemps Creek Resource Recovery Park	12889	• Biosolids, • Contaminated waste, • Mixed putrescibles (e.g. manure and night soil, food waste, animal waste), • Non-putrescibles (e.g. glass, plastic, rubber, plasterboard, ceramics, bricks, concrete, metal, paper, cardboard, wood, building cavity dust waste, building and demolition waste)	[redacted]

4.5 Use of herbicides and pesticides

Herbicides may be required on site for weed management. Currently no pests are identified across the sites associated with the three activities of Package 2, however The Contractor has a responsibility to manage pests if they are identified and this may require the use of pesticides. Further details on weed management is provided in Section 9.5 and Appendix D of the Flora and Fauna Management Sub-Plan (document reference number: PLR-HAC-HRW-PE-PLN-000003).

4.6 Construction compound management

This section is applicable to Activity B and C. Construction Compound Management for Activity A is presented in Appendix B10 (PLR-HAC-HRW-PE-PLN-000006).

The purpose of this section is to describe how The Contractor will establish and operate the construction compound facilities in line with the planning approval and modifications to minimise impacts. Construction Compound location and layout have been selected to reduce visual and heritage impact by using minimal area possible and avoiding areas of heritage. Management measures described in this section will be implemented as soon as feasible and reasonable, and remain for the duration of Works.

4.6.1 Activity B: Construction compound description

The site compound will be located in the compound area identified in the EIS as ‘Paramatta North’.

The site is in a cleared area on the eastern bank of Parramatta River near the Parramatta River Bridge at Westmead. Access to the compound would be from the existing Cumberland Hospital (East Campus). The site compound is located within 300m of a known Grey-headed Flying-fox colony at Parramatta Park, which is listed as a vulnerable species.

Facility layout is shown in Figure 4-6.

4.6.2 Activity C: Construction compound description

The construction compound identified in the EIS as ‘Cumberland Hospital’ will not be available for use as this location will be used, by NSW Health Contractors, to construct the replacement Boronia Ward.

An alternative site compound has been identified outside the approved PLR Construction Boundary. The compound will be located on Cumberland Hospital (NSW Health) land on a maintained open grassed area that is surrounded by roads and a car park. A Consistency Review was prepared for this site. The consistency assessment identified that the impacts were consistent to that identified in the EIS/SPIR and that the use of this compound for the demolition of buildings would not result in any supplementary or additional activities to those already being carried out in its current use as a site compound. This consistency review was prepared by Donnelley Construction, endorsed by ER on 11 November 2019 and signed by TfNSW. The site compound is located within 300m of a known Grey-headed Flying-fox colony at Parramatta Park, which is listed as a vulnerable species.

Facility layout is shown in Figure 4-7.

4.6.3 Compound activities

The compounds will be used for site offices, staff welfare facilities and a tool and equipment store. No material will be stockpiled at the compound.

The main activities at the compound will be:

- Staff working in the offices and using welfare facilities
- Staff arriving for work by public transport or being dropped off by private vehicle

- Staff going to their site work areas
- Staff returning for tea, lunch breaks and using ablution facilities during the day
- Staff taking breaks outside the office
- Staff returning from site to welfare facilities and before going home
- Staff leaving the compound going home

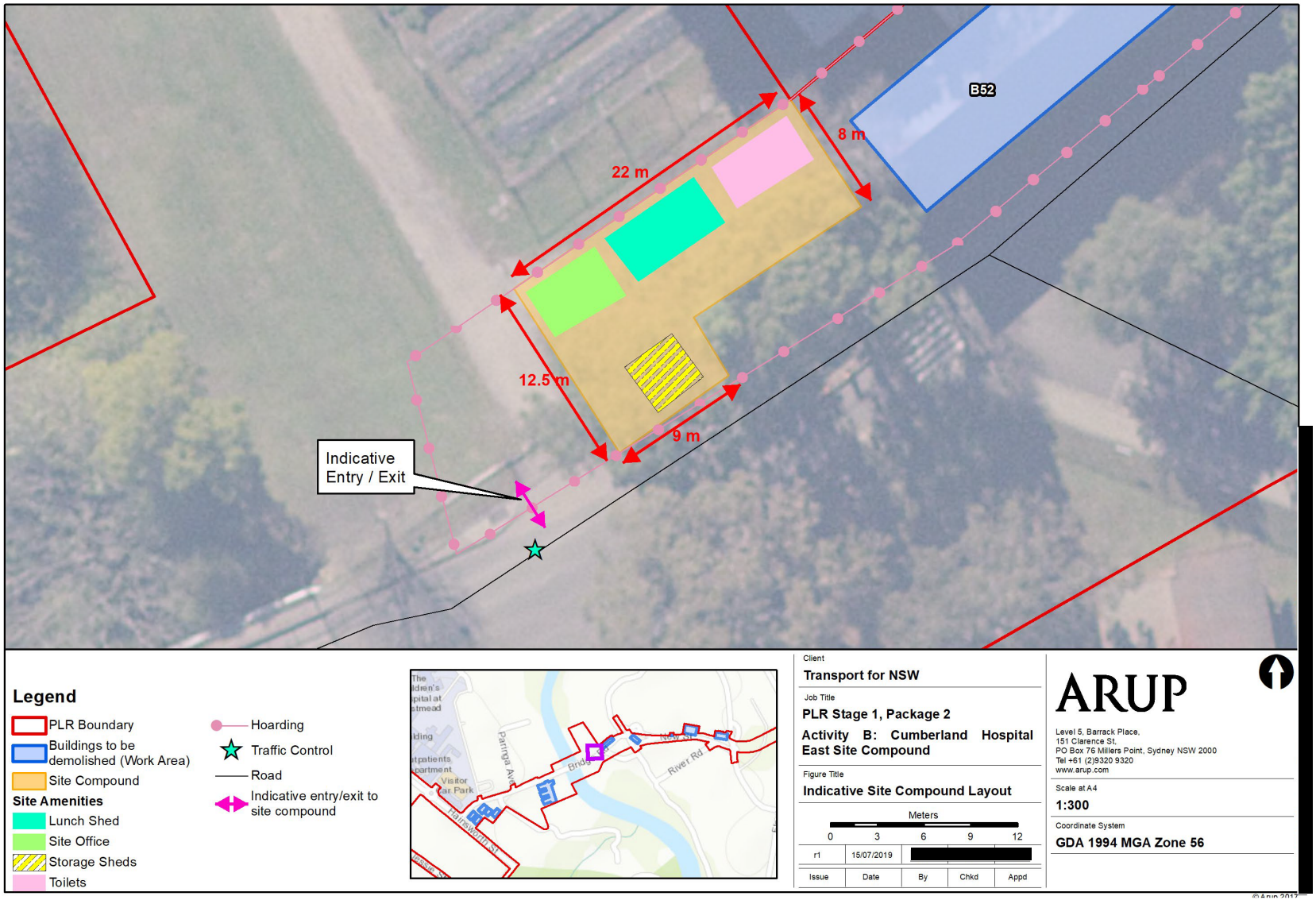

Figure 4-6: Activity B construction compound layout

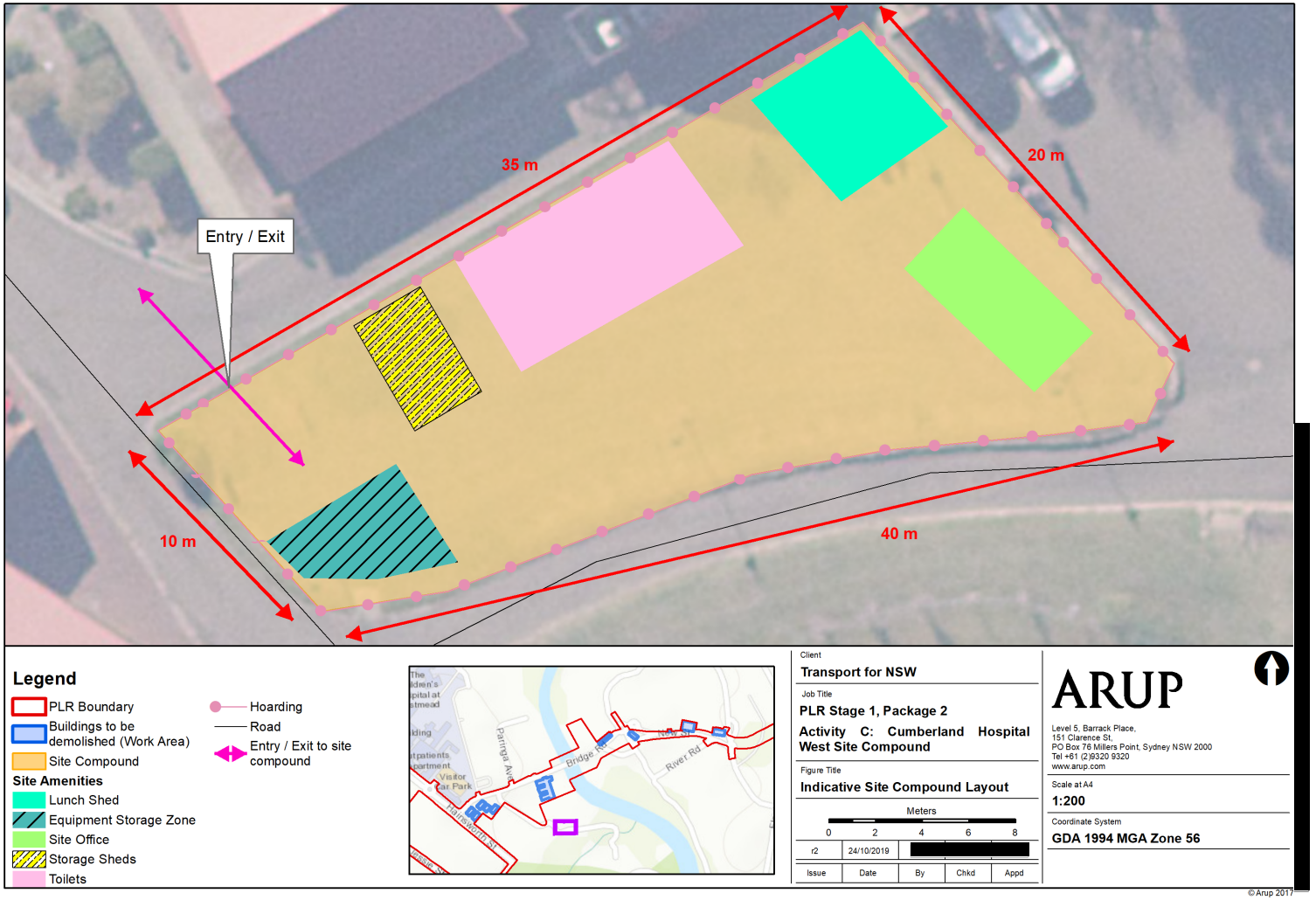

Figure 4-7: Activity C construction compound layout

4.6.4 Management measures

Specific management measures for construction compound management for Activity B and Activity C are outlined in Table 4-4. Construction compound management for Activity A is outlined in Table 7-1 Appendix B10 (PLR-HAC-HRW-PE-PLN-000006).

Table 4-4: Construction compound management measures for Activity B and Activity C

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity B	Activity C
Biodiversity					
Minimise the clearing of vegetation to the minimum amount necessary to establish construction compounds. (e.g. Minimise spatial impact on public garden adjacent to construction compound for Activity B.)	Construction Environmental Manager	Prior to and during construction	CCM-22	✓	✓
Maintain existing vegetation around the edge of construction compounds and configure compounds so as not to directly impact on trees Follow Tree Protection Zones in ECM (Appendix A7). Where feasible and reasonable use existing vegetation to act as a visual screen.	Construction Environmental Manager	Prior to and during construction	CCM-23	✓	✓
General					
Hazardous material will not be stored below the ten per cent AEP flood level and spill kits will be kept at site compounds. All fuel and hazardous material to be stored in individually bunded cabinets.	All Staff	Prior to and during construction	CCM-24	✓	✓
All construction spoil haulage vehicles, and construction plant will be marked as being for the CSSI (using appropriate branding) to allow immediate identification within at least 50 metres of the vehicles and plant.	Construction Environmental Manager	Prior to and during construction	CCM-25	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity B	Activity C
No excavation can occur in construction compounds	All Staff	Prior to and during construction	CCM-26	✓	✓
The installation of CCTV cameras will be undertaken in consultation with the relevant public authority and Relevant Council(s).	Construction Environmental Manager	Prior to and during construction	CCM-27	✓	✓
The compounds will not be used for storage/stockpile of materials.	All staff	Prior to and during construction	CCM-28	✓	✓
For privacy of nearby sensitive receivers and security, all compounds will have opaque fencing and gates will have locks. Only one gate will be provided for access/egress of work areas / the compound to minimise the potential for unauthorised entry.	Construction Environmental Manager	Prior to and during construction	CCM-29	✓	✓
There will be no advertising on any element of the Works	Construction Environmental Manager	Prior to and during construction	CCM-30	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity B	Activity C
Hoarding					
Hoardings including graphics, artwork or project information as identified during detailed design will be installed as early as feasible and reasonable in the construction process around all construction compound facilities. Guidelines for hoarding graphics will be submitted to TfNSW prior to commencing work. The design and placement of construction hoardings will consider opportunities to minimise privacy impacts on adjacent land uses sensitive to privacy concerns.	Construction Environmental Manager	Prior to and during construction	CCM-31	✓	✓
Hoardings will be kept in good condition including the prompt removal of graffiti. Opportunities for graffiti will be minimised where possible e.g. hoardings will use removable fabric.	Construction Environmental Manager	Prior to and during construction	CCM-32	✓	✓
Install solid, 2.4m high boundary fencing where possible to reduce visual, noise and air quality impacts.	Construction Environmental Manager	Prior to and during construction	CCM-33	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity B	Activity C
Lighting					
Lighting impacts will be minimised to the greatest extent possible including: • Lights in the site compound will be turned off when not in use • use of shields to reduce light spill and annoyance to adjacent residences • orientate temporary lighting to minimise glare and light spill impact on adjacent receivers.	Construction Environmental Manager	Prior to and during construction	CCM-34	✓	✓
Location					
Locate construction compounds away from sensitive land uses and receivers, wherever practical and feasible	Construction Environmental Manager	Prior to and during construction	CCM-35	✓	✓
Locate construction compounds away from (or able to be managed in such a way so as to not impact on) heritage items and high retention value trees.	Construction Environmental Manager	Prior to and during construction	CCM-36	✓	✓
Locate construction compounds away from or implement management measures so as to not impact on waterways.	Construction Environmental Manager	Prior to and during construction	CCM-37	✓	✓
Situate construction compounds and ancillary facilities on relatively level ground	Construction Environmental Manager	Prior to and during construction	CCM-38	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity B	Activity C
Where feasible and reasonable, the elements within construction compounds will be located to minimise visual impact and consider noise and light sensitive receivers, for example: • materials and machinery would be stored behind fencing/hoarding. • use buildings to shield noisy activities, • minimise the requirement for reversing vehicles, • locate noise intensive activities to maximise the distance to noise sensitive receivers	Construction Environmental Manager	Prior to and during construction	CCM-39	✓	✓
Training					
Training will be provided to relevant Project personnel, including relevant sub-contractors on air quality control practices and the requirements from this plan through inductions, toolboxes and targeted training. The site induction will include staff behaviour training such as staff to consider their neighbours and not shout nor play radios or loud music.	Construction Environmental Manager	Prior to and during construction	CCM-40	✓	✓
Sustainability					
Energy efficient LED sensor lighting will be used in construction compound facilities.	Construction Environmental Manager	Prior to and during construction	CCM-41	✓	✓

Management Measure	Responsibility	Timing/Frequency	Reference ID	Activity B	Activity C
Utilities					
Services will be connected to existing mains service providers where possible. Services will run above ground along the boundary to the facilities to minimise trenching and reduce the risk of disturbing areas of archaeological interest. These services will be removed at the completion of works and reinstated as per the original finish.	Construction Environmental Manager	Prior to and during construction	CCM-42	✓	✓

4.7 Restoration of site

This section describes the management measures to be undertaken to reinstate the construction compound and site after works.

Minimum reinstatement of all areas will include:

- The Contractor's Construction Environmental Manager will conduct a pre-and-post dilapidation survey to allow the area to be handed back in the state received. The Contractor's Environmental Manager will also complete a sign-off walk with NSW Health to check work is completed to their satisfaction.
- All plant, vehicles and temporary buildings will be removed
- All land (including roadways, foot paths or other) that was temporarily occupied will be reinstated to pre-existing condition or better.
- Community spaces, infrastructure and services will be reinstated as soon as possible after completion of construction

Specific reinstatement of individual facilities is included below.

4.7.1 Activity A: Hawkesbury Road: office and amenities compound

Work in the office and amenities compound area will be generally undisturbed. The current hardstand will remain intact for the entire Project. Minor trenching may be required to install temporary water, electrical and sewer utilities. These services will be removed once the work is complete and the area reinstated as per its current condition.

4.7.2 Activity A: Mons Road: stockpile and material storage area

The proposed stockpile and material storage area is on Westmead Hospital land (along Mons Road) and currently acts as a stockpile for other construction projects. The entire area will be removed of all stockpiles and materials once the Project is complete. The area will be cleaned using sweeper trucks and watercarts. All concrete jersey kerbs and concrete bunds will be removed from site.

The cattle grid and associated ramps will be removed at completion. Any debris generated will be removed and disposed at a licenced facility. Tree protection in the area will be removed at the completion of the works.

4.7.3 Activity A: Other areas

The work areas will be reinstated and restored to its original state or better. The area in front of the new retaining wall for Activity A will be landscaped with trees and shrubs in accordance with the Landscaping Plan PLR-ARU-UD-1100-DRG-10071. The rest of the landscaping in the area will be done by others during further project works.

4.7.4 Activity B: Cumberland Hospital (East Campus) Demolition office and amenities compound

The site compound will be reinstated to its original condition. Contractors for further project works will utilise the site at a later stage.

4.7.5 Activity B: Other areas

Demolition sites will be left with slab on ground and footings in place. All demolition material will be removed. Landscaping in the area will be done by others during further project works.

4.7.6 Activity C: Cumberland Hospital (West Campus) Demolition office and amenities compound

The compound area will be reinstated to original condition, including new turf if required.

4.7.7 Activity C: Other areas

The five cottages and Boronia Ward will be left at slab level. All demolition material will be removed. Landscaping in the area will be done by others during further project works.

4.8 Utilities relocation

As per CoA E135, “the Proponent must identify utilities, services and other infrastructure and property potentially affected by construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the CSSI must be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent must ensure that any disruption to any service is minimised and shall be responsible for advising impact to service recipients before any planned disruption of service. The cost of any such arrangements must be borne by the Proponent, unless otherwise agreed with the utility/service provider.”

Utility relocation is required for Activity A. Capping of utilities and services and the reconnection of IT services is required for Activity B, no utility works are required for Activity C. Provision to address this and communicate with utility providers is described below

4.8.1 Activity A

- Transport for NSW, in design development for the project, has had extensive meetings and investigation works in regard to all services and utilities works with the footprint of the proposed Hawkesbury Road Widening.
- Utility providers have also assessed the impact of the works and have provided a thorough scope and pricing for all utility relocations.
- Some of the scope will be self-performed by the utility providers and their direct subcontractors. Other works including Sydney Water and Endeavour Energy will be carried out by accredited subcontractors The Contractor will engage directly.
- Part of all services scope of works will require further investigation in regard to supply and isolation in order to minimise the impact of the cut-overs and commissioning of the new services. This includes locating all services – including major and minor supply points.
- A project engineer from The Contractor will manage all subcontractors and issue notifications and updates to all stakeholders prior to any cut-overs.
- HAC in conjunction with The Contractor will liaise with all utility providers to avoid impacts on any of the hospital critical activities.
- In some instances, there may be a requirement to support and protect some of the existing services during construction. The Contractor’s will adopt a process of thorough services scanning, then Non-destructive Digging (NDD) to expose services. If a service is required to be supported a fully designed services support will be established, certified and a copy given to the utility provider.
- A review of utilities will be conducted with service providers in order to develop appropriate Safe Work Method Statements around utilities prior to commencing utility works.
- All cables will be buried within ducts and will adhere to Australian standards.

4.8.2 Activity B

- Transport for NSW in design development for the project has had extensive meetings and investigation works in regard to all services and utilities works
- HAC in conjunction with The Contractor will liaise with all utility providers to avoid impacts on any of the hospital critical activities.
- A Jemena gas pipeline has been identified as requiring capping and potentially partial removal. Consultation is underway with Jemena to determine the scope of works required.
- A review of utilities will be conducted with service providers in order to develop appropriate Safe Work Method Statements around utilities prior to commencing utility works.

4.9 Sustainability

This section presents obligations and procedures relevant to sustainability during construction and is applicable to all Activities (A, B and C).

4.9.1 Procedure

The Project is obliged to meet the sustainability requirements in terms of the Condition of Approval (CoA).

The PLR Sustainability Strategy (PLR-TfNSW-PJT-SU-PLN-000002) defines the following sustainability requirements for the activities:

- Activity A: This package is required to achieve a TfNSW SDGv4 rating.
- Activity B and C: Due to the short duration of these works, there is no requirement for this works package to meet the requirements of SDGv4.

The TfNSW Sustainability Design Guidelines (SDG) version 4.0 details fourteen compulsory requirements however only nine of these apply to Activity A. The Hawkesbury Road Widening Sustainability Requirements Allocation issued by HAC on 5 December 2018, identifies the applicable requirements and the applicable project stage i.e. Design or Construction. Where a requirement is applicable to the Design stage TfNSW will be responsible to meet the requirement and those requirements applicable to the Construction stage are the responsibility of HAC. In addition to the SDG v4 Activity A must comply with the Government Resource Efficiency Policy (GREP).

The sustainability requirements relevant to the projects is discussed in the following section:

- Section 4.9.2 Sustainable Design Guidelines that is relevant to Activity A
- Section 4.9.3 NSW Government Resource Efficiency Policy (GREP), relevant to Activity A

4.9.2 Sustainable Design Guidelines

The Sustainability Design Guidelines (SDG), Version 4.0 (7TP-ST-114/8.0, Transport for NSW, May 2017) is a key tool to realise sustainability in public transport in NSW. The SDG reflect industry standard and best practice in sustainability as well as current sustainability policy. The SDG applicable to the project are outlined in ‘HRW Sustainability Requirements allocation’, as issued by HAC on 5 December 2018.

Table 4-5: Sustainable Design Guideline (SDG) requirements applicable to the project

SDG Requirement Number	SDG Requirement	CEMP Reference
Compulsory Requirement 1	Construction GHG emissions: All projects with a CapEx > $15 million to reduce construction related GHG emissions by a minimum 5% from the project baseline GHG footprint established using the Carbon Estimate and Reporting Tool (CERT)	Section 4.2 of this CEMP
Compulsory Requirement 4	Waste diversion: 90% of construction waste and demolition waste (by weight) to be diverted from landfill for all projects with a CapEx > $15 million	This target is superseded by the REMMM 95% target Section 4.4 of this CEMP
Compulsory Requirement 5	Beneficial spoil reuse: 100% of usable spoil (by weight) to be beneficially reused for all projects generating >300m3 of spoil	Section 4.4 of this CEMP
Compulsory Requirement 7	Construction water: All projects with a CapEx > $15 million to monitor and report water consumption during project construction and reduce potable water consumption where practicable	Soil and Water Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000004)
Compulsory Requirement 10	Mobile non-road diesel plant emissions reporting: All mobile non-road diesel plant and equipment (with an engine greater than 19kW) to report engine conformity with relevant United States Environmental Protection Agency (US EPA), European Union (EU) or equivalent emissions standards and the fitting of any exhaust after-treatment devices. Reporting should be in accordance with the Air Emission Data Workbook – 9TP-FT-439	Section 4.2 of this CEMP

4.9.3 NSW Government Resource Efficiency Policy

The aim of the NSW Government Resource Efficiency Policy (GREP) (State of NSW and Office of Environment and Heritage, 2014) is to reduce the NSW government's operating costs and lead by example in increasing the efficiency of the resources it uses. The applicable GREP targets are outlined in 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018. Table 4-6 details the applicable GREP targets and where they are addressed in this CEMP.

Table 4-6: Government Resource Efficiency Policy (GREP) targets applicable to the Project

GREP Target Number	GREP Target Requirement	Reference
E3	Minimum standards for new electrical appliances and equipment.	Not applicable

GREP Target Number	GREP Target Requirement	Reference
E4	Minimum standards for new buildings, such that all new office buildings and fit-outs will be designed and built to a predicted performance of at least 4.5 stars for NABERS energy rating. For building types other than office buildings and fit outs, and where the facilities have projected development costs over $10 million, the buildings must be designed and built so that energy consumption is predicted to 10% lower than if built to minimum compliance with National Construction Code requirements;	Not applicable This is a highway /roads project and does not include buildings. The site offices and staff welfare facilities are temporary site cabins.
W3	Minimum standards for new water using appliances	The temporary site facilities/appliances will comply with water efficient minimum standards. A rainwater harvesting tank captures rainwater from the office and welfare facilities compound. The water is reused in the toilets and for site use.
A2	Low Volatile Organic Compound surface coatings.	Section 4.2 of this CEMP

Appendix A1

Compliance Matrix

NSW GOVERNMENT

Appendix A1 – Compliance matrices

Conditions of Approval Compliance Matrix

This section is applicable to Activities A, B and C.

This section outlines the CoA obligations relevant to the Construction Environmental Management Plan (CEMP). A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents. Table A1 presents the CoA relevant to the CEMP.

Table A1: CoA applicable to the CEMP

CoA	Requirement	Reference	How Addressed
A4	The Proponent must comply with all written requirements or directions of the Secretary, including in relation to: (a) the environmental performance of the CSSI; (b) any document or correspondence in relation to the CSSI; (c) any notification given to the Secretary under the terms of this approval; (d) any audit of the construction or operation of the CSSI; (e) the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval); and (f) the carrying out of any additional monitoring or mitigation measures.	Section 3.2.2.1, CEMP (PLR-HAC-HRW-PE-PLN-000001)	Section 3.2.2.1 allocates roles and responsibilities to the project team. The Project Manager is responsible for compliance with this Condition.
A5	Where the terms of this approval require a document or monitoring program to be prepared or	Summarised in Section 2.2, CEMP. Detailed descriptions	The appendices of the sub-plans record the points of

CoA	Requirement	Reference	How Addressed
	a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Secretary with the document or monitoring program or review. The evidence must include: (a) documentation of the engagement with the party(ies) identified in the relevant condition of approval before submitting the document for approval; (b) log of the points of engagement or attempted engagement with the identified party(ies) and a summary of the issues raised by the identified party(ies); (c) documentation of any follow-up with the identified party(ies), where feedback has not been provided, to confirm that the identified party(ies) has none or has failed to provide feedback after repeated requests; (d) outline of the issues raised by the identified party(ies) and how they have been addressed, including evidence that the party(ies) is satisfied the issues have been addressed; and (e) where there are outstanding issues raised by the identified party(ies) that have not been adopted, the reasons why they have not been/could not be adopted must be provided, including evidence of consultation with the relevant party(ies).	of consultation are included in individual sub-plans.	engagement or attempted engagement and detail of the consultation undertaken by The Contractor.
A8	In the event that there are differing interpretations of the terms of this approval, including in relation	Section 3.2.2.4, CEMP	This section in the CEMP acknowledges that the Secretary holds the ultimate

CoA	Requirement	Reference	How Addressed
	to a condition of this approval, the Secretary's interpretation is final.		authority and interpretation of the terms of this approval.
A11	Without limitation, all strategies, plans, programs, reviews, audits, report recommendations, protocols and the like required by the terms of this approval must be implemented by the Proponent in accordance with all requirements issued by the Secretary from time to time in respect of them.	Section 3.10, CEMP	This section in the CEMP addresses the requirement to implement various management protocols and directives issued by the Secretary.
A23	For the duration of the works until after the commencement of operation, or as agreed with the Secretary, the approved ER must: (a) receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI; (b) consider and inform the Secretary on matters specified in the terms of this approval; (c) consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community; (d) review documents identified in CoA Table 2 and any other documents that are identified by the Secretary, for consistency, in the opinion of the ER, with requirements in or under this approval and if so: i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or	Section 3.2.2, CEMP. Section 4.6, CEMP	The responsibilities of the ER are recorded in the roles and responsibility section. The construction compound facilities described in this section have been determined to have a minor impact as demonstrated by ER approval attached in Appendix A9.

CoA	Requirement	Reference	How Addressed
	ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary for information or are not required to be submitted to the Secretary); (e) regularly monitor the implementation of the documents listed in CoA **Table 2** to ensure implementation is being carried out in accordance with the document and the terms of this approval; (f) as may be requested by the Secretary, help plan, attend or undertake audits of the CSSI commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under **Condition A41** of this approval; (g) as may be requested by the Secretary, assist the Department in the resolution of community complaints; (h) assess and, if acceptable, approve the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities or other ancillary facilities determined by the ER to have a minor environmental impact; and (i) prepare and submit to the Secretary and other relevant regulatory agencies, for information, an **Environmental Representative Monthly Report** providing the information set out in the Environmental Representative Protocol under the heading “Environmental Representative Monthly Reports.” The Environmental Representative Monthly Report must be submitted within seven		

CoA	Requirement	Reference	How Addressed
	days following the end of each month for the duration of the ER's engagement for the CSSI.		
A24	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in **Condition A23** (including preparation of the ER monthly report), as well as: (a) the complaints register (to be provided on a daily basis); and (b) a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	Section 3.2.2.1, CEMP Section 3.6.4, CEMP The INX System.	It is the responsibility of The Contractor to provide the ER with the required information.
A25	The Secretary may at any time commission an audit of an ER's exercise of its functions under **Condition A23**. The Proponent must: (a) facilitate and assist the Secretary in any such audit; and (b) make it a term of their engagement of an ER that the ER facilitate and assist the Secretary in any such audit.	Section 3.2.2.1, CEMP	Section 3.2.2.1 allocates roles and responsibilities to the project team. The Project Manager is responsible for compliance with this Condition.
A29	The AA must: (a) receive and respond to communication from the Secretary about the performance of the CSSI in relation to noise and vibration; (b) consider and inform the Secretary on matters specified in the terms of this approval relating to noise and vibration;	Section **Error! Reference source not found.**, CEMP (Responsibility of AA)	The responsibilities of the AA are recorded in the roles and responsibility section.

CoA	Requirement	Reference	How Addressed
	(c) consider and recommend, to the Proponent, improvements that may be made to work practices to avoid or minimise adverse noise and vibration impacts; (d) consider consultation outcomes with affected receivers to determine the adequacy of noise mitigation and management measures including work hours and respite periods; (e) review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary); (f) regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval; (g) in conjunction with the ER, the AA must: i) as may be requested by the Secretary, help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits; ii) if conflict arises between the Proponent and the community in relation to the noise and vibration performance during construction of the CSSI, follow the procedure in the Community Communication Strategy approved under		

CoA	Requirement	Reference	How Addressed
	Condition B3 of this approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary; iii) consider relevant minor amendments made to the CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of this approval and the management plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, endorse the amendment. This does not include any modifications to the terms of this approval; iv) assess the noise impacts of minor construction ancillary facilities; and (h) prepare and submit to the Secretary and other relevant regulatory agencies, for information, a monthly **Noise and Vibration Report** detailing the AAs actions and decisions on matters for which the AA was responsible in the preceding month (or another timeframe agreed with the Secretary). The **Noise and Vibration Report** must be submitted within seven days following the end of each month for the duration of construction of the CSSI, or as otherwise agreed with the Secretary.		
A33	The Proponent must make each compliance report publicly available and notify the Department in writing when this has been done.	Section 3.10.4. CEMP	The Contractor will provide the compliance report to TfNSW who will notify the Department.
A37	**Construction Compliance Reports** must be prepared and submitted to the Secretary for information every six (6) months from the date of the commencement of construction for the	Section 3.10.3, CEMP	The Contractor will prepare and submit 6-monthly construction compliance reports to the secretary for information.

CoA	Requirement	Reference	How Addressed
	duration of construction. The **Construction Compliance Reports** must include: (a) a results summary and analysis of environmental monitoring; (b) the number of complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints; (c) details of any review of, and minor amendments made to, the **CEMP** as a result of construction carried out during the reporting period; (d) a register of any reviews of consistency undertaken including outcome; (e) results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit; (f) a summary of all incidents notified in accordance with **Conditions A44** and **A46** of this approval; and (g) any other matter relating to compliance with the terms of this approval or as requested by the Secretary.		Provision has been made to complete compliance reports using INX software.
A44	The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one), and set out the location and nature of the incident.	Section 3.7.4, CEMP	The Contractor will notify TfNSW who will contact the Department if an incident occurs.

CoA	Requirement	Reference	How Addressed
A45	Within one week of notification of an incident under **Condition A44** of this approval, the Proponent must submit a report to the Department providing the time and date of the incident, details of the incident and must identify any consequent non-compliance with this approval.	Section 3.7.4, CEMP	The Contractor will provide the report to TfNSW who will contact the Department.
A46	All written requirements of the Secretary, which may be given at any point in time, to address the cause or impact of an incident must be complied with, within any timeframe specified by the Secretary or relevant public authority.	Section 3.2.2.4, CEMP	The Secretary holds ultimate authority over the Project. All written requirements must be followed.
A47	If an incident occurs or if statutory notification is given to the EPA as required under the *Protection of the Environment Operations Act 1997* in relation to the CSSI, such notification must also be provided to the Secretary within 24 hours after the notification was given to the EPA.	Section 3.10.4, CEMP	The Contractor will report to TfNSW who will contact the EPA and Secretary as required.
C1	A **Construction Environmental Management Plan (CEMP)** must be prepared to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in **Condition A1** will be implemented and achieved during construction.	The CEMP and associated sub-plans	The Contractor prepared this document and appendices in accordance with commitments in documents listed in CoA A1
C2	The **CEMP** must provide: (a) a description of activities to be undertaken during construction (including the scheduling of construction);	Section 1.4 and 1.7, CEMP	Section 1.4 provides the project description. Section 1.7 lists construction activities to be undertaken with a schedule.

CoA	Requirement	Reference	How Addressed
	(b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	Appendix A1, CEMP Appendix A2, CEMP	Appendix A1 lists all the CoA, REMMM and Environmental Performance Outcomes (EPO) Appendix A2 lists relevant legislation to the Project
	(c) a program for ongoing analysis of the key environmental risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of construction of the CSSI;	Initial risk register in Appendix A3, provision to update in Section 3.13, CEMP.	Risks will be reviewed weekly at the site meeting.
	(d) details of how the activities described in subsection (a) of this condition will be carried out to: i) meet the performance outcomes stated in the documents identified in Condition A1; and ii) manage the risks identified in the risk analysis undertaken in subsection of this condition;	Described in Appendix B1-B11, CEMP	The CEMP sub-plans identify how activities will be carried out to meet performance outcomes and manage risks.
	(e) an inspection program detailing the activities to be inspected and frequency of inspections;	Section 3.8, CEMP	Inspections will be conducted weekly, pre-work and post significant rainfall. This is the responsibility of the Environmental Manager and Site Foreman. All inspections will be recorded.
	(f) a protocol for managing and reporting any: i) incidents; and	Section 3.7, CEMP	The Contractor must notify HAC in the first instance of any non-compliance or incident. HAC will

CoA	Requirement	Reference	How Addressed
	ii) non-compliances with this approval and with statutory requirements.		then notify TfNSW or other relevant party. The Contractor will also record non-compliances in the compliance tracking program (PLR-TFNSW-PJT-PE-PRG-000001)
	(g) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	Section 3.7, CEMP	The Contractor will record all non-compliance in INX. TfNSW will identify the pathway for managing non-compliance which The Contractor must follow.
	(h) a list of all the **CEMP Sub-plans** required in respect of construction, as set out in **Condition C3**. Where staged construction of the CSSI is proposed, the **CEMP** must also identify which **CEMP Sub-plan** applies to each of the proposed stages of construction;	Section 1.3, CEMP	Sub-plans and document numbers are listed. All CEMP sub-plans apply to Parramatta Light Rail Stage 1: Package 2.
	(i) a description of the roles and environmental responsibilities for relevant employees and their relationship with the ER;	Section 3.2, CEMP	This Section identifies roles and responsibilities for all The Contractor's personnel and their relationship with the ER.
	(j) for training and induction for employees, including contractors and sub-contractors, in relation to environmental and compliance obligations under the terms of this approval;	Section 3.4, CEMP	The Contractor will conduct training in the form of environmental inductions, toolbox talks, awareness notes and daily pre-start meetings.

CoA	Requirement	Reference	How Addressed
	(k) for periodic review and update of the **CEMP** and all associated plans and programs.	Section 3.11.2, CEMP	The CEMP will be reviewed by The Contractor following: Reportable environmental incidents Upon identification of new risks, including risks identified during risk register updates When non-compliances are identified Following environmental audits that identify matters that require attention In response to Project change, including modifications Within three months of any of the above occurrences And as part of a continuous improvement process.
C3	The following **CEMP Sub-plans** must be prepared in consultation with the relevant government agencies identified for each **CEMP Sub-plan** and be consistent with the CEMP referred to in Condition C1: *Required CEMP Sub-plan; Relevant government agencies to be consulted for each CEMP Sub-plan; Secretary Approval/ Information* (a) Traffic, transport and access; Relevant Council(s), Roads and Maritime	Section 2.2, CEMP	All agencies contacted for consultation are identified in the CEMP. Details on consultation for relevant sub-plans are appended to the sub-plan.

CoA	Requirement	Reference	How Addressed
	Services, Emergency Services; for information (b) Noise and vibration; Relevant Council(s), EPA, NSW Health; for approval (c) Flood Management Relevant Council(s), OEH, Sydney Water; for information (d) Heritage; Relevant Council(s), OEH; for approval (e) Flora and Fauna Biodiversity; Relevant Council(s), OEH; for information		
C7	The **CEMP** must be endorsed by the ER and then submitted to the Secretary for approval no later than one month before the commencement of construction.	Appendix A9 (CEMP), includes the approval documents from the ER and Secretary.	The CEMP was endorsed by the ER on 15 March 2019 and submitted to the secretary for approval on 15 March 2019. This was no later than one month before commencement of construction.
C8	Construction must not commence until the **CEMP** and any **CEMP Sub-plan** specified in **Condition C3** have been submitted to or approved by the Secretary. The **CEMP** and **CEMP Sub-plans**, submitted to or approved by the Secretary, including any minor amendments approved by the ER must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the **CEMP** and **Sub-plans** for that	Appendix A9 (CEMP) includes approval documents from the ER and Secretary.	The CEMP and all CEMP sub-plans were approved by the secretary on 13 August 2019 for Activity A. This was prior to commencement of construction. The CEMP and all sub-plans were approved by the Secretary on 7 February for Activity B and

CoA	Requirement	Reference	How Addressed
	stage have been submitted to or approved by the Secretary. *Note: The requirement to submit or have a CEMP or CEMP Sub-plan approved is specified in **Condition C3**.*		C. This was prior to the commencement of construction.
C19	Boundary fencing that incorporates screening must be erected around all construction ancillary facilities that are adjacent to sensitive receivers for the duration of site establishment and construction of the CSSI unless otherwise agreed with Relevant Council(s), affected residents, business operators and/or landowners and in accordance with **Condition B2(b)**.	Section 4.6, CEMP	Boundary fencing that incorporates screening will be erected around all construction compound facilities.
C20	Boundary screening required under **Condition C19** of this approval must reduce visual, noise and air quality impacts on adjacent sensitive receivers	Section 4.6, CEMP	Screening which is opaque and non-permeable in nature will be attached to boundary fencing to reduce visual, noise and air quality impacts on adjacent sensitive receivers.
C21	All construction spoil haulage vehicles, and construction plant must be clearly marked as being for the CSSI in such a manner to enable immediate identification within at least 50 metres of the vehicles and plant.	Section 4.6, CEMP	All construction spoil haulage vehicles, and construction plant will be marked as being for the CSSI (using appropriate branding) to allow immediate identification within at least 50 metres of the vehicles and plant.
E47	Any physical damage caused to a property as a result of the CSSI shall be rectified or the property owner compensated, within a timeframe agreed to by the property owner with the costs borne by the Proponent. This condition is not intended to limit	Section 3.7.4, CEMP Section 3.9, CEMP	Any property damage incurred during construction will be rectified in a timeframe agreed with the property owner.

CoA	Requirement	Reference	How Addressed
	any claims that the property owner may have against the Proponent.		The Contractor will undertake building condition surveys of buildings at risk of damage before commencement of construction as required in condition E45. The surveys will be issued to the owners before construction starts.
E80	The Proponent must design and construct the CSSI in a manner that reduces visual and heritage setting impacts and ensures consolidation and rationalisation of kerbside infrastructure to avoid visual clutter.	Section 4.6, CEMP	Activity B and C: Construction Compound location and layout have been selected to reduce visual and heritage impact by using minimal area possible and avoiding areas of heritage This condition is addressed for Activity A in the Construction Compound Management Plan (PLR-HAC-HRW-PE-PLN-000006)
E82	Nothing in this approval permits advertising on any element of the CSSI.	Section 4.6, CEMP	Activity B and C: There will be no advertising on any element of the Works Addressed for Activity A in Section 7.0, Construction Compound Management Plan (PLR-HAC-HRW-PE-PLN-000006)

CoA	Requirement	Reference	How Addressed
E83	The Proponent must design and construct the CSSI in a manner that minimises opportunities for graffiti.	Section 4.6, CEMP	Activity B and C: Opportunities for graffiti will be minimised where possible e.g. hoardings will use removable fabric. Addressed for Activity A in Section 7.0, Construction Compound Management Plan (PLR-HAC-HRW-PE-PLN-000006)
E86	The CSSI must be constructed in a manner that minimises visual impacts resulting from construction sites, including protecting and retaining existing vegetation around the perimeter of compound sites, providing temporary landscaping and screening where appropriate to soften views of the construction sites and minimising light spill to adjacent residential areas.	Section 4.6, CEMP	Visual impacts from construction compounds will be minimised through screening and minimising light spill from construction compounds. Existing vegetation around the edge of construction compounds will be maintained.
E97	All lighting to be implemented as part of the CSSI must have regard to the location of nearby residential dwellings. Lighting impacts must be minimised to the extent possible including the use of shields to reduce light spill and annoyance to adjacent residences.	Section 4.6, CEMP	Lighting impacts will be minimised to the greatest extent possible including the use of shields to reduce light spill and annoyance to adjacent residences.
E98	The Proponent must ensure that all external lighting associated with the operation of the CSSI (excluding light rail vehicles) is mounted, screened and directed in such a manner so as not to create nuisance to residences. The lighting must be the minimum level of illumination necessary and shall	NA	No permanent lighting to be installed in Activity B and C. All temporary lighting will be installed to reduce the visual impact on nearby sensitive

CoA	Requirement	Reference	How Addressed
	comply with *AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting* and relevant Australian Standards in the series *AS/NZ 1158 – Lighting for Roads and Public Spaces*.		receivers and will be turned off when not required.
E99	The placement, obstruction and removal of CCTV cameras must be undertaken in consultation with the relevant public authority and Relevant Council(s).	Section 4.6, CEMP	If installation of CCTV cameras is done, consultation with the relevant public authority and Relevant Council(s) will need to be undertaken.
E109	The Proponent must design and construct the CSSI with the objective of minimising impacts to, and interference with third party property and infrastructure, and that such infrastructure and property is protected during construction.	Section 4.6, CEMP Appendix A7, ECMs	Activity B and C: Construction Compounds are located on NSW Health Land in cleared areas. Work will only occur in hoarded areas indicated on ECMs.
E125	An **Unexpected Contaminated Land and Asbestos Finds Procedure** must be prepared and must be implemented should unexpected contaminated land or asbestos be excavated or otherwise discovered during construction. This can be provided as part of the **CEMP** or relevant sub-plan.	Section 4.1, CEMP	Section 4.1 outlines the unexpected contaminated finds procedure and will be implemented throughout construction.
E126	The **Unexpected Contaminated Land and Asbestos Finds Procedure** must be implemented throughout construction.	Section 4.1, CEMP	Section 4.1 outlines the unexpected contaminated finds procedure and will be implemented throughout construction.
E127	Waste generated during construction and operation must be managed in accordance with	Section 4.4, CEMP	Waste on site will be avoided in the first instance, where this is not possible waste generation

CoA	Requirement	Reference	How Addressed
	the following priorities: (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and (c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.		will be reduced. Where waste generation is unavoidable waste will be managed in the following order of priority: reuse, recycle, recover, or disposal. Waste for disposal will be taken to a licensed facility.
E128	The importation of waste and storage of virgin excavated natural material (VENM), and the treatment, processing, reprocessing or disposal of any waste, must comply with the *Protection of the Environment Operations Act 1997*, and the *Protection of the Environment Operations (Waste) Regulation 2014*, where orders or exemptions apply under the regulation.	Section 4.4, CEMP	No waste importation for Activity A, B or C. Excavation will only occur for Activity A. Treatment, processing and re-processing will comply with relevant legislation using measures such as waste tracking.
E129	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the *Protection of the Environment Operations (Waste) Regulation 2014*, or to any other place that can lawfully accept such waste. Disposal of waste at these facilities must include GPS tracking of waste vehicles, audits of waste facility receipts and cross verification with the facility. All asbestos waste over $10m^3$ must be tracked through EPA's WasteLocate service.	Section 4.4, CEMP Table 7-1 Soil and Water Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000004)	Waste will be exported to facilities identified in Section 4.4. Asbestos waste will be tracked in accordance with WRM-06.

CoA	Requirement	Reference	How Addressed
E130	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Section 4.4, CEMP Table 7-1 Soil and Water Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000004)	Waste will be appropriately classified before leaving site and tracked using receipts.
E131	Asbestos or asbestos-contaminated materials that are discovered during demolition and construction activities of the CSSI must be strictly managed in accordance with the requirements under the *Protection of the Environment Operations (Waste) Regulation 2014* and any guidelines or requirements in force at the date of this approval and issued by the EPA in relation to those materials.	Section 4.4, CEMP	In the event that asbestos or asbestos-contaminated materials are uncovered during activities associated with the works they will be strictly managed in accordance with waste management measures: WRM-01 to WRM-07.
E135	The Proponent must identify utilities, services and other infrastructure and property potentially affected by construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the CSSI must be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent must ensure that any disruption to any service is minimised and shall be responsible for advising impact to service recipients before any planned disruption of service. The cost of any such arrangements must be borne by the Proponent, unless otherwise agreed with the utility/service provider.	Section 4.8, CEMP	Consultation with utility service providers has been undertaken by The Contractor to minimise disruption to services.

CoA	Requirement	Reference	How Addressed
E136	A **Sustainability Strategy** must be prepared to achieve a minimum project score of 65 for 'Design' and 'As built' rating under the Infrastructure Sustainability Council of Australia infrastructure rating tool.	PLR Sustainability Strategy (PLR-TfNSW-PJT-SU-PLN-000002)	The sustainability strategy defines that for Activity A the package is required to achieve a TfNSW SDG v4 rating. There is no requirement for package B and C to achieve the TfNSW SDG v4 rating.
E137	The **Sustainability Strategy** must be submitted to the Secretary, for information, within six months of the date of this approval, or within another timeframe agreed with the Secretary, and must be implemented throughout the design, construction and operation of the CSSI.	PLR Sustainability Strategy (PLR-TfNSW-PJT-SU-PLN-000002)	The sustainability strategy was submitted to the secretary in the required timeframe and will be implemented throughout construction.

Revised Environmental Mitigation and Management Measures Compliance Matrix

Relevant REMMM that relate to the CEMP are listed in Table A2 below. This includes reference to required outcomes, the timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table A2: REMMM applicable to this CEMP

Ref #	Requirement	CEMP Reference	How Addressed
AQ-1	An air quality and dust management plan would be developed and implemented as part of the CEMP. This plan would identify triggers and procedures for dealing with significant dust generating activities, with the aim of minimising impacts on surrounding sensitive receivers. Air quality and dust management measures that would be identified in the CEMP would include:	Section 4.2, CEMP	The scope of works for each activity differs and as such not all air quality and dust management measures listed in this REMMM will be required for all activities. For example, no stockpiles are proposed for Activity B and C, therefore measures

Ref #	Requirement	CEMP Reference	How Addressed
	• Apply wheel-wash or rumble grid facilities as appropriate to remove loose material and prevent the tracking of spoil debris onto local roads. • Clean loose materials and debris from the tailgate of vehicles unloading materials to stockpiles prior to departure from site. • Boundary screening will in place to mitigate and reduce visual intrusion and dust emissions from site • A sweeper will be on site in the event of material tracked onto the road and for routine sweeps around the work areas • Conduct routine servicing and maintenance, and subsequent inspections to ensure that equipment continues to operate efficiently. • Ensure that all loads are covered when materials are being hauled to and from site. • Ensure that compound area surfaces are well compacted or sealed to limit the potential for dust generation. • Ensure that structures are inspected by a suitably qualified person to confirm that they do not contain any hazardous materials (e.g. asbestos) which could be broken and mobilised during demolition. Where such materials are identified, adhere to the requirements for removal and disposal listed in the Work Health and Safety Act 2011, and Work health and Safety Regulation 2011. • Impose low speeds limits around compound sites to limit the generation of dust from vehicle movements.		associated with position and maintenance of stockpiles will not apply. Relevant dust management measures for each activity, which form the air quality and dust management plans, are listed in Section 4.2.

Ref #	Requirement	CEMP Reference	How Addressed
	• Install dust monitoring devices to quantify dust levels and determine whether control measures are adequate or whether further actions are required. • Installation of perimeter screening around areas where there is a potential to generate emissions to air and around long-term compound and stockpile locations. • Plan activities and avoid adversely windy conditions which may result in the generation of off-site dust impacts. • Position stockpiling areas as far as possible from surrounding receivers. • Regularly water exposed and disturbed areas and stockpiles especially during inclement weather conditions. • Water demolition areas as necessary to minimise the generation of dust. • Wherever possible and practical, limit the amount of materials stockpiled, extent of disturbed and exposed surfaces. Restoration of cleared areas is to occur as soon as possible. • Apply odour supressing agents to materials as necessary to minimise related impacts should any contaminated or hazardous materials be uncovered during the works. • Construction plant and equipment would be well maintained and regularly serviced so that vehicular emissions remain within relevant air quality guidelines and standards.		

Ref #	Requirement	CEMP Reference	How Addressed
	• All vehicles used on site, for transporting materials to or from site, or for any other activities associated with the project, shall be maintained to avoid the emission of excessive air impurities in accordance with Part 5.8 of the Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (Clean Air) Regulation 2010. • All on-road trucks would comply with the relevant Australian emission standards. • All chemicals and fuels would be stored in sealed containers as per appropriate regulations and guidelines. • The on-site storage of fuel would be kept to a minimum. • Unloading of fuels (diesel or liquefied nitrogen gas (LNG)) would be vented via return hoses that recirculate vapours from delivery to receiver. • On dry days, unsurfaced haul roads would be watered to aid dust suppression. • Stockpiles left for extended periods would be grassed or covered with appropriate material. Chemical/fuel storage tanks would be fitted with a conservation vent (to prevent air inflow and vapour escape until a pre-set vacuum or pressure develops).		
CM-03	For low and medium risk sites, environmental management measures would be applied as detailed in a Construction Contaminated Land Management Plan (CCLMP), as a sub-plan to the CEMP. The measures would be tailored to address any specific locations where contamination is identified through the	Section 4.1, CEMP	Contaminated Land management is incorporated into the CEMP. Health and safety is protected by stopping works and leaving the area. No works will resume until contamination is controlled.

Ref #	Requirement	CEMP Reference	How Addressed
	current contaminated land investigations. This includes worker health and safety measures.		
CM-06	An unexpected finds procedure would be developed and implemented as part of the project CCLMP, outlining a set of potential contamination issues which could be encountered, and detailing the corrective actions to be implemented.	Section 4.1, CEMP	Section 4.1 outlines the unexpected contaminated finds procedure and will be implemented throughout construction: • Stop work • Contact supervisor and contamination specialist • Do not proceed until site is deemed clear
GEN-1	A construction environmental management plan (CEMP) would be prepared for the construction phase of the project. The CEMP would provide a centralised mechanism through which all potential environmental impacts would be managed. The CEMP would document mechanisms for demonstrating compliance with the commitments made in the Environmental Impact Statement), the submissions report, as well as any other relevant statutory approvals (e.g. conditions of approval, licences and permits). The CEMP would outline a framework for the management of environmental impacts during construction, including further details on the following: Traffic, transport and access management. Noise and vibration management. Heritage management. Air quality and dust management. Soil and water management.	CEMP and associated sub-plans	Management measures are addressed by The Contractor's in sub-plans and CEMP sections as follows: Traffic, Transport And Access Management Sub-Plan. (PLR-HAC-HRW-PE-PLN-000002) Noise and Vibration Management Sub-Plan (PLR-HAC-HRW-NV-PLN-000001) Heritage Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000005) Air quality and dust management (Section 4.2, CEMP) Soil and Water Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000004) Flora and Fauna Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000003) Waste and resource management (Section 4.4, CEMP)

Ref #	Requirement	CEMP Reference	How Addressed
	Flora and fauna management. Waste and resource management. Site compound and ancillary works management. Landscape and temporary works management. Emergency and incident response management. The CEMP would be prepared by the responsible contractor(s) and approved by the Secretary of the NSW Department of Planning and Environment.		Site compound and ancillary works management Activity A: PLR-HAC-HRW-PE-PLN-000006) Activity B and C: Section 4.6 Emergency and incident response management (Section 3.7, CEMP)
GEN-2	A construction compounds plan would be prepared for the project as part of the overall CEMP. This sub-plan would set out details for each of the approved construction compounds, including stockpile areas, laydown areas and other ancillary activities required to construct the project. The sub-plan would supplement, in greater detail, the information provided in the main body of the CEMP. The objectives and strategies of the construction compounds and ancillary facilities management sub-plan would include the following:	Construction Compound Management Plan (PLR-HAC-HRW-PE-PLN-000006) Section 4.6, CEMP	A Construction Compound Management Plan has been prepared for Activity A (PLR-HAC-HRW-PE-PLN-000006) Construction Compound Management for Activity B and C has been addressed in Section 4.6.
	Minimise the impact of construction compounds on surrounding land uses and sensitive receivers.	Section 4.6, CEMP	Strategies to minimise the impact of construction compounds on surrounding land uses and sensitive receivers are discussed in the CEMP
	Locate construction compounds away from sensitive land uses and receivers, wherever practical and feasible, or configure internal compound layouts in a manner that considers noise and light sensitive receivers (e.g. use of buildings to shield noisy activities, minimising the requirement for reversing vehicles, or locating noise	Section 4.6, CEMP	Construction Compounds have been located away from sensitive land uses and receivers, where practical and feasible. Internal compound layout minimises impact on sensitive receivers.

Ref #	Requirement	CEMP Reference	How Addressed
	intensive activities to maximise the distance to noise sensitive receivers).		
	Manage stockpile areas to minimise potential pollution of watercourses, groundwater and local air quality.	Section 4.6	Activity A: Stockpile area will be bunded, regularly watered down and covered prior to rainfall. No stockpiling for Activity B or Activity C
	Minimise the clearing of vegetation (e.g. street trees and trees within public open spaces) to the minimum amount necessary to construct the project, particularly where construction compounds are proposed in public open spaces/parkland areas.	Section 4.6, CEMP	Minimise impact on public garden adjacent to site compound for Activity B. Minimise vegetation clearing for Activity C.
	Locate construction compounds away from (or able to be managed in such a way so as to not impact on) heritage items and high retention value trees.	Section 4.6, CEMP	Construction compounds have been located away from heritage items and high retention value trees.
	Locate construction compounds away from or implement management measures so as to not impact on waterways.	Section 4.6, CEMP	Construction compounds have been located to not impact waterways Section 7 of the Flood Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000007) and Section 7 of the Soil and Water Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000004) have specific management measures to reduce impact on waterways.
	Flood response measures for compounds that are located on land affected by the 20 year ARI flood level (e.g. bridge support construction compounds).	Construction Flood Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000007)	Compound location is not affected by 20 year ARI flood levels

Ref #	Requirement	CEMP Reference	How Addressed
	Situate construction compounds and ancillary facilities on relatively level ground, and avoid excavation in construction compounds where risk of heritage impacts or disturbance of contaminated material.	Section 4.6, CEMP	Construction compounds are situated on relatively level ground No excavation will occur in construction compounds
	Minimise the visual impact of construction compounds and ancillary facilities through either siting such facilities away from sensitive receivers (where practical and feasible) and/or providing screening.	Section 4.6, CEMP	Visual impact of construction compounds has been minimised by erecting opaque hoarding around facilities
	• Reinstatement strategies for construction compounds. As a minimum, this would include: ◦ At the completion of construction, all plant, temporary buildings or vehicles would be removed. ◦ All land, including roadways, footpaths or other land having been occupied temporarily would be returned to their pre-existing condition or better. Reinstatement of community spaces, infrastructure and services would occur as soon as possible after completion of construction.	Section 4.7, CEMP	Minimum reinstatement of construction compound facilities will include: • All plant, vehicles and temporary buildings will be removed • All land (including roadways, foot paths or other) that was temporarily occupied will be reinstated to pre-existing condition or better. Community spaces, infrastructure and services will be reinstated as soon as possible after completion of construction
	Environmental management measures for construction compounds would be developed as part of the overall CEMP, with the construction compounds sub-plan identifying where such measures are documented within the CEMP.	Section 4.6, CEMP	Environmental management measures for construction compounds are identified in the CEMP.
GEN-3	Incident management procedures would be developed as part of the CEMP. The procedures would clearly outline the process to be followed in the event of an	Section 3.7, CEMP	The Contractor will use INX to record, classify and report incidents.

Ref #	Requirement	CEMP Reference	How Addressed
	environmental incident or noncompliance, including (but not limited to) the following: Classification of the incident (e.g. minor, moderate, serious) based on the severity of the likely impact on the surrounding environment and community. Emergency response procedures. Notification requirements (e.g. Transport for NSW and/or other regulatory authorities, or owners/occupiers in the vicinity of the incident). Mechanisms for improving environmental controls to reduce the likelihood of a similar incident occurring. Incident reporting and tracking.		In event of emergency, the response procedure outlined in Appendix A8 will be followed.
GG-3	Management of emissions would be incorporated into site inductions, training and pre-start talks.	Section 3.4 CEMP	The Contractor will make sure personnel are told to switch off engines alongside other management measures that may reduce emission through the induction, and pre-start/toolbox talks process
GG-4	The CEMP would incorporate measures to minimise the emission of greenhouse gases during construction. Activities with the potential to cause substantial emissions (such as material delivery and loading and bulk earthworks) would be identified in the energy and greenhouse gas emissions strategy. Emissions management actions would be investigated and applied where reasonable and feasible. These would potentially include: • The use of biodiesel and other low carbon fuels in vehicles and equipment. • The use of fuel-efficient construction equipment.	Section 4.2, CEMP Section4.9, CEMP	Use of low carbon fuels and fuel-efficient construction vehicles will be used throughout construction. Energy efficient LED sensor lighting will be used in construction compound facilities.

Ref #	Requirement	CEMP Reference	How Addressed
	• The use of energy efficient construction practices. Use of energy efficient or solar powered lighting for temporary construction facilities.		
GG-5	Local procurement of construction services and materials would be undertaken (where feasible and cost effective) to reduce fuel consumption for transport. Where practical and reasonable, construction planning would ensure that deliveries are managed in an efficient manner to minimise the number of trips required and therefore reduce the amount of emissions.	Section 4.2, CEMP	Local construction services and materials will be utilised where feasible and cost effective.
GG-6	Energy efficient work practices, such as switching off construction plant, vehicles and equipment when not in use to minimise idling, would be implemented during construction.	Section 4.2.5, CEMP	Energy efficient work practices will be implemented for each Activity including: • Switch off construction plant and vehicles when not in use • Switch off lights in office in amenities when not in use
GG-7	Regular monitoring, auditing and reporting on energy, resource use and associated greenhouse gas emissions would form part of the environmental reporting requirements specified within the CEMP and would be carried out.	Section 4.9, CEMP	For Activity A, auditing and reporting on energy resource use will be conducted at six monthly intervals throughout construction. The scope and duration of Activity B and C does not align with the CERT tool, however reporting on energy and resources shall be included following completion of demolition.
GG-8	Selection of materials during detailed design and construction planning to ensure products with low embodied carbon or recycled materials are considered and used.	Section 4.9, CEMP	This REMMM applies only to Activity A. Low embodied energy materials have been considered throughout detailed design construction.

Ref #	Requirement	CEMP Reference	How Addressed
			As the scope of Activity B and C relates to demolition only, there will be no selection of material required.
HR-5	Environmental management measures relating to hazards and risk would be developed and implemented as part of the CEMP. These would include: Potential environmental hazards and risks associated with construction activities would be identified prior to construction. The storage of hazardous materials, and refuelling/maintenance of construction plant and equipment would be carried out in clearly marked and bunded areas within the construction site that are designed to contain spills and leaks in accordance with Australian Standards and DECCW guidelines. Hazardous materials would not be stored below the ten per cent AEP flood level. Chemical spill kits would be readily available and accessible to construction workers. Kits would be kept at site compounds and on specific construction vehicles, and all hazardous materials spills and leaks would be reported to site managers and actions would be immediately taken to remedy spills and leaks. Employees would be trained in the correct use of spill kits.	Appendix A3, CEMP Section 4.6, CEMP	The Contractor identified in the risk register in Appendix A3 the mitigation measures for potential hazards. Hazardous material will not be stored below the ten per cent AEP flood level and spill kits will be kept at site compounds
HR-6	A process for regularly reviewing work practices/procedures would be implemented throughout construction to identify, report and respond to any new environmental hazards/risks.	Section 3.13, CEMP	The Contractor will hold reviews daily to fortnightly to review various project parameters.

Ref #	Requirement	CEMP Reference	How Addressed
HR-8	All cables would be buried within ducts and would adhere to all International and Australian electrical standards in terms of distances from surrounding cables (i.e. adjacent high voltage cables require minimum separation in accordance with industry standards).	Section 4.8 CEMP	All cables will be buried within ducts and will adhere to Australian standards.
HY-8	Large areas of disturbance such as compound areas and stockpile sites would, where feasible and reasonable, be located away from any surface runoff flow paths and above the 10% AEP flood levels.	Section 6 and Section 7, Flood Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000007)	Compounds and stockpiles will be located away from known areas of flooding/ponding as identified on available flood technical reports.
PR-4	Lighting within the project corridor would be required to address safety and consider the potential privacy impacts of light spill to adjoining properties, including the use of fixtures that prevent light within the light rail corridor from spilling upwards and/or beyond the required area to be lit and into adjacent residences or sensitive environmental areas. Permanent lighting would be designed by a specialist lighting consultant and would comply with relevant Australian Standards, including AS4282.1997 (Control of the obtrusive effects of outdoor lighting) and AS 1158 Road lighting. The final lighting design would consider the use of motion sensors to adjust light levels to balance the need to provide a safe environment while minimising potential light spill to the adjacent residential properties.	Section 4.6, CEMP	Light spill at construction compounds to be arranged to reduce light spill. No permanent lighting will be installed.
PR-5	The design and placement of construction hoardings would consider opportunities to minimise privacy impacts on adjacent residents or other adjacent land uses sensitive to privacy concerns.	Section 4.6, CEMP	Hoarding will be placed to reduce privacy impacts on nearby sensitive receivers. Opaque screening will be utilised where possible.
SU-1	Sustainability initiatives would be incorporated into the detailed design and construction of the project to support	Section 4.9, CEMP	Applicable to Activity A only: Section 4.9 complies with Hawkesbury Road Widening

Ref #	Requirement	CEMP Reference	How Addressed
	the achievement of the project sustainability objectives, as detailed in the Sustainability Plan.		Sustainability Requirements allocation, as issued by HAC on 5 December 2018
SU-02	A best practice level of performance would be achieved by achieving a minimum project score of 65 (an Excellent rating) for each project stage during detailed design and construction.	Section 4.9, CEMP	Applicable to Activity A only: A minimum score of 65 must be achieved throughout construction.
TR-9	As far as practical, the construction compounds would be configured so as to not directly impact on trees that would not already be directly impacted by the project. Where trees which can be retained are located within construction boundaries, exclusion fencing would be erected to protect these trees from construction activities. Similarly, for road network modifications away from the main alignment, these works would be carried out, as far as practical, so as to minimise any further impact on trees as a result of the project.	Table 9-6, Flora and Fauna Biodiversity Management Sub-Plan (PLR-HAC-HRW-PE-PLN-000003) Section 4.6, CEMP	Site compound placement within existing cleared areas where possible to avoid and minimise tree clearing. Environmental Control Maps to document TPZs and other no go areas which must be adhered to by The Contractor. Tree protection fencing to be installed and maintained for the duration of construction.
UT-1	Dial before you dig searches and non-destructive digging (including pot-holing and/or hand-digging) would be carried out to identify the presence of underground utilities prior to commencement of construction in accordance with guidelines provided by the relevant utility authority.	Section 3.1.2, CEMP	The Contractor will Dial before you dig or implement non-destructive digging to identify the presence of utilities prior to excavation.
UT-6	When working in the vicinity of utilities during construction, a review of the proposed works at these location(s) would be carried out by the Construction Contractor in consultation with the relevant service provider(s). The review would consider service provider and project requirements in terms of safety, network integrity and constructability. Safe working method statements and appropriate management plans must be	Section 4.8, CEMP	A review of utilities will be conducted with service providers in order to develop appropriate Safe Work Method Statements around utilities.

Ref #	Requirement	CEMP Reference	How Addressed
	implemented to minimise the risk of striking nearby utilities.		
VL-01	Design of hoardings would feature graphics, artwork or project information wherever possible at appropriate locations to be determined in consultation with Transport for NSW. Guidelines for hoardings graphics, including location-specific guidelines, would be submitted by the contractor for approval by Transport for NSW prior to the commencement of works.	Section 4.6, CEMP	Hoardings will feature graphics, artwork or project information where possible. Guidelines for hoarding graphics will be submitted to TfNSW prior to commencing work.
VL-14	Visual mitigation and management measures identified below would be implemented as soon as feasible and reasonable, and remain for the duration of the construction activities in that area.	Section 4.6, CEMP	Management measures described in this section will be implemented as soon as feasible and reasonable, and remain for the duration of Works.
VL-15	Hoardings including graphics, artwork or project information as identified during detailed design would be installed as early as feasible and reasonable in the construction process. Hoardings would be kept in good condition including the prompt removal of graffiti.	Section 4.6, CEMP	Hoarding will be installed as early as possible during construction compound set-up. Hoardings should be covered in material with project information, which can easily be replaced if graffiti occurs
VL-16	Where feasible and reasonable, the elements within worksites and construction compounds would: • Be located to minimise visual impact, for example materials and machinery would be stored behind fencing/hoarding. • Include temporary lighting that would be orientated to minimise glare and light spill impact on adjacent receivers.	Section 4.6, CEMP	All materials and vehicles will be stored behind hoarding in compounds in a neat and orderly manner to prevent any visual impacts for sensitive receivers that may overlook the construction compounds. Temporary lights installed within compounds will be oriented to minimise glare and light spill and will be turned off when not in use.

Ref #	Requirement	CEMP Reference	How Addressed
	Retain and protect existing vegetation around the perimeters where feasible and reasonable to act as a visual screen.		Existing vegetation will be retained and protected where feasible.
WM-02	A waste and resource management plan would be prepared for the project as part of the overall CEMP. This plan would set out details for managing waste generation and resource consumption. The plan would be informed by the Parramatta Light Rail Sustainability Plan and the requirements of the Waste Avoidance and Resource Recovery Act 2001. The objectives and strategies of the waste and resource management plan would include the following:	Section 4.4, CEMP	This section of the CEMP sets out the process to manage waste generation and resource consumption. Waste will be classified and disposed of in separate bins provided on-site for the various waste streams to be generated by each activity. Any waste that cannot be reused or recycled will be disposed of off-site at a licensed facility. Waste collection will be arranged at regular intervals to minimise the presence of waste on-site.
	• » Construction waste would be managed through the waste hierarchy established under the Waste Avoidance and Resource Recovery Act 2001 management hierarchy.	Section 4.4, CEMP	Waste will be managed under the waste hierarchy
	◦ Classification of waste during construction in accordance with the current guidelines	Section 4.4, CEMP	Waste will be classified in accordance with EPA Waste Classification Guidelines and the and Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014)
	◦ Segregation of waste into stockpiles of spoil, concrete, steel, timber, paper and cardboard and vegetation to make it easier to recycle components and prevent cross contamination.	Section 4.4.1, CEMP	Addressed in WRM-22.
	◦ Procurement of materials would be carried out on an ‘as needed’ basis to reduce over-ordering and wastage, and exploring	Section 4.4.1, CEMP	Addressed in WRM-08

Ref #	Requirement	CEMP Reference	How Addressed
	opportunities to reuse materials, where applicable.		
	• » Targets for the recovery, recycling or reuse of construction waste, and beneficial reuse of spoil. A Construction Waste, Reuse, Recycling and Energy Plan would be prepared as part of the CEMP. It would ensure resource and materials use, waste disposal and energy use is minimised by tracking and reporting performance, and applying corrective action as required.	Section 4.4.1, CEMP	The waste implementation measures set targets for spoil and waste recovery / recycling to minimise waste disposal and include the requirement to track waste to accurately report this.
	• Identification of carbon and energy strategies and initiatives to minimise carbon and energy use associated with construction (e.g. selection of equipment, inclusion of renewable energy sources to power temporary facilities and equipment, designing site offices for energy efficiency, and efficient operation of vehicles and equipment).	Section 4.2.5	Strategies to reduce carbon and energy use such as fuel reduction, energy efficient lighting, careful material selection.
	• Consideration of materials mitigation and management measures including use of recycled materials, recycling and reuse of materials on site, use of materials with lower embodied impact, and consideration of whole of life costs during procurement.	Section 4.2.5	This section considers use of recycled materials, such as the maximum permitted recycled content for asphalt and concrete (including use of fly ash and blast furnace slag)
	• » Prior to disposal/removal or reuse off-site, all wastes would be classified in accordance with the waste classification guidelines (Waste Classification Guidelines (OEH, 2016) and Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014) to ensure the most appropriate disposal or reuse option.	Section 4.4, CEMP	Waste will be classified using the guidelines of EPA Waste Classification Guidelines and the and Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014). A figure illustrated the process in Section 4.4.

Ref #	Requirement	CEMP Reference	How Addressed
	» Monitoring and compliance requirements.	Section 3.10.3	Compliance with the Waste Management Plan will be tracked along with all other compliance tracking.
WM-03	The project would achieve a diversion rate for construction waste from landfill of a minimum of 90 per cent of waste by volume, with a target of 95 per cent. The project would also reuse 100 per cent of paving and other reusable materials or facilitate reuse of such materials. Contaminated waste which cannot be diverted from landfill would be excluded from this calculation. Where targets cannot be achieved, the project must demonstrate all feasible measures have been taken to achieve as close to the targets as possible.	Section 4.4, CEMP	The Project will achieve a 90 per cent waste diversion from landfill (by volume) with a target of 95 per cent by sorting waste before disposal and recycling material where possible
WM-04	Construction waste would be segregated and stockpiled on site, with materials such as bricks and tiles, timber, plastic, metals and existing track materials (such as rail and ballast materials) being separated where practicable and sent to a waste facility with recycling capabilities.	Section 4.4, CEMP	All construction waste will be segregated and stockpiled with material sent to recycling facilities where practical.
WM-05	The disturbance, movement and disposal of asbestos containing materials would be carried out in accordance with the Work Health and Safety Regulation 2011 and other relevant guidelines.	Section 4.4, CEMP	Any work involving asbestos containing materials will be carried out in accordance with the Work Health and Safety Regulation 2011 and any other relevant guidelines as described in WRM-05.
WM-06	Where possible and fit for purpose, spoil would be beneficially reused within the project before off-site reuse or disposal options are pursued. A spoil management strategy would be developed prior to the commencement of construction and implemented during construction. The strategy would identify spoil	Section 4.4, CEMP	All spoil will be beneficially re-used where possible.

Ref #	Requirement	CEMP Reference	How Addressed
	disposal sites and describe the management of spoil on-site and during off-site transport.		

Environmental Performance Outcomes Compliance Matrix

Relevant EPO that relate to the CEMP are listed in Table A3 below. This includes reference to required outcomes, the timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table A3: EPO applicable to this CEMP

Ref #	Commitment	CEMP Reference	How Addressed
EPO-SU-1	The project would be carried out in accordance with the Parramatta Light Rail Sustainability Strategy.	Section 4.9, CEMP	Activity A: Section 4.9 of this CEMP complies with the Hawkesbury Road Widening Sustainability Requirements allocation, as issued by HAC on 5 December 2018 Activity B and C: Section 4.9 of this CEMP complies with the PLR Sustainability Strategy (PLR-TfNSW-PJT-SU-PLN-000002)
EPO-SU-2	The project would comply with the relevant requirements of the NSW Government Resource Efficiency Policy	Section 4.9.3, CEMP	The project will comply with policies E3, E4, W3, A2
EPO-UT-1	There would be no unplanned or unexpected disturbance of utilities.	Section 4.8, CEMP	DBYD and consultation with utility providers will be undertaken before utility work.

Appendix A2

Legal Requirements

NSW GOVERNMENT

Legal requirements

Table A1-1: Register of Acts, Guidelines, Regulations and other legislation applicable to the project

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
General				
Dangerous Goods (Road and Rail Transport) Act 2008	Dangerous goods transport	Supplements the Australian Dangerous Goods Code, which lists all 'goods' that pose a human health, property or environmental risk. • Requires that dangerous goods are transported according to their correct classification, packaging and labelling. As such they must be correctly labelled, stored, segregated and stowed. They must also display their correct emergency information. • Safety equipment must be used to transport the goods • Requires goods to be transported by a licensed contractor on a licensed vehicle.	s.9 and s.10 s.6 and s.7	Yes – The Contractor must obtain a license to transport 'goods' that pose a human health, property or environmental risk.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Dangerous Goods (Road and Rail Transport) Regulation 2014	Dangerous goods transport	• Stipulates the requirement to train people to transport dangerous goods • Details how goods should be transported, packaged, stored and segregated • Describes how bulk goods should be transported • Describes the need to prepare consignment notes, transport documentation, provide emergency information • Describes emergency procedures.	cl.22, cl.44, cl.46, c.74, cl.84, cl.98 and cl.102 cl.111 and cl.112 cl.121 and cl.128 c.138, cl. 141 to cl.146 cl.147 to cl.154	Yes – The Contractor must ensure only trained personnel transport dangerous goods.
Environmental Planning and Assessment Act 1979	All	• Comply with the terms Minister for Planning and Infrastructure's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	s5.25	Yes – The act sets the planning approval pathways. The Contractor must comply with all conditions and mitigation measures in the planning approval documents.
		• To examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity. • Describes the process for approving State Significant Infrastructure and critical State Significant Infrastructure	s5.13 s5.14 to s5.17 and Sch.1, cl.12	

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Environmental Planning and Assessment Regulation 2000	Planning approvals, licenses and streamlining provisions	• Describes the required content of an EIS • Describes the penalties that can apply for not implementing the Act • Describes (in further detail than the Act) the application and approval process for State Significant Infrastructure	Sch.2 Sch.5 Pt.10	Yes – The Contractor will be subject to the penalties within the regulation if they fail to comply with planning approval documentation.
Environmentally Hazardous Chemicals Act 1985	Hazards and risks	• Substances are declared 'chemical wastes' and subject to 'chemical control orders' • Current orders include (fluoride/cyanide, dioxins, organotin, polychlorinated biphenyl (PCB), and an additional 24-scheduled wastes) • Requirement to obtain a license to use any of the above chemicals during construction • Failure to comply with the control order or associated license conditions is an offence • The maximum penalty for non-compliance is $137,000.	s.10,11,20-24 s.28 s.24 s.54	Yes – Requirement to obtain a license to use listed chemicals
Environmentally Hazardous Chemicals Regulation 2008	Hazards and risks	*This regulation acts as a reference document however includes no additional provisions that would directly affect the project.*	N/A	N/A

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Pesticides Act 1999	Pollution management	• Makes it an offence to poses certain pesticides • Requires certain pesticides to be used in a controlled manner • Makes it an offence to keep/dispose of any pesticide that may cause harm to humans, plants or animals or cause property damage • Makes it an offence to wilfully or negligently misuse pesticides that may cause harm to humans, plants or animals or causes property damage.	s.71 s.15(3) s.10(1) and s.11(1) s.7 and s.8	Yes – Listed pesticides may not be used for the Project.
Pesticides Regulation 2009	Weed control and pest management	• Stipulates the requirement to train people to use and apply pesticides • Requires trained personnel to record their pesticide use • Requires public authorities to develop a plan describing how they will notify the public about the intended use of pesticides in sensitive places (such as near schools and nursing homes)	cl.9 cl.13 cl.19	Yes – Only trained personnel may use pesticides

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment *Operations Act 1997*	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to • 'road construction' meaning the construction, widening or re-routing of roads if it results in the existence of 4 or more traffic lanes (other than bicycle lanes or lanes used for entry or exit) for 1 km of their length in the metropolitan area, or 5 km in length in any other area, where the road is classified, or proposed to be classified, as a freeway or tollway under the Roads Act 1993 • 'crushing, grinding and separating' and 'extractive activities'. (and any other scheduled activity undertaken for the Project).	Whole Act	No (Not applicable to the Project)

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Transport				
Roads Act 1993	Road user protection and safety	• Describes Roads and Maritime's responsibilities and authorisations for classified roads • Describes local council's responsibilities and authorisations for non-classified roads • Key provision is the need to seek the consent of Roads and Maritime or the local council to erect a structure, dig-up, disturb, remove, interfere, pump water into, or form a connection with a road.	s.145 s.145(3) s.138	Yes – Consent required from Roads and Maritime Services or local council prior to road works
Roads Regulation 2008	Road user protection and safety	• Protects roads by regulating that certain 'things' are not to be placed on or dragged along a road and managing vehicles in disrepair • Ensures that roads are made safe for the public by including lighting, fencing, safety barriers • Ensures that neighbouring land is protected by regulating the prevention of throwing things onto a road, not allowing water to drip or flow onto a road (from surrounding land), not allowing excavation work to take place adjacent to a road (if it would damage a road) and not obstructing a footpath.	Cl.11 to cl.14 Cl.15 to cl.17 Cl. 18 to cl.21	Yes – Safety regulations The Contractor must comply with as the Project work is along a road.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
The Disability Discrimination Act	Disability access	• Provides guidelines and references to disability standards which must be complied with. • Discusses reasonable adjustments	Whole Act	Yes – The Contractor must comply with disability standards.
Noise and Vibration				
Protection of the Environment Operations Act 1997	Pollution control	• Requirement not to cause air, waste or noise pollution and to manage waste. • Identifies EPA as being responsible for regulating construction noise • Allows noise management and control to form provisions of the project's environmental protection licence (EPL) • Defines noise pollution and legislates for the control of noise pollution • Stipulates practical measures to prevent and control noise pollution • Permits noise abatement directions to be issued for offensive noise (i.e. noise that is likely to be harmful to a person outside the premises or to interfere unreasonably with their comfort or repose) • Permits 'noise control notices' to be issued requiring noise-generating activities to be controlled to a specified level as measured at a specified point.	Sch.1, Pt. 2 General provision General provision General provision s.45 s. 276 s.264	Yes – The Contractor must not exceed noise pollution limits set by this Act

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment (Noise Control) Regulation 2008 (as amended)	Noise pollution and amenity protection	• Stipulates regulations covering motor vehicle noise exhaust limits, the maximum limits on vehicle noise emissions to road-related areas and other controls on the use of noise mufflers, the time for which a noise alarm can sound, and the adoption of testing procedures for motor vehicle noise • Stipulates the limits associated with the use of power tools and equipment, and pumps • Provides a definition of 'offensive noise'.	Pt.2 and sch.1 Pt.4 Cl.17	Yes – The Contractor must not exceed noise limits set by this regulation
Interim Construction Noise Guidelines (ICNG) (DECC, 2009)	Construction noise management	Sets out guidance for identifying sensitive land uses, making noise impact predictions relating to the use of construction equipment • Provides for the assessment of airborne noise, ground borne noise, sleep disturbance and blasting and vibration • Describes working practices that should be adopted to mitigate noise impacts • Describes how consents and licences regulate noise • Describes the approach that should be taken to evaluating performance and compliance.	Whole Guideline	Yes – The Contractor must follow guidelines for identifying sensitive receivers, noise mitigation measures and evaluating performance. These guidelines have been utilized in preparation of the Noise and Vibration Management sub-plan (PLR-HAC-HRW-NV-PLN-000001).

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).	Method for assessing amenity impacts due to vibration (human comfort)	• Sets out vibration criteria, acceptable criteria, the methods that should be adopted to assess human comfort amenity impacts and the approaches to mitigating vibration at source, during transmission or at the receiver, as well as managing short-term exceedances of approved vibration values.	Whole Guideline	Yes – The Contractor must follow vibration guidelines. These guidelines have been utilized in preparation of the Noise and Vibration Management sub-plan (PLR-HAC-HRW-NV-PLN-000001).
BS 7385-2:1993 - Evaluation and Measurement for Vibration in Buildings: Guide to Damage Levels from Groundborne Vibration (British Standards Institute, 1993)	Criteria for managing cosmetic damage impacts due to vibration	• Describes threshold limits above which vibration impacts can cause cosmetic building damage. This differs from structural damage which typically occurs in rarer instances under more extreme conditions • Describes the characteristics of building vibration • Describes the approach for measuring and assessing vibration • Describes the measures that can be implemented to mitigate vibration impacts that have the potential to cause cosmetic building damage.	Whole Standard	Yes – The Contractor must not exceed the vibration limits.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
DIN 4150-3: Vibration in buildings –Part 3: Effects on Structures German Standard 1999)	Criteria for managing cosmetic damage impacts due to vibration	• Provides additional and supplementary guidance on the threshold limits above which vibration impacts can cause cosmetic building damage. This differs from structural damage which typically occurs in rarer instances under more extreme conditions • Describes the characteristics of building vibration • Describes the approach for measuring and assessing vibration • Describes the measures that can be implemented to mitigate vibration impacts that have the potential to cause cosmetic building damage.	Whole Standard	Yes – The Contractor must not exceed the vibration limits.
Construction Noise Strategy (CNS), TfNSW, 2012	Method for measuring and mitigating noise related to construction	• Evaluates the construction noise and vibration impacts during the environmental impact assessment stage of a project to identify, in consultation with the community and other stakeholders, project specific construction noise and vibration objectives and possible mitigation measures for them; • Provides additional mitigation measures when construction noise or vibration is predicted to exceed the project's construction noise and vibration objective.	Whole Strategy	Yes – The Contractor must conduct three-monthly audits to monitor effectiveness of implementation of noise and vibration mitigation measures.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
		• Provides measures to monitor the implementation and effectiveness of the project's noise and vibration mitigation measures via a three-monthly audit cycle.		

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Aboriginal Heritage				
National Parks and Wildlife Act 1974	Aboriginal heritage protection	• Covers deposits, objectives or material evidence relating to Aboriginal heritage • Provides for the conservation of Aboriginal objects, places or features of conservation value • Provides for the declaration of Aboriginal areas • Provides for the declaration of Aboriginal archaeological areas • Protects both Aboriginal places and objects • Makes it an offence to 'disturb, excavate, move or take possession' of an Aboriginal object without obtaining the relevant Aboriginal Heritage Impact Permit • Makes it an offence to knowingly destroy, deface, or damage a relic or Aboriginal place unless consent is obtained • Makes it an offence to touch or interfere with a relic without authorisation (as per National Parks and Wildlife Regulation 2009) • Requires that the director-general is notified within a 'reasonable time' after discovering an Aboriginal heritage relic.	s. 5(1) s. 2A s. 30 s.65 s.83 and s.84 s. 86 and s.87 s.90 cl. 13 s. 88	Yes – It is an offence to disturb, excavate, move, take possession of, or knowingly destroy, deface or damage an Aboriginal object relic or place without obtaining consent or authorization

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
National Parks and Wildlife Amendment Act 2010	Aboriginal heritage protection	• Includes additional offences relating to the harm or desecration of Aboriginal objects or declared places • Clarifies the need obtain separate Aboriginal Heritage Impact Permits for investigation work and construction work • Introduces the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (see below) • Reinforces the function of the Aboriginal Heritage Information Management System (AHIMS)	Whole Act	Yes – It is an offence to harm or desecrate an Aboriginal object or declared place.
National Parks and Wildlife Regulation 2009	Aboriginal heritage land and objects	• Provides for the management of Aboriginal land and objects • Describes what constitutes 'low impact' work on Aboriginal land or an object • Describes the consultation needed before applying for an Aboriginal Heritage Impact Permit (or a variation to a permit) • Describes the requirements for preparing a Cultural Heritage Assessment Report (CHAR) before applying for a AHIP.	Pt.8 Cl.80B Cl.80C and Cl.80E Cl.80D	Yes – Describes management of Aboriginal land and objects

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
National Parks and Wildlife Amendment Regulation 2010	Aboriginal heritage	*This regulation acts as a reference document however includes no additional provisions that would directly affect the project.*	N/A	N/A
National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010	Aboriginal heritage	• Introduces the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (see below) • Allows investigation and development work to take place under an approved Aboriginal Heritage Impact Permit • Introduces the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW, 2010 (see below) • Clarifies the (Aboriginal) community consultation requirements for developers • Describes the penalties incurred as a result of impacting on an Aboriginal object.	Whole Regulation	Yes – Code of practice for Archaeological Investigation of Aboriginal Objects in New South Wales

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	Significant Aboriginal heritage	• Allows areas of Aboriginal and Torres Strait Islander heritage to be protected by the Commonwealth minister where they are under threat of desecration • Provides for the protection of areas of 'particular significance' to Aboriginals and Torres Strait Islanders in accordance with traditions • Requires the need to comply with the provisions of any declaration in relation to significant Aboriginal or Torres Strait Islander areas or objects protected under the Act • Requires any Aboriginal or Torres Strait Islander remains to be reported to the Commonwealth minister.	s.11 s.3(1) s.22 s.20	Yes – provides protection of areas of Aboriginal and Torres Strait Islander heritage

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Non-Aboriginal Heritage				
Heritage Act 1977	Non-Aboriginal heritage protection	Notification of discovery of relic A person who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must: (a) within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and (b) within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.	S146	Yes – Ford has a duty to inform the Heritage Council if they have discovered or located a relic.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Heritage Act 1977	Non-Aboriginal heritage protection	• Makes it an offence to demolish, damage, move, destroy, excavate, carry out, alter, or advertise on, a heritage-listed item without the approval of the Heritage Council (IHOs and SHR) or the local council (IHO) • State Significant Development is exempt from needing approval from the local council for IHO item • Allows Roads and Maritime to obtain an exemption from the Heritage Council where a development would only have a minor and inconsequential impact on an item listed under a IHO or on the SHR • Approvals from the Heritage Council must include a Statement of Heritage Impact (SOHI).	s. 57 s.57(2) s.60	Yes – It is an offence to demolish, damage, move, destroy, excavate, carry out, alter, or advertise on, a heritage-listed item without the approval of the Heritage Council (IHOs and SHR) or the local council (IHO)

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Heritage Regulation 2012	Non-Aboriginal heritage protection	• Prescribes the minimum standards of maintenance and repair of buildings, works and relics, ruins and moveable objects listed on the State Heritage Register or located in a precinct listed on the register • Prescribes classes of items that are required to be entered on a HCR by a public agency in executing its responsibilities under section 170 of the Act.	cl.9 cl.22	No – Not applicable to works specifically. Regulation was used to inform Heritage Management sub-plan (PLR-HAC-HRW-PE-PLN-000005)

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Environment Protection and Biodiversity Conservation Act 1999	Threatened species, populations and communities and associated critical habitat of national significance Commonwealth land	• Provides for the protection of identified nationally important threatened species, ecological communities and important migratory species as well as Commonwealth Land (i.e. three of nine matter of national environmental significance) • Requires that any 'action' (development) with the potential to significantly impact on a matter of national environmental significance is referred to the Commonwealth minister, as accompanied by a process of preparing 'species impact criteria assessment' for any anticipated effect on threatened and/or migratory species • Where the minister concludes that the impact is significant the action (development) becomes controlled. Controlled actions need bilateral approval.	Pt.13 Pt.13 Pt.6 to pt.11	Yes – The Contractor must ensure identified nationally important threatened species, ecological communities and important migratory species are protected.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Environment Protection and Biodiversity Conservation Regulation 2000 (as amended)	World Heritage Sites Ramsar Sites	• Defines the bilateral agreement under which the project EIS was assessed • Confirms the approach used to determine the EIS by the Commonwealth Government • Provides for the declaration and protection of World Heritage Sites (including the Gondwana Rainforests) • Provides for the protection of wetlands of international importance (i.e. Ramsar sites).	Pt.2 Pt.5 Pt.10 and Schedule.5 Schedule.6	Yes – Regulation was used to inform the EIS for Paramatta Light Rail

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Biodiversity				
Biodiversity Conservation Act 2016	Threatened species, populations and communities and associated critical habitat	• Defines species, populations and communities whose survival is threatened in NSW • Provides for the protection of threatened species, populations and communities and their habitat (including critical habitat) • Interfaces with the NSW Fisheries Management Act 1994 in identifying aquatic and semi-aquatic threatened species • Makes it an offence to harm any threatened species, population or community protected under the Act • Also makes it an offence to damage any critical habitat • Requires the need to obtain a licence and implement controls if there is a risk of harm unless the development is approved under Part 4, Part 5 or Part 5.1 of the Environmental Planning and Assessment Act 1979	Whole Act	Yes – It is an offence to harm any threatened species, population or community protected under the Act and any critical habitat.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
		• Before potentially harming or damaging threatened biota, critical habitat or species that are protected under the NSW National Parks and Wildlife Act 1974 there is a need to assess the significance of any impact (termed a significance impact criteria assessment). If there is a likely significant risk, then a species impact statement must be prepared • Allows 'stop work' orders to be issued in instances where there is a risk of impact to threatened biota or critical habitat.		
	Native vegetation	• Sets the requirement for ministerial approval to clear native vegetation • Stipulates special controls for the 'broad scale' clearing of native vegetation, which means the clearing of any 'remnant vegetation' or 'regrowth' • Allows for the clearing of vegetation without ministerial approval for development approved under Part 5.1 of the Environmental Planning and Assessment Act 1979	Whole Act	NA – no impact to native vegetation

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
		• Additional requirements to obtain a property vegetation plan (PVP) from the local land service to clear remanent vegetation and/or protected regrowth. Despite gaining local approval, ministerial approval is also required. A PVP that involves 'broad scale clearing' will only be approved if it 'will improve or maintain environmental outcomes'. A PVP can last up to 15 years.		
Biosecurity Act 2015	Management of noxious weeds	• Private landowners, occupiers, public authorities and councils are required to control noxious weeds on their land • Allows the NSW Department of Primary Industries to declare a plant a noxious weed • Weeds are classified as class 1 (requirement eradicate the weed and notify the local authority/minister of its presence), class 2 (requirement eradicate the weed and notify the local authority/minister of its presence), class 3 (requirement to fully and continuously supress the weed), class 4 (requirement to manage weed growth and prevent any spread) and class 5 (requirement to control existing plants while also notifying the council/minister)	Whole Act	Yes – The Contractor must control noxious weed within the construction area and site compounds.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
		• Allows 'weed control notices' to be issued by the local council or minister requiring landowners to control noxious weeds • Makes is an offence not to notify the council or minister on the discovery of a class 1 or class 2 weed or the management of a class 5 weed noxious weeds; scatter noxious weeds; and/or transport noxious weed seed stock.		
Air Quality				
Protection of the Environment Operations Act 1997 (as amended)	Pollution control	• Requirement not to cause air, waste or noise pollution • Allows polluters to be prosecuted under the Act.	Whole Act	Yes – It is an offence to cause air, waste or noise pollution.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment (Clean Air) Regulation 2002 (as amended)	Air quality emissions (industry and motor vehicles)	• Focusses on reducing motor vehicle emissions relating to particulate matter, volatile organic compounds, oxides of nitrogen, oxides of sulphur, heavy metals, sulphides, dioxins and furans • Focusses on reducing industrial emissions relating to particulate matter, volatile organic compounds, oxides of nitrogen, oxides of sulphur, heavy metals, sulphides, dioxins and furans • Implements controls on burning with a focus on reducing particulate matter • Requires certain motor vehicles to be fitted with pollution-control devices • Imposes standards on the supply and transport of petrol • Prescribes standards for certain types of industrial plant to regulate industrial air emissions • Requires the control, storage and transport of volatile organic liquids.	Pt.4 Pt.5 Pt 2 Pt.4 Cl.25 to cl.27 Pt.6	Yes – Requirement for The Contractor to reduce vehicle emissions. Some vehicles may require pollution-control devices.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
National Environmental Protection Measure Act 1994	Air quality management	• Allows NEPMs to be established for ambient air quality. Note: the NEPC has no legal ability to set down air quality pollution discharge limits against an individual polluter. It can only set ambient standards.	s.14 s.6 s.6	Yes – sets air quality limits

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment Operations Act 1997	Air pollution	Under the POEO Act it is an offence to: • operate any plant in such a manner as to cause air pollution, if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure: - to maintain the plant in an efficient condition or - to operate the plant in a proper and efficient manner. • undertake maintenance work on any plant in such a manner as to cause air pollution, if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to carry out that work in a proper and efficient manner. • deal with materials in such a manner as to cause air pollution, if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to deal with those materials in a proper and efficient manner.	Part 5.4	Yes – It is an offence to cause air pollution.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment (Ambient Air Quality) Regulation 1998 (as amended)	Human heath air quality limits	• Establishes air quality standards (goals) for six key pollutants in Australia: carbon monoxide, ozone, sulphur dioxide, nitrogen dioxide, lead and particulate matter • Sets the goals to provide a consistent level of human health protection across Australia • Sets legally-binding limits, which in NSW are implemented under the NSW Protection of the Environment Operations Act 1997.	Whole Regulation	Yes – sets air quality pollution limits
Transport for NSW Air Quality Management Guideline 9TP-SD-107/2.0 (AQMG), (TfNSW, 2015)	Air quality management	Provides management and mitigation strategies for construction activities that typically result in dust generation. This includes: • site preparation including clearing of vegetation, removal of topsoil and demolition • earth works, particularly rock hammering, cutting, profiling and breaking, crushing and grinding, movement and stockpiling of materials • surface grading and compaction • vehicle and plant movement on unsealed haul roads.	s.6	Yes – provides management measures for dust generating activities

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Water Quality				
Protection of the Environment Operations Act 1997	Pollution control	• Requirement not to cause air, waste or noise pollution and to manage waste • Allows EPLs to be issued to regulate water pollution for activities that are not scheduled. Such licenses can provide protection against prosecution if the license conditions are complied with • Allows polluters to be prosecuted under the Act while also issuing three types of environmental protection notice: clean-up, prevention or prohibition.	Sch.1, Pt. 2 S 43 s. 120	Yes – it is an offence cause pollution to water sources
Protection of the Environment (General) Regulation 2009 (as amended)	Water pollution	• Defines water pollution as including the discharge of 'animal matter', 'plant matter', 'ash, soil, earth, mud, stones, sand, clay, or similar inorganic matter', 'ballast', 'manure or urine', 'refuse', 'oil, grease and flammable liquids', thermal waste' biochemical waste', 'gas', 'methylene', 'material with a low or high pH', 'pesticide', 'dangerous good'. 'hazardous substances', 'chemical toxicants',' heavy metals' and 'materials containing nitrogen, sulphur, phenolic or phosphorus compounds'.	Sch. 5	Yes – Defines water pollution.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Water Management Amendment Act 2014	Water management and use	• The Water Management Act 2000 defines the concept of 'water sharing plans' that allow people to use water in a responsible and controlled manner • Requires the need to obtain a 'waste access license' to use a certain quantity of water from a specific source or across a given area, noting that Roads and Maritime is exempt from needing to obtain such a license (refer to the Water Management (General) Regulation 2011).	Sch.1	No

Water Management Act 2000	Surface and groundwater management Water management work approval Controlled activity approval Aquifer interference approval	• Defines the need to 'protect, enhance, and restore water sources and their associated ecosystems, ecological processes and biological diversity' while also 'applying the principles of ecologically sustainable development' • Defines the need to 'integrate the management of water sources with the management of other aspects of the environment, including the land, its soils, its native vegetation and its native fauna' • Defines 'water management principles' which include the 'cumulative impact' of water management licenses, approvals and other activities on 'water sources and their dependent ecosystems' • Requires the need to obtain 'water management work approval' either for 'water supply work', 'drainage work' or 'flood work' • Requires the need to obtain 'controlled activity approval' when working on waterfront land (defined as the bed of any river, lake or estuary and any land within 40 metres of a river bank, lake shore or estuary mean high water mark), removing or depositing material, sand, gravel or vegetation from a riverbed, lakebed or estuary, or where it affects water supply or flow • Requires the need to obtain 'aquifer interference approval' for activities that involve major excavation.	s. 3(b) s. 3(f) s.5 s.90 s. 91	No

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Water Management (General) Regulation 2011	Water management and use	• Confirms that road authorities are exempt from needing to obtain an 'access license' when constructing a road (which include accessing water to use for dust suppression) • Only allows water to be taken for dust suppression without the need to obtain a 'water use approval' • Allows public authorities to take up to 0.5 mega litres of water each year for approved environmental work providing it is used for an environmental benefit (i.e. vegetation watering) • Permits fencings, crossings and tracks to be constructed on waterfront land without needing 'controlled activity approval' providing it doesn't impound water, is only a minor stream and is within a rural zone. • Removes the need to obtain 'controlled activity approval' when working on waterfront land of watercourses that are either concrete lined or in culvert.	Sch.5. cl.2 Cl.3 (1) Sch.5, cl.15 Cl.36(1)(c) Sch.5, cl.21	Yes – a water access license is **not** required to access water for road construction – including dust suppression.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Water Management Act 2000	Water access and use	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground and includes coastal waters) without an access licence. Do not use water on land (unless supplied by a water utility, irrigation corporation or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	Yes – water must not be taken directly from a water source without an access license.
	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No
	Waterfront land	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Contaminated Land				
Contaminated Land Management Act 1997	Contaminated land management	• Defines the term 'contamination' as the presence of a substance in, on our under the land at such a concentration as to present a human health or environmental risk • Allows the EPA to regulate sites where contamination presents a significant risk, while additionally maintaining a register of contaminated records • Allows the EPA to issue preliminary investigation, enforcement and remediation notices, as well as bringing prosecutions under the Act • Requires those served with a notice to engage an 'accredited site auditor' to independently investigate contamination issues or oversee remediation work. Subsequent to this, a management order can be issued by the EPA • Requires developers to immediately notify EPA if it suspects that any activity has resulted in land contamination.	s.5(1) s.9 and s.58(1) s.95 and s.96 s.47 s.60	Yes – The EPA must be notified immediately if an activity results in suspected land contamination.
Contaminated Land Management Regulation 2008	Contaminated land management	*This regulation acts as a reference document however includes no additional provisions that would directly affect the project.*	N/A	N/A

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment Operations Act 1997	Pollution control	• Requirement not to cause air, waste or noise pollution and to manage waste • Allows EPLs to be issued to regulate water pollution for activities that are not scheduled. Such licenses can provide protection against prosecution if the license conditions are complied with • Allows polluters to be prosecuted under the Act while also issuing three types of environmental protection notice: clean-up, prevention or prohibition.	Sch.1, Pt. 2 S 43 s. 120	Yes – it is an offence cause air, waste or noise pollution
State Environmental Planning Policy No 55	Remediation of land	• All remediation work must, in addition to complying with any requirement under the Act or any other law, be carried out in accordance with: - the contaminated land planning guidelines, and - the guidelines (if any) in force under the Contaminated Land Management Act 1997, and - in the case of a category 1 remediation work—a plan of remediation, as approved by the consent authority, prepared in accordance with the contaminated land planning guidelines.	Whole SEPP	No

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
		• A notice of completion of remediation work on any land must be given to the council for the local government area in which the land is situated (or, if the land is within the unincorporated area, to the Western Lands Commissioner). • The notice is to be given within 30 days after the completion of the work. • A copy of the notice must also be given within the same period to the consent authority.		
Waste				
Protection of the Environment Operations Act 1997	Waste management	• Requirement not to cause air, waste or noise pollution and to manage waste. • Identifies EPA as being responsible for regulating waste management • Aims to reduce human health risk and prevent environmental degradation by pollution prevention, the elimination of harmful waste, material use reduction, making progressive environmental improvements, and monitoring environmental quality	Sch.1, Pt. 2 General provision General provision	Yes – it is an offence cause air, waste or noise pollution

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
		• Legislates waste management facility licencing • Legislates hazardous, industrial, liquid, and sewage waste transportation • Implements a series of offences relating to the wilful or negligible waste disposal, illegal dumping (tier 1 offences) or the illegal waste transportation (tier 2 offences) • Makes it an offence to litter • Scheduled wastes must only be transported to licensed facilities • Use Section 143 notices when transporting waste	s.87 Sch.1 s.115 to s.143 s.145 and s.146	

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment Operations (Waste) Regulation 2005 (as amended)	Waste and resource management	• Sets out requirements for the transport, management, storage and disposal of waste in NSW • Details the requirements for paying waste levies, including associated reporting and record-keeping requirements • Regulates the tracking and transport of high-risk waste, the management of special wastes (i.e. asbestos), restrictions on reusing certain waste, and the recycling of consumer packaging, • Introduces the Waste and Sustainability Improvement Scheme , which • Requires that waste is managed and disposed of as close to its production location as possible (i.e. the proximity principle) • Improves waste monitoring and tracking (regulation amendment) • Refines the waste levies in NSW (regulation amendment).	Sec.3 Sec.3 Sec.3 Sec.3 Sec.1 (2014 amendment)	Yes – The Contractor must comply with waste management regulations including waste tracking.

Legislation / Guideline	Activity / aspect	Requirement	Reference	Part 5.1 applicability
Protection of the Environment Operations (General) Regulation 2009 (as amended)	Waste management protection	• Prescribes penalty notices for offences and infringements under the Operations (Waste) Regulation 2005 (as amended) and the NSW Protection of the Environment Operations Act 1997. • Provides additional definition as to species waste streams (z water pollution).	Sch.6 Sch.5	Yes
Waste Avoidance and Resource Recovery Act 2001	Waste classification and management	• Ensures that resource management options are considered against a hierarchy of the following order: - avoidance of unnecessary resource consumption, - resource recovery (including reuse, reprocessing, recycling and energy recovery), - disposal, • Provides for the continual reduction in waste generation	Pt.1 Pt.3	Yes – The Contractor must avoid waste generation in the first instance, following this they must recycle material, following this remaining waste must be disposed of appropriately
NSW Waste Classification Guidelines 2014	Waste classification	• Covers the classification of wastes into groups that pose similar risks to the environment and human health.	Pt.1	Yes

Guidelines and TfNSW requirements

Table A1-2: Guidelines and TfNSW requirements for the Project

Guideline/Requirement	Applicability
Austroads Guidelines	Design and construction must comply with guidelines (CoA E14)
Construction Noise Strategy (CNS) (TfNSW, 2018)	Used to inform Noise and Vibration Management Plan (PLR-HAC-HRW-NV-PLN-000001) (REMMM NV-2)
Guide to Environmental Control Map (TfNSW, 2016)	Environmental Control Maps in Appendix A6 have been prepared in accordance with this guideline.
Guidelines for Auditing Management Systems (AS/NZS ISO 19011, 2014)	Environmental Audit Program for annual independent environmental auditing must be prepared in accordance with guidelines (CoA A40)
Guidelines for Management of Human Skeletal Remains (NSW Heritage Office, 1998).	Used to inform unexpected heritage finds procedure.
Guidelines for Road Safety Audit Practices (RTA, 2011)	Independent Road Safety Audit(s) must be undertaken in accordance with guidelines (CoA E3)
Guidelines for watercourse crossings on waterfront land (Department of Primary Industries, 2012)	Aquatic habitats will be remediated as soon as possible after disturbance (REMMM BI-4).
Interim Construction Noise Guideline (DECC, 2009)	Used to define background noise level (CoA E23, E25, E37); Used to inform Noise and Vibration Management Plan (PLR-HAC-HRW-NV-PLN-000001) (REMMM NV-2)
NSW Bicycle Guidelines	Design and construction must comply with guidelines (CoA E14)
NSW Government Resource Efficiency Policy (GREP), (NSW Government, 2014)	The NSW Government Resource Efficiency Policy, 2014 (Policy) aims to drive resource efficiency, with a focus on energy, water and waste, and reducing harmful air emissions. The Policy aims to

Guideline/Requirement	Applicability
	ensure NSW Government agencies: • meet the challenge of rising costs for energy, water, clean air and waste management; • use purchasing power to drive down the cost of resource-efficient technologies and services; and • show leadership by incorporating resource efficiency in decision-making. The policy includes specific measures, targets and minimum standards to drive resource efficiency.
Policy and guidelines for fish habitat conservation and management (Department of Primary Industries, 2013)	Aquatic habitats will be remediated as soon as possible after disturbance (REMMM BI-4).
Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006)	Sets maximum value for human exposure to vibration (CoA E25)
Unexpected Heritage Finds Guideline (TfNSW, 2016),	Used to describe unexpected heritage finds procedure (CoA E62)
Waste Classification Guidelines (OEH, 2016)	All waste must be classified in accordance with guidelines (E130)
Water Discharge and Reuse Guideline (TfNSW, 2016)	Informs Soil and Water Management Plan (PLR-HAC-HRW-PE-PLN-000004)
Work Health and Safety Regulation (NSW Government, 2011)	Disposal of asbestos will be carried out in accordance with the regulations (REMMM WM-5)

Appendix A3

Risk Register

NSW GOVERNMENT

Activity A

Risk Register

REMEDIATION
INFRASTRUCTURE
ROADWORKS
BULK EARTHWORKS
ENVIRONMENTAL
LANDSCAPING

FORD CIVIL

NSW GOVERNMENT Transport for NSW

Environmental Risk Assessment: Project Information

Name of Project and Stage/Phase of Works:	Hawkesbury Road Widening (Part of Parramatta Light Rail Stage 1 Enabling Works) - Site Compoun
Project Location:	Westmead, Parramatta
Project Duration:	One (1) Year
Date of First Assessment:	Wednesday, 5 December 2018
Minor Ancillary Compound Name and Address	Mons Rd Lay down and Material Storage Compound
Minor Ancillary Compound Name and Address	
Completed by	[redacted]
Initial Risk workshop 6 Dec attendees (name and role)	[redacted] (Project Manager), [redacted] (Construction Env Mng), [redacted] (Senior Eng), [redacted] (Utilities Eng) [redacted] (HAC/PwC), [redacted] (Arup)

Key Environmental Issues identified
Traffic, Noise and Dust

Environmental Risk Identification								Risk analysis and evaluation using existing standard controls and assumptions			Risk Management	Responsibility and Monitoring				Comments
Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
1	Hawkesbury Rd - Compound preparation / Office & Amenities establishment	Material from site being tracked out of compound	Pollution of the environment	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road compound	CEMP: Air Quality	Moderate	Unlikely	Low	Sediment controls to be installed to prevent material leaving the site – hard stands to be retained as long as practical. Visual inspection of trucks leaving compounds or work areas prior to leaving site. Mimimal sockpiling of materials in compound.	Site supervisor (TBC)	Initial	Compound establishment	Active	
1.01		Site unprotected resulting in possible environmental issues	Pollution of the environment	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Hawkesbury road compound	CEMP: Incident Management	Moderate	Unlikely	Low	Site security fencing to be established. Enviromental controls (sediment fences, waste containment etc.) establishedn and maintained. ATF or chain wire.	Site supervisor (TBC)	Ongoing	Compound establishment	Active	
1.02		Traffic congestion	Pollution of the environment both in terms of exhaust and visual	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Hawkesbury road compound	CEMP:Traffic, Transport and Access Management	Minor	Likely	Low	Traffic control. Deliveries within the DA requirements. Deliveries planned to reduce the compounding of multiple vehicles trying to enter site. Preferred option is drive in / drive out of compound.	Site supervisor (TBC)	Ongoing	Daily	Active	
1.03		Overload vehicles causing traffic disruption	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP:Traffic, Transport and Access Management	Moderate	Unlikely	Low	NHVR guidelines implemented. All trucks leaving compound are to be loaded to within weight restrictions of the trucks. No overload vehicles or oversized trucks are to leave site without RMS approvals in place.	Site supervisor (TBC)	Ongoing	Daily	Active	
1.04		Spills - flammable material storage	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Storage of Hazardous Material & Incident Management	Moderate	Unlikely	Low	Safety data sheets to be stored adjacent to the cabinets and a manifest of materials and quantities to be kept at the site office. Spill kits appropriately sized and near the materials. All wastes from clean up or empty containers are to be disposed off as contaminated waste. Materials to be stored in lockable/ bunded/ appropriate storage lockers. Signage in place. Minimum quantities to stored on site. No storing of material outside of cabinet. Appropriate fire fighting equipment is to be placed adjacent to the cabinet and clearly sign posted. Site personnel to be trained in the use of fire fighting equipment. Site personnel trained in Spill kit usage and maintenance.	Site supervisor (TBC)	Ongoing	Weekly	Active	
1.05		Spills - hazardous material storage	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Storage of Hazardous Material & Incident Management	Moderate	Unlikely	Low	Safety data sheets to be stored adjacent to the cabinets and a manifest of materials and quantities to be kept at the site office. Spill kits appropriately sized and near the materials. All wastes from clean up or empty containers are to be disposed off as contaminated waste. Materials to be stored in lockable/ bunded/ appropriate storage lockers. Signage in place. Minimum quantities to stored on site. No storing of material outside of cabinet. Appropriate fire fighting equipment is to be placed adjacent to the cabinet and clearly sign posted. Site personnel to be trained in the use of fire fighting equipment. Where containers do not fit in cabinet they are to be stored under cover on spill pallets. Site personnel trained in Spill kit usage and maintenance.	Site supervisor (TBC)	Ongoing	Weekly	Active	
1.06		General waste and recycling	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Traffic, Transport and Access Management Plan	Moderate	Unlikely	Low	Sealed bins for food wastes. Bins / Skips for the segregation of recyclable materials. Clearly signposted. Reuse of materials were practical. Delivers to be ordered with limited minimal packaging. Signage and monitoring to ensure compliance.	Site supervisor (TBC)	Ongoing	Monthly or bin change over	Active	
1.07		Cranage	Traffic, Transport and Access	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Traffic, Transport and Access Management Plan	Minor	Likely	Low	Cranage on site to be limited and where practical to be done quickly to reduce the visual impact. All deliveries to be unloaded and placed in one movement. Cranes are not to sit there and idle while waiting for long periods. Cranes are to arrive to site in accordance with RMS guidelines - no out of hours arrivals unless planned (oversized).	Site supervisor (TBC)	Ongoing	Monthly or bin change over	Active	
1.08		Utility supply	Noise and Vibration	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Noise and Vibration	Moderate	Unlikely	Low	Generators are to be used as last resort. Power supply is to be hard wired and power source where practical from renewable energy provider. Option of solar panels to be installed where no power cannont be sourced from renewable energy provider (dependant on power source). Sewerage where practical / possible to be connected directly to the sewerage system. Roof water from sheds is to be collected and stored for reuse in the ablution blocks for the toilets, on site dust suppression or alike.	Site supervisor (TBC)	Ongoing	6 monthly	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
1.09		Visual impact - pollution lighting	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Construction and Compound Management Plan	Minor	Unlikely	Low	All security lighting is to be fitted with motion sensors and positioned to reduce the impact of the lighting outside of the compound. Lighting in the ablutions to be controlled by movement sensor. Liging to be fitted with screens/shades as required to limit light flooding. Office / change rooms lighting to be switched off on exit at the end of each shift if not already switched off.	Site supervisor (TBC)	Ongoing	6 monthly	Active	
1.10		Surface water run off	Land Contamination	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP:Soil and Water Management Plan	Minor	Likely	Low	All hard stand areas are to be retained. No excavation into the hardstand unless necessary (sewer / electrical connections, fence posts), braking of the surface will require the surface to be restated with a non permeable covering. All drains in the immediate area to be protected by geofabric / silt socks etc. as per good enviromental practices.	Site supervisor (TBC)	Ongoing	6 monthly	Active	
2	Hawkesbury Rd - Compound preparation / Office & Amenities operational	Surface water run off	Water Pollution	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP:Soil and Water Management Plan	Moderate	Unlikely	Low	Hardstands to be retained. Rain water is to be collected and used as recycled water for non-potable use. All site water to be collected via puddle pumps and stored in the sediment detention tank for dust suppression. All drains in the immediate area to be protected by geofabric / silt socks etc. as per good	Site supervisor (TBC)	Ongoing	6 monthly	Active	
2.01		Visual impact - pollution lighting	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Construction and Compound Management Plan	Moderate	Unlikely	Low	All security lighting is to be fitted with motion sensors and positioned to reduce the impact of the lighting outside of the compound. Lighting in the ablutions to be controlled by movement sensor. Liging to be fitted with screens/shades as required to limit light flooding. Office / change rooms lighting to be switched off on exit at the end of each shift if not already switched off.	Site supervisor (TBC)	Ongoing	6 monthly	Active	
2.02		Traffic congestion	Pollution of the environment both in terms of exhaust and visual	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Hawkesbury road compound	CEMP:Traffic, Transport and Access Management	Moderate	Unlikely	Low	Traffic control. Deliveries within the DA requirements. Deliveries planned to reduce the compounding of multiple vehicles trying to enter site. Preferred option is drive in / drive out of compound. Exit from site during traffic phasing.	Site supervisor (TBC)	Ongoing	Daily	Active	
2.03		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP:Soil and Water Management Plan	Moderate	Unlikely	Low	Spill kit to be on site at all times in the event of an onsite emergency. All immediate drains in front of the compound are to be protected. Site personal trained in the use of spill kits, spill kits to checked and maintained.	Site supervisor (TBC)	Initial	Compound establishmen t	Active	
3	Hawkesbury Rd - Compound preparation / Office & Amenities decommissioning	Surface water run off	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP:Soil and Water Management Plan	Minor	Unlikely	Low	During decommissioning any damage to hardstand to be reinstated. All existing drains are to be confirmed to be operation prior to leaving site. Remove any erosion controls that may re direct water flows or inhibit.	Site supervisor (TBC)	Ongoing	6 monthly	Active	
3.01		Traffic congestion	Pollution of the environment both in terms of exhaust and visual	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Hawkesbury road compound	CEMP:Traffic, Transport and Access Management	Minor	Unlikely	Low	Traffic control. Deliveries within the DA requirements. Deliveries planned to reduce the compounding of multiple vehicles trying to enter site. Preferred option is drive in / drive out of compound.	Site supervisor (TBC)	Ongoing	Daily	Active	
3.02		Utility supply	Systems and Documentation	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	Environmental Management Plan	Minor	Likely	Low	All connections are to be reinstated where practical back to as supplied connections, terminations that need to be left will be mitigated to enclosures to reduce visual impact.	Site supervisor (TBC)	Ongoing	6 monthly	Active	
3.03		Works undertaken outside of agreed areas	Unauthorised Works	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Mons road compound	CEMP: Incident Management	Minor	Likely	Low	Final size of compound is to be within the confines of the agreed mark-ups. Compount to be fully fenced to ensure no works outside of agreed areas. Compound to be established within the hardstand of the existing carpark. Vegetation removal is to be limited to trimming for security and fence installation.	Site supervisor (TBC)	Ongoing	Weekly	Active	
4	Mons Rd - material storage / stockpile and lay-down yard - establishment	Material from site being tracked out of compound	Pollution of the environment	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Mons road compound	CEMP: Air Quality Management	Minor	Unlikely	Low	Sediment controls to be installed to prevent material leaving the site – hard stands to be retained as long as practical. Visual inspection of trucks leaving compounds or work areas prior to leaving site. installation of rubble grid and wash down facility. Rubble grid to be placed on existing hard stand and ramps created to access the rubble grid. Sweeper to be on site in the event of material leaving site and to carry out routine sweeps around the work areas.	Site supervisor (TBC)	Initial	Compound establish ment	Active	
4.01		Concrete waste	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP: Waste Management	Minor	Likely	Low	Concrete wash down point to be established. Where wash out bags are utilised, material is to solidify prior to recyling / transport. Concrete wate to stockpiled in bays for collection / processing if heavily reinforced. Concrete waste is to be sent for concrete recycling.	Site supervisor (TBC)	Ongoing	Weekly	Active	
4.02		Tree protection	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP: Flora and Fauna Biodiversity	Minor	Unlikely	Low	Trees within the compound are to be identified as per the tree management plan. No unauthorised removal of vegetation. All materials stored with compound are not to be with the tree canopy or critical root zones. These will be signposted and barricaded as required.	Site supervisor (TBC)	Ongoing	Weekly	Active	
4.03		Uncontrolled release of water into creek	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP:Soil and Water Management Plan	Minor	Likely	Low	Jersey kerbs to be established to provide a bund around the compound. Concrete to placed in front of kerbs to create barrier with a 1m freeboard. Stockpile bays are to be fully bunded.	Site supervisor (TBC)	Ongoing	Weekly	Active	
4.04		Uncontrolled release of water into creek	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP:Soil and Water Management Plan	Minor	Unlikely	Low	Stockpile durations are to be kept as short as possible. Stockpiles are to be covered with tarps when a known stormwater weather event is predicted. If extreme weather events are forcast, area to be inspected both prior and after to ensure	Site supervisor (TBC)	Ongoing	Weekly	Active	
4.05		Rectification of existing hard stand	Land Contamination	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP:Soil and Water Management Plan	Minor	Likely	Low	All shortcomings in the existing hardstand are to be repaired with concrete. Minimal excavation is to be undertaken for the repairs. Damaged pavements that need to be replaced are to be demolished and replaced with concrete.	Site supervisor (TBC)	Ongoing	Weekly	Active	
4.06		Works undertaken outside of agreed areas	Unauthorised Works	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Mons road compound	CEMP: Incident Management	Minor	Unlikely	Low	All works are to set out by GPS within the guidelines of the approved documentation. As built mark-ups are to be produced after the works have established to provide confirmation of work zone.	Site supervisor (TBC)	Ongoing	Weekly	Active	
5	Mons Rd - material storage / stockpile and lay-down yard - operation risks	Material from site being tracked out of compound	Pollution of the environment	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Mons road compound	CEMP: Air Quality Management	Minor	Likely	Low	Sediment controls to be installed to prevent material leaving the site – hard stands to be retained as long as practical. Visual inspection of trucks leaving compounds or work areas prior to leaving site. installation of rubble grid and wash down facility. Rubble grid to be placed on existing hard	Site supervisor (TBC)	Initial	Compound establish ment	Active	
5.01		Loading trucks for spoil removal	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP: Noise and Vibration Management	Minor	Likely	Low	All works are to proceed within the DA approved working hours. Materials are to be placed into truck bins and not dropped from height. Trucks / excavators are to limit idle times. All queued trucks are to switch engines off as soon as practical (turbo timers).	Site supervisor (TBC)	Ongoing	Weekly	Active	
5.02		Trucks unloading materials	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP: Noise and Vibration Management	Moderate	Unlikely	Low	All works are to proceed within the DA approved working hours. Trucks / excavators are to limit idle times. Trucks tipping off materials are to release loads in a controlled manner. Limit tail gate banging by slowly lowering bins.	Site supervisor (TBC)	Ongoing	Weekly	Active	
5.03		Uncontrolled release of water from compound	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP:Soil and Water Management Plan	Minor	Unlikely	Low	Sediment tanks to be established to allow any water sucked up with puddle pumps to be collected and treated before recycling as dust suppression water. All water from wash down bay & rumble grid is to also be pumped to sediment tanks.	Site supervisor (TBC)	Ongoing	Weekly	Active	
5.04		Stockpile management	Air and Dust	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP:Soil and Water Management Plan	Minor	Unlikely	Low	All stockpile are to be used / removed as soon as possible. Stockpiles are to be capped by excavator to reduce the likely hood of water seeping into stockpiles as soon as possible. Tarps are to be use to cover stock piles in the event of a rain event.	Site supervisor (TBC)	Ongoing	Weekly	Active	
5.05		Concrete waste	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP:Soil and Water Management Plan	Minor	Likely	Low	Concrete wash down point to be established. Concrete waste is to be sent for concrete recycling. Broken concrete brought to compound is to placed in bays for loadout for recycling. Waste concrete blocks are to be stored with the concrete for recycling.	Site supervisor (TBC)	Ongoing	Weekly	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
5.06		Recycling of materials	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP: Waste Management	Minor	Likely	Low	All waste steel, concrete, asphalt are to be seperated for recycling. All recycled materials are not to be cross contaminated. Material tracking is to be implemented.	Site supervisor (TBC)	Ongoing	Weekly	Active	
5.07		Utility supply	Noise and Vibration	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Hawkesbury road compound	CEMP: Noise and Vibration	Minor	Unlikely	Low	Generators are to be used as last resort. Power supply is to be hard wired and power source where practical from renewable energy provider. Option of solar panels to be installed where no power cannont be sourced from renewable	Site supervisor (TBC)	Ongoing	6 monthly	Active	
6	Mons Rd - material storage / stockpile and lay-down yard - decommissioning	Material from site being tracked out of compound	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Mons road compound	CEMP: Air Quality Management	Minor	Likely	Low	During decommissioning any damage to hardstand to be reinstated. Area to be returned to its pre use state plus improvements.	Site supervisor (TBC)	Initial	Compound establishment	Active	
6.01		Damage to flora	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Mons road compound	CEMP: Flora and Fauna Management	Minor	Unlikely	Low	Tree protection to be removed only after all material movements and trucks movements are complete.	Site supervisor (TBC)	Ongoing	Weekly	Active	
7	Overall works areas - initial works / ground works	Vibration from works	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Noise and Vibration Management	Minor	Likely	Low	All areas to be hammered out by rock breaker are to be pre saw cut to limit vibrations travelling through strata. Plant size is to be selected to reduce the impact to high impact noise receptors. Refer to the Noise and Vibration Management Plan for control / monitoring process.	Site supervisor (TBC)	Initial	Compound establishment	Active	
7.01		Air quality	Air and Dust	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Air Quality Management	Minor	Unlikely	Low	During all activities involving the excavation of material dust suppression must be installed. Where water lines are not readily available, the on site water cart is to be used to provide water. Recycled water is always the first option prior to filling the tank with potable water.	Site supervisor (TBC)	Initial	Compound establishment	Active	
7.02		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Soil and Water Management	Minor	Likely	Low	Sediment controls to be established around all excavations. Dirty water from the excavations are to be contained and collected for treatment on site or removed by licenced liquid waste provider. Use of wet saws and wet vacs to clean up waste and disposed of at the Mons compound.	Site supervisor (TBC)	Initial	Compound establishment	Active	
7.03		Noisy works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Machine size to be established for all works - one size dose not fit all. Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor (TBC)	Ongoing	Compound establishment	Active	
7.04		Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Soil and Water Management	Minor	Likely	Low	All immediate drains within the surrounds of the work areas are to have Geofabric material placed over the drains, silt stocks positioned around the pit & where both practical or feasible socks are to be placed in the gutters to slow the stormwater to allow any sediment to be dropped out of the water flow for collection.	Site supervisor (TBC)	Ongoing	Compound establishment	Active	
7.05		Heritage items discovered	Heritage	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Heritage Management Plan	Minor	Likely	Low	All heritage items are to be catalogued and retained. There is a high possibility of finding items but have low importance value. No items are to be discharged without approval. Refer Heritage Management Plan	Site supervisor (TBC)	Ongoing	Compound establishment	Active	
8	Overall works areas - initial works / ground works - decommissioning	Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Soil and Water Management	Moderate	Unlikely	Low	Prior to leaving any work area, all hardstands are to be reinstated back to their impervious construction. All areas where non impervious finishes are required sediment fences are to remain until the completion of the project. These controls are to monitored as per the environmental checklist -	Site supervisor (TBC)	Daily	Compound establishment	Active	
8.01		Air quality	Air and Dust	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Air Quality Management	Minor	Unlikely	Low	During decommisioning, water is used to supress dust where sweeper can not be utilised. Do not wash dirt down drains, water/dirt is to be directed to one point for collection.	Site supervisor (TBC)	Initial	Compound establishment	Active	
9	Plant maintenance (service & breakdowns)	Noisy works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	All mechanic activities are to be carried out as per the EMP. Where mechanical high noise tools or prolonged idling of plant ATF and noise blankets are to be utilised. Respite periods as per the DA are to be observed.	Site supervisor (TBC)	Daily	Compound establishment	Active	
9.01		Plant leaks and spills	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Incident Management & Soil and Water Management	Minor	Likely	Low	All works areas are to have spills kits available. Used spill kit compenets are to bed disposed of as either general waste or contaimated waste dependant on the materials. All spills are to be notifed to the client / EPA as required.	Site supervisor (TBC)	Ongoing	Compound establishment	Active	
10	Piling - bored pile	Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration and Incident Management	Minor	Likely	Low	Machine size to be establshed for all works - one size dose not fit all. Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirments.	Site supervisor (TBC)	Daily	As required	Active	
10.01		Visual impact - pollution due to plant size	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	TfNSW Community Communication Strategy	Minor	Unlikely	Low	Engagement with the allcoated community liasion person to advise all stakeholders. Where practical all works are to be undertaken behind screens or hoardings.	Site supervisor (TBC)	Ongoing	As required	Active	
10.02		Unkown soil matrix being brought to the surface	Systems and Documentation	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Soil and Water Management	Minor	Likely	Low	Material validation to be undertaken as in-situ testing prior to commencing works. In the event of discrephancie works are to stop and refered to the unexpected finds procedure. All material is to be removed from the site as the works progress and taken to Mons	Site supervisor (TBC)	Ongoing	As required	Active	
10.03		Concrete waste from filling piles	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	All wash out lines are to be cleaned into concrete wash out bags and transportd to Mons compound for collection and disposal. All concrete trucks are to wash out at Mons compound concrete wash out points - only. Where chutes are to be washed out on site they are to ustilise the concrete wash out bags.	Site supervisor (TBC)	Ongoing	As required	Active	
10.04		Steel wastes from rinforcement and structural steel	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Likely	Low	All steel off cuts are to be collected and transpoted to Mons compound for rcycling of wasete steel. Where steel is covered in concrete the materials is to be broken off with plant to aid in recycling targets.	Site supervisor (TBC)	Ongoing	As required	Active	
10.05		Ground water brought to the surface during concrete placment	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	During piling works, sediment controls are to be established along with water collection points to facilate pumps picking up the water and pumping to sediment tranks for reuse. In the event of excessive water volumes liquid waste companies will be engaged to collect the material and dispose of as per EPA requirments.	Site supervisor (TBC)	Ongoing	As required	Active	
10.06		Heritage items discovered	Heritage	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Heritage Management Plan	Minor	Likely	Low	All hertigte items are to be catalogued and retained. While items will be more than likely damaged duing the drilling works the fragements or pieces if discovered need to be retained. Refer Hertigate Management Plan	Site supervisor (TBC)	Ongoing	Compound establishment	Active	
11	Piling plant decommissioning	Plant movements	Traffic, Transport and Access	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Traffic, Transport and Access Management	Minor	Unlikely	Low	Plant removal off site is to be coordiated with the all parties to facilate the smooth removal of plant off site. All trucks movements are as per the RMS requirements. All plant is to be inspected priro to leaving site to ensure it is clear of dirt / mudy before being	Site supervisor (TBC)	Ongoing	As required	Active	
11.01		Clean up works resulting wastes	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Waste Management	Minor	Unlikely	Low	Plant to be cleaned down in work zone. Plant to be inspected prior to loading to truck and once again when on truck.	Site supervisor (TBC)	Daily	As required	Active	
12	Retaining walls	Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise & Vibration Management	Minor	Likely	Low	Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All block cutting is to be carried out in designated areas with noise blankets over ATF. All brick saws are to be in good order with the correct for te material being cut.	Site supervisor (TBC)	Daily	As required	Active	
12.01		Waste bricks from wall build	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Unlikely	Low	All damaged blocks not utilised are to be placed in skips or concrete bags for collection to be taken back to Mons compound. All reinforcment not utilised are to be placed in skips or concrete bags for collection to be taken back to Mons compound.	Site supervisor (TBC)	Ongoing	As required	Active	
12.02		Concrete slurry from brick saw	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Likely	Low	Brick saw to be placed over collection point to collect sluffy from saw. Collection container wast water is to be recyled for the brick saw. Colelction container is to be emptied as concrete wasted for recyling at Mons compound.	Site supervisor (TBC)	Ongoing	As required	Active	
12.03		Clean up works resulting wastes	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Waste Management	Minor	Unlikely	Low	All wastes to be seeprated and placed in the appropiate bins. Dust to be suppressed with water.	Site supervisor (TBC)	Daily	As required	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
13	Service relocations	Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Likely	Low	Machine size to be established for all works - one size dose not fit all. Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor (TBC)	Daily	As required	Active	
13.01		Concrete slurry from cutting hardstand materials	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Unlikely	Low	Road saws are to be utilised, wet vacs to be utilised to clean up slurry. Slurry is disposed of at Mons compound for recycling.	Site supervisor (TBC)	Ongoing	As required	Active	
13.02		Unkown soil matrix being brought to the surface	Systems and Documentation	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	Material validation to be undertaken as in-situ testing prior to commencing works. In the event of discrephancie works are to stop and refered to the unexpected finds procedure. All material is to be removed from the site as the works progress and taken to Mons	Site supervisor (TBC)	Ongoing	As required	Active	
13.03		Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Soil and Water Management	Minor	Likely	Low	All immediate drains within the surrounds of the work areas are to have Geofabric material placed over the drains, silt stocks positioned around the pit & where both practical or feasible socks are to be placed in the gutters to slow the stormwater to allow any sediment to be dropped out of the water flow for collection.	Site supervisor (TBC)	Ongoing	Compound establish ment	Active	
14	Backfilling works	Plant movements	Traffic, Transport and Access	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Traffic, Transport and Access Management	Minor	Unlikely	Low	Plant removal off site is to be coordiated with the all parties to facilate the smooth removal of plant off site. All trucks movements are as per the RMS requirements. All plant is to be inspected priro to leaving site to ensure it is clear of dirt / mudy before being	Site supervisor (TBC)	Ongoing	As required	Active	
14.01		Traffic congestion	Pollution of the environment both in terms of exhaust and visual	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Works areas	CEMP: Traffic, Transport and Access Management	Minor	Likely	Low	Traffic control. Deliveries within the DA requirements. Deliveries planned to reduce the compounding of multiple vehicles trying to enter delivery area.	Site supervisor (TBC)	Ongoing	Daily	Active	
14.02		Vibration from works	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Static roller where practical, limit use of vibratory compaction. Plant size is to be selected to reduce the impact to high impact noise receptors. Refer to the Noise and Vibration Management Plan for control / monitoring process.	Site supervisor (TBC)	Initial	Compound establish ment	Active	
15	Concrete works - FRP	Plant -emissions	Air and Dust	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Air Quality Management	Minor	Likely	Low	Plant movements are to be controlled, limit the number of pieces of plant working in one area. All plant is to be in good working order and meet the Transport NSW standards as a minimum. All plant is to be fully serviced at all times.	Site supervisor (TBC)	Ongoing	As required	Active	
15.01		Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Machine size to be established for all works - one size dose not fit all. Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor (TBC)	Daily	As required	Active	
15.02		Noisy works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Reinforcement is to be supplied the correct length, from the the Mons yard or supplier to limit the cutting on site. Where demo saws are utilised to trim concrete - they are to be well mainatined and use is to limited.	Site supervisor (TBC)	Daily	As required	Active	
15.03		Steel wastes from rinforcement and structural steel	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Likely	Low	All steel off cuts are to be collected and transpoted to Mons compound for rcycling of wasete steel. Where steel is covered in concrete the materials is to be broken off with plant to aid in recycling targets.	Site supervisor (TBC)	Ongoing	As required	Active	
15.04		Concrete waste from concret pour	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Unlikely	Low	All wash out lines are to be cleaned into concrete wash out bags and transportd to Mons compound for collection and disposal. All concrete trucks are to wash out at Mons compound concrete wash out points - only. Where chutes are to be washed out on site they are to ustilise the concrete wash out bags.	Site supervisor (TBC)	Ongoing	As required	Active	
16	Road/ footpath pavement works	Plant -emissions	Traffic, Transport and Access	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Air Quality Management	Minor	Likely	Low	Plant movements are to be controlled, limit the number of pieces of plant working in one area. All plant is to be in good working order and meet the Transport NSW standards as a minimum. All plant is to be fully serviced at all times.	Site supervisor (TBC)	Ongoing	As required	Active	
16.01		Vibration from works	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	All areas to be hammered out by rock breaker are to be pre saw cut to limit vibrations travelling through strata. Plant size is to be selected to reduce the impact to high impact noise receptors. Refer to the Noise and Vibration Management Plan for control / monitoring process.	Site supervisor (TBC)	Initial	Compound establish ment	Active	
16.02		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Soil and Water Management	Minor	Likely	Low	Sediment controls to be established around all excavations. Dirty water from the excavations are to be contained and collected for treatment on site or removed by licenced liquid waste provider. Use of wet saws and wet vacs to clean up waste and disposed of at the Mons compound.	Site supervisor (TBC)	Initial	Compound establishmen t	Active	
16.03		Plant leaks and spills	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Incident Management	Minor	Unlikely	Low	All works areas are to have spills kits available. Used spill kit compenets are to bed disposed of as either general waste or contaimated waste dependant on the materials. All spills are to be notifed to the client / EPA as required.	Site supervisor (TBC)	Ongoing	Compound establish ment	Active	
16.04		Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Hawkesbury road	CEMP: Soil and Water Management	Minor	Unlikely	Low	All immediate drains within the surrounds of the work areas are to have Geofabric material placed over the drains, silt stocks positioned around the pit & where both practical or feasible socks are to be placed in the gutters to slow the stormwater to allow any sediment to be dropped out of the water flow for collection.	Site supervisor (TBC)	Ongoing	Compound establish ment	Active	
16.05		Vibration from compaction works	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Likely	Low	Static roller where practical, limit use of vibratory compaction. Plant size is to be selected to reduce the impact to high impact noise receptors. Refer to the Noise and Vibration Management Plan for control / monitoring process.	Site supervisor (TBC)	Initial	Compound establish ment	Active	
17	Tree clearing / trimming and protection works	Trimming worng trees	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Incident Management and Flora and Fauna Biodiversity	Minor	Unlikely	Low	All trees requiring works to be undetraken are to be identified as per the council guidelines / EIS. Trees assessed for works are to be assessed by an arborist. All triming / remoavl is to be undertaken by aborist.	Site supervisor (TBC)	Ongoing	As required	Active	
17.01		Untrained persons resulting in damage to flora	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Incident Management and Flora and Fauna Biodiversity	Minor	Likely	Low	All persons engaged to trim trees are to hold relevant training to ensure clean and correct cuts to lop limbs to prevent the trees suffering from rot or attack. Trained arborist to inspect each tree as the works are comepeleted to ensure that the tree will survive after the works undertaken,,	Site supervisor (TBC)	Ongoing	As required	Active	
17.02		Untrained persons resulting in damage to flora	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Incident Management and Flora and Fauna Biodiversity	Minor	Unlikely	Low	During excavation works where tree roots are encouted, trained arborist are to assest the method of cutting and the extent of cutting to prolong the trees longevevity. Trees roots indentified that must be protected are to be done so under the arborist direction. Trees being removed must be done so to reduce the impact to nearby flora or fauna.	Site supervisor (TBC)	Ongoing	As required	Active	
17.03		Trimming resulting in third party damage	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Incident Management and Flora and Fauna Biodiversity	Minor	Likely	Low	All trees requiring trimming are to be trimmed outside of peak times (traffic and pedestrian management). Exclusion zones are to be establsihed and manned. Trees are only to be trimmed to the extends documented or required for the works to be	Site supervisor (TBC)	Ongoing	As required	Active	
17.04		Green waste generation	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management and Flora and Fauna Biodiversity	Minor	Unlikely	Low	All waste is to be mulched as works progress. Where both practacial / feasable mulched material is to be immediately removed from site. Green waste to be recycled. At completion of works all remaining leaf litter twigs etc., are to be collected and put in with	Site supervisor (TBC)	Ongoing	As required	Active	
17.05		Fuana found in tree	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Flora and Fauna Management	Minor	Unlikely	Low	Prior to any works on trees an inspection is to be undertaken to ensure that no fauna is living in the tree. If fauna is found, it must be identifed and relocated prior to tree works.	Site supervisor (TBC)	Ongoing	As required	Active	
18	Granite pavers	Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Noise and Vibration	Minor	Likely	Low	Machine size to be established for all works - one size dose not fit all. Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor (TBC)	Ongoing	As required	Active	
18.01		Visual impact - pollution due to works	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	TfNSW Community Communication Strategy	Minor	Unlikely	Low	Engagement with the allcoated community liasion person to advise all stakeholders. Where practical all works are to be undertaken behind ATF screens. Limit areas being closed off.	Site supervisor (TBC)	Ongoing	As required	Active	
18.02		Waste bricks from wall build	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Likely	Low	All damaged pavers not utilised are to be placed in skips or concrete bags for collection to be taken back to Mons compound.	Site supervisor (TBC)	Ongoing	As required	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
12.02		Concrete slurry from brick saw	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Minor	Unlikely	Low	Brick saw to be placed over collection point to collect sluffy from saw. Collection container wast water is to be recyled for the brick saw. Colelction container is to be emptied as concrete wasted for recyling at Mons compound.	Site supervisor (TBC)	Ongoing	As required	Active	
18.03		Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Likely	Low	Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All block cutting is to be carried out in designated areas with noise blankets over ATF. All brick saws are to be in good order with the correct for te material being cut.	Site supervisor (TBC)	Daily	As required	Active	
19	Binder and asphalt works	Odour	Community	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Air Quality	Minor	Unlikely	Low	Works to be timed outside of peak times where practical. Where peak reciptor are odour suppressent can be utilies to reduce the adverse risk.	Site supervisor (TBC)	Daily	As required	Active	
19.01		Visual impact - pollution due to works	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Site Establishment Management Plan	Minor	Unlikely	Low	Engagement with the allcoated community liasion person to advise all stakeholders. Limit areas being closed off. Where possible carry out works during night shift.	Site supervisor (TBC)	Ongoing	As required	Active	
19.02		Water pollution - due to oils in binder and ashpalt	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Incident and Soil and Water Management	Minor	Likely	Low	Spill kits to be on site. Personal trained in the use of spill kits. Binder is not to be sprayed when heavy rains are fore cast.	Site supervisor (TBC)	Initial	Compound establishmen t	Active	
19.03		Noisey works create a nuisance to local residents	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Works to be carried out as per approved DA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirments. Do not raise voices, talk to each other a conversation level.	Site supervisor (TBC)	Ongoing	Compound establish ment	Active	
19.04		Traffic congestion	Pollution of the environment both in terms of exhaust and visual	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Works areas	CEMP: Traffic, Transport and Access Management	Moderate	Very Unlikely	Low	Traffic control. Deliveries within the DA requirements. Deliveries planned to reduce the compounding of multiple vehicles trying to enter delivery area.	Site supervisor (TBC)	Ongoing	Daily	Active	
19.05		Vibration from compaction works	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Static roller where practical, limit use of vibratory compaction. Plant size is to be selected to reduce the impact to high impact noise receptors. Refer to the Noise and Vibration Management Plan for control / monitoring process.	Site supervisor (TBC)	Initial	Compound establish ment	Active	
19.06		Material from site being tracked out of compound	Pollution of the environment	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Air Quality	Minor	Likely	Low	Sediment controls to be installed to prevent material leaving the site. Visual inspection of trucks leaving compounds or work areas prior to leaving site. Sweeper to be on site in the event of material leaving site and to carry out routine sweeps around the work areas.	Site supervisor (TBC)	Initial	Compound establish ment	Active	
19.07		General waste and recycling	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Waste Management	Moderate	Unlikely	Low	Sealed bins for food wastes. Bins / Skips for the segregation of recyclable materials. Signage and monitoring to ensure compliance.	Site supervisor (TBC)	Ongoing	Monthly or bin change over	Active	

* An Environmental Aspect is an element of the organisations activities or products or services that can interact with the environment. (AS/NZS ISO14001:2004)

** An Environmental Impact is defined as any change to the environment or a component of the environment, whether adverse or beneficial, wholly or partially resulting from an organisations environmental aspects.(AS/NZS ISO14001:2004)

*** Risk description . This is the articulation of the resultant risk given the aspect and impact at the site.

Activity B

Risk Register

Environmental Risk Assessment: Project Information

Name of Project and Stage/Phase of Works:	Cumberland Hospital (East) Demolition
Project Location:	Cumberland Hospital, Parramatta
Project Duration:	Five (5) Months
Date of First Assessment:	Thursday, 1 August 2019
Minor Ancillary Compound Name and Address	Paramatta North Compound (as named in the EIS)
Completed by	[redacted]

Key Environmental Issues identified

Community, Noise and Vibration, Traffic

Environmental Risk Identification								Risk analysis and evaluation using existing standard controls and assumptions			Risk Management	Responsibility and Monitoring				Comments
Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
1	Compound preparation / Office & Amenities establishment	Material from site being tracked out of compound	Pollution of the environment	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Paramatta North Compound	CEMP: Air Quality	Moderate	Unlikely	Low	Sediment controls to be installed to prevent material leaving the site Visual inspection of trucks leaving compounds or work areas prior to leaving site. No stockpiling of materials in compound. Sweeper to be on site in the event of material leaving site and to carry out routine sweeps around the work areas.	Site supervisor	Initial	Compound establishment Daily	Active	
1.01		Works undertaken outside of agreed areas	Unauthorised Works	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Paramatta North Compound	CEMP: Construction Compound Management	Moderate	Very Unlikely	Low	Final size of compound is to be within the confines of the agreed mark-ups. Compound to be fully fenced to ensure no works outside of agreed areas. Vegetation removal is to be limited. Clearly mark the project boundaries and work zones and prevent use of other areas outside of the work zones	Site supervisor	Initial	Compound establishment	Active	
1.02		Works undertaken outside of agreed areas	Unauthorised Works	Potential to impact on biodiversity or heritage not assesed by EIS.	Environment - Environment Effects / Cultural Heritage	Paramatta North Compound	CEMP: Construction Compound Management	Moderate	Very Unlikely	Low	Final size of compound is to be within the confines of the agreed mark-ups. Compound to be fully fenced to ensure no works outside of agreed areas. Vegetation removal is to be limited. Clearly mark the project boundaries and work zones and prevent use of other areas outside of the work zones	Site supervisor	Initial	Compound establishment	Active	
1.03		Tree protection	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Flora and Fauna Biodiversity	Minor	Unlikely	Low	Trees within the compound are to be identified as per the tree management plan. No unauthorised removal of vegetation. No trimming of trees / removal to occur	Site supervisor	Initial	Compound establishment	Active	
1.04		Site unprotected resulting in possible environmental issues	Pollution of the environment	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Paramatta North Compound	CEMP: Incident Management	Moderate	Unlikely	Low	Lockable site security fencing to be established. Environmental controls (sediment fences, waste containment etc.) established and maintained. ATF or chain wire. Project information will be clearly displayed on fence line. Gates to be locked or manned when open.	Site supervisor	Initial Ongoing	Compound establishment Daily	Active	
1.05		Spills - flammable material storage	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Storage of Hazardous Material & Incident Management	Moderate	Unlikely	Low	Safety data sheets to be stored adjacent to the cabinets and a manifest of materials and quantities to be kept at the site office. Spill kits appropriately sized and near the materials. All wastes from clean up or empty containers are to be disposed of as contaminated waste. Materials to be stored in lockable/ bunded/ appropriate storage lockers. Signage in place. Minimum quantities to stored on site. No storing of material outside of cabinet. Appropriate firefighting equipment is to be placed adjacent to the cabinet and clearly sign posted. Site personnel to be trained in the use of firefighting equipment. Site personnel trained in spill kit usage and maintenance. Do not store below 1 in 20 ARI or 10% AEP	Site supervisor	Ongoing	Weekly	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
1.06		Spills - hazardous material storage	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Storage of Hazardous Material & Incident Management	Moderate	Unlikely	Low	Safety data sheets to be stored adjacent to the cabinets and a manifest of materials and quantities to be kept at the site office. Spill kits appropriately sized and near the materials. All wastes from clean up or empty containers are to be disposed of as contaminated waste. Materials to be stored in lockable/ bunded/ appropriate storage lockers. Signage in place. Minimum quantities to stored on site. No storing of material outside of cabinet. Appropriate firefighting equipment is to be placed adjacent to the cabinet and clearly sign posted. Site personnel to be trained in the use of firefighting equipment. Where containers do not fit in cabinet they are to be stored under cover on spill pallets. Site personnel trained in spill kit usage and maintenance. Do not store below 1 in 20 ARI or 10% AEP	Site supervisor	Ongoing	Weekly	Active	
1.07		General waste and recycling	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Waste Management	Moderate	Unlikely	Low	Sealed bins for food waste. Bins / Skips for the segregation of recyclable materials. Clearly signposted. Reuse of materials where practical. Deliveries to be ordered with limited minimal packaging. Signage and monitoring to ensure compliance.	Site supervisor	Ongoing	Weekly or at bin collection	Active	
1.08		Utility supply	Noise and Vibration	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Noise and Vibration	Moderate	Unlikely	Low	Generators are to be used as last resort. Power supply is to be hard wired and power source where practical from renewable energy provider. Sewerage where practical / possible to be connected directly to the sewerage system. No excavation for connection to utilities. Any new connections will be provided above ground.	Site supervisor	Initial	Compound establishment	Active	
1.09		Visual impact - pollution lighting	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Construction Compound Management	Minor	Unlikely	Low	All security lighting is to be fitted with motion sensors and positioned to reduce the impact of the lighting outside of the compound. Lighting to be fitted with screens/shades as required to limit light flooding. Office / change rooms lighting to be switched off on exit at the end of each shift if not already switched off.	Site supervisor	Ongoing	2 monthly	Active	
1.10		Surface water run off	Water Pollution	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Soil and Water Management Plan	Minor	Unlikely	Low	All drains in the immediate area to be protected by geofabric / silt socks etc. as per Managing Urban Stormwater: Soils and construction - Volume 1 (the 'Blue Book')	Site supervisor	Ongoing	2 monthly	Active	
1.11		Heritage items impacted	Heritage	Aboriginal Arechological Site Area is impacted	Reputation - Community	Paramatta North Compound	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Very Unlikely	Low	Follow management procedures identified in Heritage Management Plan; Erect boundary fencing and signage around site as identified in the Environmental Control Maps	Site supervisor	Ongoing	2 monthly	Active	
2	Compound / Office & Amenities operation	Surface water run off	Water Pollution	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Soil and Water Management Plan	Moderate	Unlikely	Low	All site water to be collected via puddle pumps and stored in the sediment detention tank for dust suppression. All drains in the immediate area to be protected by geofabric / silt socks etc. as per Managing Urban Stormwater: Soils and construction - Volume 1 (the 'Blue Book').	Site supervisor	Ongoing	2 monthly	Active	
2.01		Visual impact - pollution lighting	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: ConstructionCompound Management	Moderate	Unlikely	Low	All security lighting is to be fitted with motion sensors and positioned to reduce the impact of the lighting outside of the compound. Lighting to be fitted with screens/shades as required to limit light flooding. Office / change rooms lighting to be switched off on exit at the end of each shift if not already switched off.	Site supervisor	Ongoing	2 monthly	Active	
2.02		Recycling of materials	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Waste Management	Minor	Unlikely	Low	All waste steel, concrete, asphalt are to be separated for recycling. All recycled materials are not to be cross contaminated. Material tracking is to be implemented.	Site supervisor	Ongoing	Weekly	Active	
2.03		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Paramatta North Compound	CEMP: Soil and Water Management Plan	Moderate	Unlikely	Low	Spill kit to be on site at all times in the event of an onsite emergency. All immediate drains in front of the compound are to be protected. Site personnel trained in the use of spill kits, spill kits to checked and maintained. If extreme weather events are forecast, area to be inspected both prior and after to ensure environmental controls are sufficient and have worked.	Site supervisor	Initial Ongoing	Compound establishment As required	Active	
2.04		Disturbance to Mental Health Facility / Cumberland Hospital Operations	Community	Mental Health consumer impacting daily activities on site / Work negatively impacts Mental Health consumers / work interferes with Cumberland Hospital staff work resulting in stop work orders, delay project progress and timing	Reputation - Community	Paramatta North Compound	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Follow Noise and Vibration Limits and operation hours Keep gates locked and appropriately screen site areas Induct staff on the sensitivity of the Mental Health Facility as per CEMP	Site supervisor	Ongoing	Daily	Active	
2.05		Heritage items impacted	Heritage	Aboriginal Arechological Site Area is impacted	Reputation - Community	Paramatta North Compound	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Very Unlikely	Low	Follow management procedures identified in Heritage Management Plan; Erect boundary fencing and signage around site as identified in the Environmental Control Maps	Site supervisor	Ongoing	2 monthly	Active	
3	Compound / Office & Amenities decommissioning	Surface water run off	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Soil and Water Management Plan	Minor	Unlikely	Low	All existing drains are to be operational prior to leaving site. Remove any erosion controls that may re direct water flows or inhibit.	Site supervisor	Ongoing	Compound decomissioning	Active	
3.01		Utility supply	Systems and Documentation	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Construction Compound Management	Minor	Unlikely	Low	All connections are to be reinstated back to original connections	Site supervisor	Ongoing	Compound decomissioning	Active	
3.02		Material from site being tracked out of compound	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Paramatta North Compound	CEMP: Air Quality Management	Minor	Unlikely	Low	Sediment controls to be installed to prevent material leaving the site Visual inspection of trucks leaving compounds or work areas prior to leaving site. No stockpiling of materials in compound. Sweeper to be on site in the event of material leaving site and to carry out routine sweeps around the work areas.	Site supervisor	Ongoing	Compound decomissioning	Active	
3.03		Damage to flora	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Paramatta North Compound	CEMP: Flora and Fauna Management	Minor	Unlikely	Low	Tree protection to be removed only after all material movements and trucks movements are complete. Reinstate vegetation as required	Site supervisor	Ongoing	Compound decomissioning	Active	

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3.04		Heritage items impacted	Heritage	Aboriginal Arechological Site Area is impacted	Reputation - Community	Paramatta North Compound	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Very Unlikely	Low	Follow management procedures identified in Heritage Management Plan; Erect boundary fencing and signage around site as identified in the Environmental Control Maps	Site supervisor	Ongoing	2 monthly	Active	
4	Overall works	Air quality	Air and Dust	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Air Quality Management	Minor	Unlikely	Low	During all demolition activities dust suppression must be used. Where water lines are not readily available, the on site water cart is to be used to provide water. Recycled water is always the first option prior to filling the tank with potable water. The water truck is to be filled at the end of each shift.	Site supervisor	Ongoing	Daily	Active	
4.01		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	Sediment controls to be established around all demolition sites. Refer Construction Soil Water and Management Plan.	Site supervisor	Initial	Site establishment	Active	
4.02		Noisy works create a nuisance to community	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Machine size to be established for all works - one size does not fit all. Works to be carried out as per CoA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor	Ongoing	Site establishment	Active	
4.03		Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	All immediate drains within the surrounds of the work areas are to have Geofabric material placed over the drains, silt socks positioned around the pit & where both practical or feasible socks are to be placed in the gutters to slow the stormwater to allow any sediment to be dropped out of the water flow for collection. In the event of a predicted rain event all drains are to be protected / inspected prior and post. Remove loose demolition material from site as soon as possible.	Site supervisor	Initial Ongoing	Site establishment As required	Active	
4.04		Heritage items discovered	Heritage	Inspections by regulator to ensure compliance with heritage related procedures and approval conditions, possible delay to project program and timing, and possible stop work orders following the discovery of an unexpected heritage find (Aboriginal and/or non-Aboriginal).	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	If a heritage item is discovered, follow the unexpected heritage finds procedure (Appendix A of the Heritage Management Plan), and where applicable, the Historical Archaeological Research Design (ARD). Where works are undertaken within HAMU 4, the Excavation Director would attend site where required to appropriately manage archaeological works.	Site supervisor	Ongoing	As required	Active	
4.05		Heritage items discovered	Heritage	Stop work orders, possible delay to project program and timing resulting in variations from the contractor following the discovery of an unexpected heritage find (Aboriginal and/or non-Aboriginal).	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	If a heritage item is discovered, follow the unexpected heritage finds procedure (Appendix A of the Heritage Management Plan), and where applicable, the Historical Archaeological Research Design (ARD). Where works are undertaken within HAMU 4, the Excavation Director would attend site where required to appropriately manage archaeological works.	Site supervisor	Ongoing	As required	Active	
4.06		Heritage items discovered	Heritage	Items of heritage significance identified during excavation works.	Financial - Project / Program / TPD Budgets	Jemena Gas Pipeline works	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	If a heritage item is discovered, follow the unexpected heritage finds procedure (Appendix A of the Heritage Management Plan), and where applicable, the Historical Archaeological Research Design (ARD). Where works are undertaken within HAMU 4, the Excavation Director would attend site where required to appropriately manage archaeological works.	Site supervisor	Ongoing	As required	Active	
4.07		Heritage items discovered	Heritage	Archival recording fails to identify all items of significance prior to any excavation or demolition works for the whole project.	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Heritage Management Plan, Archaeological Research Design (ARD), archival recording and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	All archival recording is to be completed prior to invasive works. If an unidentified heritage item or element is located during demolition, work should stop, and a heritage expert should be consulted	Site supervisor	Initial Ongoing	Prior to demolition works As required	Active	
4.08		Grey Head Flying Fox Disturbance	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Works areas	Flora and Fauna Biodiversity Management Plan	Moderate	Unlikely	Low	Follow procedures described in Flora and Fauna Management Plan Use of directional lighting to minimise light spill toward camp and riparian vegetation along the Parramatta River. Ensure all plant and equipment is maintained to Australian Standards to minimise any noise generation. Short-term attended acoustic monitoring at the Parramatta Park Flying-fox camp is to be carried out at the commencement of construction to compare actual noise levels with those predicted for the works. Noise mitigation measures to be implemented, as documented in the Noise and Vibration Management Plan. All site personnel inducted / briefed on Grey-headed Flying-fox threatened status, construction management measures and disease risk management prior to commencing work on site.	Site supervisor	Ongoing	As required	Active	
4.09		Disturbance to Mental Health Facility / Cumberland Hospital Operations	Community	Mental Health consumer impacting daily activities on site / Work negatively impacts Mental Health consumers / work interferes with Cumberland Hospital staff work resulting in stop work orders, delay project progress and timing	Reputation - Community	Works areas	CEMP: Noise and Vibration Management	Moderate	Unlikely	Low	Follow Noise and Vibration Limits and operation hours Keep gates locked (including works area and site compound) and appropriately screen site areas Induct staff on the sensitivity of the Mental Health Facility as per CEMP Implement dust management measures such as watering down	Site supervisor	Ongoing	Daily	Active	
4.10		Loading trucks for spoil removal	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	All works are to proceed within the CoA approved working hours. Materials are to be placed into truck bins and not dropped from height. Trucks / excavators are to limit idle times. All queued trucks are to switch engines off as soon as practical (turbo timers). Construction traffic management will seek to reduce the number of trucks on site	Site supervisor	Ongoing	Weekly	Active	
4.11		Privacy and security of hospital consumers impacted	Community	Mental Health consumer impacting daily activities on site / Work negatively impacts Mental Health consumers / work interferes with Cumberland Hospital staff work resulting in stop work orders, delay project progress and timing	Reputation - Community	Works areas	Construction Compound Management	Moderate	Unlikely	Low	Keep gates locked (including works area and site compound) and appropriately screen site areas Induct staff on the sensitivity of the Mental Health Facility as per CEMP Install opeque hoarding of compounds	Site supervisor	Ongoing	Daily	Active	
4.12		Hazardous Material handling	Land Contamination	Contaminated materials handled incorrectly. Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	Contaminated Material Procedure	Moderate	Unlikely	Low	Follow the contaminated material process described in the CEMP (stop work if contaminated, or potentially contaminated, material encountered and do not resume until area is clear) Only dispose of contaminated material at an EPA facility licenced to take such wastes. Follow contaminated waste disposal measures in the waste mangement section of the CEMP.	Site supervisor	Ongoing	As required	Active	

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5	Overall works areas - decommissioning	Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	Ensure all material is removed from site prior to vacating site.	Site supervisor	Ongoing	Site decommissioning	Active	
6	Plant maintenance (service & breakdowns)	Noisy works create a nuisance to comunity	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	All mechanic activities are to be carried out as per the CEMP. Respite periods as per the Noise and Vibration Management Plan are to be observed.	Site supervisor	Ongoing	As required	Active	
6.01		Plant leaks and spills	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Incident Management & Soil and Water Management	Minor	Unlikely	Low	All works areas are to have spills kits available. Used spill kit components are to be disposed of as either general waste or contaminated waste dependant on the materials. All spills are to be notified to the client / EPA as required.	Site supervisor	Intial Ongoing	Compound establishment As required	Active	
7	Service relocations	Noisy works create a nuisance to community	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Building B52	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Machine size to be established for all works - one size does not fit all. Works to be carried out as per CoA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor	Ongoing	Site establishment	Active	
7.02		Unkown material being brought to the surface	Systems and Documentation	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Building B52	CEMP: Soil and Water Management	Minor	Unlikely	Low	In the event of discrepancy works are to stop and refer to the unexpected finds procedure.	Site supervisor	Ongoing	As required	Active	

* An Environmental Aspect is an element of the organisations activities or products or services that can interact with the environment. (AS/NZS ISO14001:2004)

** An Environmental Impact is defined as any change to the environment or a component of the environment, whether adverse or beneficial, wholly or partially resulting from an organisations environmental aspects.(AS/NZS ISO14001:2004)

*** Risk description . This is the articulation of the resultant risk given the aspect and impact at the site.

Activity C

Risk Register

Environmental Risk Assessment: Project Information

Name of Project and Stage/Phase of Works:	Cumberland Hospital (West) Demolition
Project Location:	Cumberland Hospital, Parramatta
Project Duration:	Five (5) Months
Date of First Assessment:	Thursday, 1 August 2019
Minor Ancillary Compound Name and Address	Cumberland Hospital (West) Compound (as defined by consistency assesment)
Completed by	[redacted]

Key Environmental Issues identified

Community, Noise and Vibration, Traffic

Environmental Risk Identification								Risk analysis and evaluation using existing standard controls and assumptions			Risk Management	Responsibility and Monitoring				Comments
Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
1	Compound preparation / Office & Amenities establishment	Material from site being tracked out of compound	Pollution of the environment	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Cumberland Hospital (West) Compound	CEMP: Air Quality	Moderate	Unlikely	Low	Sediment controls to be installed to prevent material leaving the site Visual inspection of trucks leaving compounds or work areas prior to leaving site. No stockpiling of materials in compound. Sweeper to be on site in the event of material leaving site and to carry out routine sweeps around the work areas.	Site supervisor	Initial	Compound establishment Daily	Active	
1.01		Works undertaken outside of agreed areas	Unauthorised Works	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Cumberland Hospital (West) Compound	CEMP: Construction Compound Management	Minor	Very Unlikely	Low	Final size of compound is to be within the confines of the agreed mark-ups. Compound to be fully fenced to ensure no works outside of agreed areas. Vegetation removal is to be limited.	Site supervisor	Initial	Compound establishment	Active	
1.02		Works undertaken outside of agreed areas	Unauthorised Works	Potential to impact on biodiversity or heritage not assesed by EIS.	Environment - Environment Effects / Cultural Heritage	Cumberland Hospital (West) Compound	CEMP: Construction Compound Management	Moderate	Very Unlikely	Low	Final size of compound is to be within the confines of the agreed mark-ups. Compound to be fully fenced to ensure no works outside of agreed areas. Vegetation removal is to be limited. Clearly mark the project boundaries and work zones and prevent use of other areas outside of the work zones	Site supervisor	Initial	Compound establishment	Active	
1.03		Tree protection	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Flora and Fauna Biodiversity	Minor	Unlikely	Low	Trees within the compound are to be identified as per the tree management plan. No unauthorised removal of vegetation. No trimming of trees / removal to occur	Site supervisor	Initial	Compound establishment	Active	
1.04		Site unprotected resulting in possible environmental issues	Pollution of the environment	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Cumberland Hospital (West) Compound	CEMP: Incident Management	Moderate	Unlikely	Low	Lockable site security fencing to be established. Environmental controls (sediment fences, waste containment etc.) established and maintained. ATF or chain wire. Project information will be clearly displayed on fence line. Gates to be locked or manned when open.	Site supervisor	Initial Ongoing	Compound establishment Daily	Active	
1.05		Spills - flammable material storage	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Storage of Hazardous Material & Incident Management	Moderate	Unlikely	Low	Safety data sheets to be stored adjacent to the cabinets and a manifest of materials and quantities to be kept at the site office. Spill kits appropriately sized and near the materials. All wastes from clean up or empty containers are to be disposed of as contaminated waste. Materials to be stored in lockable/ bunded/ appropriate storage lockers. Signage in place. Minimum quantities to stored on site. No storing of material outside of cabinet. Appropriate firefighting equipment is to be placed adjacent to the cabinet and clearly sign posted. Site personnel to be trained in the use of firefighting equipment. Site personnel trained in spill kit usage and maintenance. Do not store below 1 in 20 ARI or 10% AEP	Site supervisor	Ongoing	Weekly	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
1.06		Spills - hazardous material storage	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Storage of Hazardous Material & Incident Management	Moderate	Unlikely	Low	Safety data sheets to be stored adjacent to the cabinets and a manifest of materials and quantities to be kept at the site office. Spill kits appropriately sized and near the materials. All wastes from clean up or empty containers are to be disposed of as contaminated waste. Materials to be stored in lockable/ bunded/ appropriate storage lockers. Signage in place. Minimum quantities to stored on site. No storing of material outside of cabinet. Appropriate firefighting equipment is to be placed adjacent to the cabinet and clearly sign posted. Site personnel to be trained in the use of firefighting equipment. Where containers do not fit in cabinet they are to be stored under cover on spill pallets. Site personnel trained in spill kit usage and maintenance. Do not store below 1 in 20 ARI or 10% AEP	Site supervisor	Ongoing	Weekly	Active	
1.07		General waste and recycling	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Waste Management	Moderate	Unlikely	Low	Sealed bins for food waste. Bins / Skips for the segregation of recyclable materials. Clearly signposted. Reuse of materials where practical. Deliveries to be ordered with limited minimal packaging. Signage and monitoring to ensure compliance.	Site supervisor	Ongoing	Weekly or at bin collection	Active	
1.08		Utility supply	Noise and Vibration	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Noise and Vibration	Moderate	Unlikely	Low	Generators are to be used as last resort. Power supply is to be hard wired and power source where practical from renewable energy provider. Sewerage where practical / possible to be connected directly to the sewerage system. No excavation for connection to utilities. Any new connections will be provided above ground.	Site supervisor	Initial	Compound establishment	Active	
1.09		Visual impact - pollution lighting	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Construction Compound Management	Minor	Unlikely	Low	All security lighting is to be fitted with motion sensors and positioned to reduce the impact of the lighting outside of the compound. Lighting to be fitted with screens/shades as required to limit light flooding. Office / change rooms lighting to be switched off on exit at the end of each shift if not already switched off.	Site supervisor	Ongoing	2 monthly	Active	
1.10		Surface water run off	Water Pollution	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Soil and Water Management Plan	Minor	Unlikely	Low	All drains in the immediate area to be protected by geofabric / silt socks etc. as per Managing Urban Stormwater: Soils and construction - Volume 1 (the 'Blue Book').	Site supervisor	Ongoing	2 monthly	Active	
2	Compound / Office & Amenities operation	Surface water run off	Water Pollution	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Soil and Water Management Plan	Moderate	Unlikely	Low	All site water to be collected via puddle pumps and stored in the sediment detention tank for dust suppression. Drains in the immediate area to be protected by geofabric / silt socks etc. as per Managing Urban Stormwater: Soils and construction - Volume 1 (the 'Blue Book').	Site supervisor	Ongoing	2 monthly	Active	
2.01		Visual impact - pollution lighting	Community	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: ConstructionCompound Management	Moderate	Unlikely	Low	All security lighting is to be fitted with motion sensors and positioned to reduce the impact of the lighting outside of the compound. Lighting to be fitted with screens/shades as required to limit light flooding. Office / change rooms lighting to be switched off on exit at the end of each shift if not already switched off.	Site supervisor	Ongoing	2 monthly	Active	
2.02		Recycling of materials	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Waste Management	Minor	Unlikely	Low	All waste steel, concrete, asphalt are to be separated for recycling. All recycled materials are not to be cross contaminated. Material tracking is to be implemented.	Site supervisor	Ongoing	Weekly	Active	
2.03		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Cumberland Hospital (West) Compound	CEMP: Soil and Water Management Plan	Moderate	Unlikely	Low	Spill kit to be on site at all times in the event of an onsite emergency. All immediate drains in front of the compound are to be protected. Site personnel trained in the use of spill kits, spill kits to checked and maintained. If extreme weather events are forecast, area to be inspected both prior and after to ensure environmental controls are sufficient and have worked.	Site supervisor	Initial Ongoing	Compound establishment As required	Active	
2.04		Disturbance to Mental Health Facility / Cumberland Hospital Operations	Community	Mental Health consumer impacting daily activities on site / Work negatively impacts Mental Health consumers / work interferes with Cumberland Hospital staff work resulting in stop work orders, delay project progress and timing	Reputation - Community	Cumberland Hospital (West) Compound	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Follow Noise and Vibration Limits and operation hours Keep gates locked and appropriately screen site areas Induct staff on the sensitivity of the Mental Health Facility as per CEMP	Site supervisor	Ongoing	Daily	Active	
3	Compound / Office & Amenities decommissioning	Surface water run off	Waste and Hazardous Material	Stop work orders, delay project progress and timing resulting in variations from the contractor	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Soil and Water Management Plan	Minor	Unlikely	Low	All existing drains are to be operational prior to leaving site. Remove any erosion controls that may re direct water flows or inhibit.	Site supervisor	Ongoing	Compound decomissioning	Active	
3.01		Utility supply	Systems and Documentation	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Construction Compound Management	Minor	Unlikely	Low	All connections are to be reinstated back to original connections	Site supervisor	Ongoing	Compound decomissioning	Active	
3.02		Material from site being tracked out of compound	Waste and Hazardous Material	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Cumberland Hospital (West) Compound	CEMP: Air Quality Management	Minor	Unlikely	Low	Sediment controls to be installed to prevent material leaving the site Visual inspection of trucks leaving compounds or work areas prior to leaving site. No stockpiling of materials in compound. Sweeper to be on site in the event of material leaving site and to carry out routine sweeps around the work areas.	Site supervisor	Ongoing	Compound decomissioning	Active	
3.03		Damage to flora	Unapproved damage/harm to vegetation/habitat	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Cumberland Hospital (West) Compound	CEMP: Flora and Fauna Management	Minor	Unlikely	Low	Tree protection to be removed only after all material movements and trucks movements are complete. Reinstate vegetation as required	Site supervisor	Ongoing	Compound decomissioning	Active	
4	Overall works	Air quality	Air and Dust	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Air Quality Management	Minor	Unlikely	Low	During all demolition activities dust suppression must be used. Where water lines are not readily available, the on site water cart is to be used to provide water. Recycled water is always the first option prior to filling the tank with potable water. The water truck is to be filled at the end of each shift.	Site supervisor	Ongoing	Daily	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments
4.01		Water pollution	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	Sediment controls to be established around all demolition sites. Refer Construction Soil Water and Management Plan.	Site supervisor	Initial	Site establishment	Active	
4.02		Noisy works create a nuisance to community	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	Machine size to be established for all works - one size does not fit all. Works to be carried out as per CoA and respite conditions - refer to the Construction Noise and Vibration Management Plan. All plant and equipment to have operating exhaust systems as per EPA requirements.	Site supervisor	Ongoing	Site establishment	Active	
4.03		Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	All immediate drains within the surrounds of the work areas are to have Geofabric material placed over the drains, silt socks positioned around the pit & where both practical or feasible socks are to be placed in the gutters to slow the stormwater to allow any sediment to be dropped out of the water flow for collection. In the event of a predicted rain event all drains are to be protected / inspected prior and post. Remove loose demolition material from site as soon as possible.	Site supervisor	Initial Ongoing	Site establishment As required	Active	
4.04		Heritage items discovered	Heritage	Inspections by regulator to ensure compliance with heritage related procedures and approval conditions, possible delay to project program and timing, and possible stop work orders following the discovery of an unexpected heritage find (Aboriginal and/or non-Aboriginal).	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	If a heritage item is discovered, follow the unexpected heritage finds procedure (Appendix A of the Heritage Management Plan), and where applicable, the Historical Archaeological Research Design (ARD). Where works are undertaken within HAMU 3, the Excavation Director would attend site where required to appropriately manage archaeological works.	Site supervisor	Ongoing	As required	Active	
4.05		Heritage items discovered	Heritage	Stop work orders, possible delay to project program and timing resulting in variations from the contractor following the discovery of an unexpected heritage find (Aboriginal and/or non-Aboriginal).	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Heritage Management Plan, Archaeological Research Design (ARD) and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	If a heritage item is discovered, follow the unexpected heritage finds procedure (Appendix A of the Heritage Management Plan), and where applicable, the Historical Archaeological Research Design (ARD). Where works are undertaken within HAMU 3, the Excavation Director would attend site where required to appropriately manage archaeological works.	Site supervisor	Ongoing	As required	Active	
4.07		Heritage items discovered	Heritage	Archival recording fails to identify all items of significance prior to any excavation or demolition works for the whole project.	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Heritage Management Plan, Archaeological Research Design (ARD), archival recording and Unexpected Heritage Finds Procedure	Moderate	Unlikely	Low	All archival recording is to be completed prior to invasive works. If an unidentified heritage item or element is located during demolition, work should stop, and a heritage expert should be consulted	Site supervisor	Initial Ongoing	Prior to demolition works As required	Active	
4.08		Grey Head Flying Fox Disturbance	Flora and Fauna	Stop work orders, delay project progress and timing resulting in variations from the contractor	Environment - Environment Effects / Cultural Heritage	Works areas	Flora and Fauna Biodiversity Management Plan	Moderate	Unlikely	Low	Follow procedures described in Flora and Fauna Management Plan Use of directional lighting to minimise light spill toward camp and riparian vegetation along the Parramatta River. Ensure all plant and equipment is maintained to Australian Standards to minimise any noise generation. Short-term attended acoustic monitoring at the Parramatta Park Flying-fox camp is to be carried out at the commencement of construction to compare actual noise levels with those predicted for the works. Noise mitigation measures to be implemented, as documented in the Noise and Vibration Management Plan. All site personnel inducted / briefed on Grey-headed Flying-fox threatened status, construction management measures and disease risk management prior to commencing work on site.	Site supervisor	Ongoing	As required	Active	
4.09		Disturbance to Mental Health Facility / Cumberland Hospital Operations	Community	Mental Health consumer impacting daily activities on site / Work negatively impacts Mental Health consumers / work interferes with Cumberland Hospital staff work resulting in stop work orders, delay project progress and timing	Reputation - Community	Works areas	CEMP: Noise and Vibration Management	Moderate	Unlikely	Low	Follow Noise and Vibration Limits and operation hours Keep gates locked (including works area and site compound) and appropriately screen site areas Induct staff on the sensitivity of the Mental Health Facility as per CEMP Implement dust managmeent measures such as watering down	Site supervisor	Ongoing	Daily	Active	
4.10		Loading trucks for spoil removal	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Financial - Project / Program / TPD Budgets	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	All works are to proceed within the CoA approved working hours. Materials are to be placed into truck bins and not dropped from height. Trucks / excavators are to limit idle times. All queued trucks are to switch engines off as soon as practical (turbo timers). Construction traffic management will seek to reduce the number of trucks on site	Site supervisor	Ongoing	Weekly	Active	
4.11		Privacy and security of hospital consumers impacted	Community	Mental Health consumer impacting daily activities on site / Work negatively impacts Mental Health consumers / work interferes with Cumberland Hospital staff work resulting in stop work orders, delay project progress and timing	Reputation - Community	Works areas	Construction Compound Management	Moderate	Unlikely	Low	Keep gates locked (including works area and site compound) and appropriately screen site areas Induct staff on the sensitivity of the Mental Health Facility as per CEMP Install opeque hoarding of compounds	Site supervisor	Ongoing	Daily	Active	
4.12		Hazardous Material handling	Land Contamination	Contaminated materials handled incorrectly. Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	Contaminated Material Procedure	Moderate	Unlikely	Low	Follow the contaminated material process described in the CEMP (stop work if contaminated, or potentially contaminated, material encountered and do not resume until area is clear) Only dispose of contaminated material at an EPA facility licenced to take such wastes. Follow contaminated waste disposal measures in the waste mangement section of the CEMP.	Site supervisor	Ongoing	As required	Active	
5	Overall works areas - decommissioning	Rain event causing run off	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Soil and Water Management	Minor	Unlikely	Low	Ensure all material is removed from site prior to vacating site.	Site supervisor	Ongoing	Site decommissioning	Active	
6	Plant maintenance (service & breakdowns)	Noisy works create a nuisance to comunity	Noise and Vibration	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Noise and Vibration Management	Minor	Unlikely	Low	All mechanic activities are to be carried out as per the CEMP. Respite periods as per the Noise and Vibration Management Plan are to be observed.	Site supervisor	Ongoing	As required	Active	
6.01		Plant leaks and spills	Water Pollution	Complaints received by regulator, leading to investigations, breach of conditions of approval and possible stop work orders.	Reputation - Government / Media / Stakeholders	Works areas	CEMP: Incident Management & Soil and Water Management	Minor	Unlikely	Low	All works areas are to have spills kits available. Used spill kit components are to be disposed of as either general waste or contaminated waste dependant on the materials. All spills are to be notified to the client / EPA as required.	Site supervisor	Intial Ongoing	Compound establishment As required	Active	

Risk Ref #	Environmental Aspect*	Impact **	Environmental Impact Category	Site Specific Risk Description ***	Risk category	Project-specific Location(s)	Existing Standard Controls and Assumptions	Consequence	Likelihood	Rating	Additional Project or Site Specific Management Actions	Responsibility (Risk Owner)	Action Due Date	Interval / Milestone Check	Status (active or closed) as at:	Comments

* An Environmental Aspect is an element of the organisations activities or products or services that can interact with the environment. (AS/NZS ISO14001:2004)

** An Environmental Impact is defined as any change to the environment or a component of the environment, whether adverse or beneficial, wholly or partially resulting from an organisations environmental aspects.(AS/NZS ISO14001:2004)

*** Risk description . This is the articulation of the resultant risk given the aspect and impact at the site.

Appendix A4

Contractor Environmental Policy

NSW GOVERNMENT

Activity A

Contractor Environmental Policy

FCC Environmental Policy

POLICY STATEMENT

As part of our commitment to achieving the principles of responsible environmental management, sustainability and protection of the natural environment in our workplace, we recognise our moral and legal responsibility to ensure that our activities, products and services are designed to protect and enhance the environment in the communities in which we operate, and our obligations to ensuring that our operations do not place the natural environment or the local community at risk of harm.

AIMS AND OBJECTIVES

We are committed to environmental improvement and prevention of pollution. We will achieve this by working with our customers, suppliers and the community to adopt procedures that –

- reduce waste through innovative work practices and recycling practices
- minimise environmental impacts by reduction of polluting substances produced by our operations, activities, products or services
- minimise the impact of our operations on the neighbouring community
- increase the use of environmentally acceptable materials, equipment and technology in place of those which are considered harmful
- ensure that our suppliers follow acceptable environmental policies, and
- actively promote environmental awareness among workers, clients, customers and the general public.

RESPONSIBILITIES

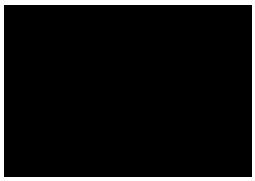
We recognise that the overall responsibility for environmental sustainability rests with management, who will be accountable for the implementation of this policy. These responsibilities include –

- ensuring that all environmental policies and procedures are implemented;
- establishing measurable objectives and targets to ensure continued improvement aimed at the elimination of waste, pollution and environmental harm;
- encouraging consultation and co-operation between management, workers and stakeholders in matters which may affect or impact on the environment; and
- providing adequate resources to meet these environmental commitments.

Workers also have responsibilities, which include –

- following all environmental policies and procedures; and
- recognising and reporting hazards which may affect the health and well-being of the environment.

AUTHORISED BY

Signed:  Position: General Manager Date: 07th November 2017

Activity B

Contractor Environmental Policy

Renascent

ENVIRONMENTAL and WASTE MANAGEMENT POLICY

Renascent is committed to achieving and pursuing best practice in terms of utilising and managing its resources, to reduce environmental impacts and promote quality of life.

Renascent is committed to:

- The protection of the environment including the prevention of pollution
- Renascent's internal risk management systems continue complying with ISO 14001 - 2015 requirements;
- Identifying activities that impact on the environment and work with its customers, suppliers and any other interested parties to encourage the reduction of environmental impacts;
- Compliance with applicable legislation and codes of practice, particularly in relation to safe handling, storage and transport disposal of hazardous waste and dangerous goods, and noise;
- Compliance with applicable legislation and codes of practice, in relation to proactive management and control of plant and equipment producing noise;
- Providing on-going education and training for all staff in related matters, to also ensure the organisation is aware and abreast of new technologies;
- Setting specific and measurable environmental goals covering all aspects of the organisation's operations and activities, monitoring progress and encouraging a culture of continual improvement;
- Providing financial, physical and human resources to achieve these commitments;
- Allocating responsibility for achieving these commitments across the organisation.

Renascent Environmental and Waste goals are to:

- Remain committed to implementing across the organisation a systematic and sensible approach to waste management and minimisation;
- Minimise the extent of landfill through considered management of materials ordered so that environmental impacts are reduced to the best possible extent and waste is recycled or treated;
- Reduce pollutants, by promoting more efficient materials and use of resources to reduce waste to landfill, actively promoting recycling where possible;
- Manage other aspects of pollution with consideration to, efficient noise control procedures, effective exhaust controls on plant and equipment, compliant storage of hazardous materials kept to a minimum, effective dust suppression and water run off strategies implemented.

Signed by: [redacted]

Date: 3rd December 2018

Signed by: [redacted]

Date: 3rd December 2018

Activity C

Contractor Environmental Policy

DONNELLEY CONSTRUCTIONS

Polices

Environmental

Donnelley Constructions Pty Ltd specialises in all forms of building construction work within New South Wales - predominantly the Sydney Metropolitan area. Expertise, reliability and professionalism have been synonymous with the Donnelley Constructions Pty Ltd name for many years.

Donnelley Constructions Pty Ltd has embraced the ecologically sustainable development philosophy and is committed to establish and maintain an effective and efficient environmental management programme that continually improves the overall quality of life both now and in the future.

Fundamentally our management system, which has been established to comply with the relevant environmental legislation and regulations, seeks to maximise renewable resources and prevent pollution.

This Environmental Management Plan (EMP) conforms to the requirements of AS/NZS ISO 14001: 2015.

Where necessary subcontractors are required to implement appropriate environmental control systems.

This Environmental Management Plan details the management systems used by Donnelley Constructions Pty Ltd to achieve the desired standard.

[redacted]

[redacted] Date: 09.07.19

Managing Director
Donnelley Constructions Pty. Ltd

Appendix A5

Environmental Management System

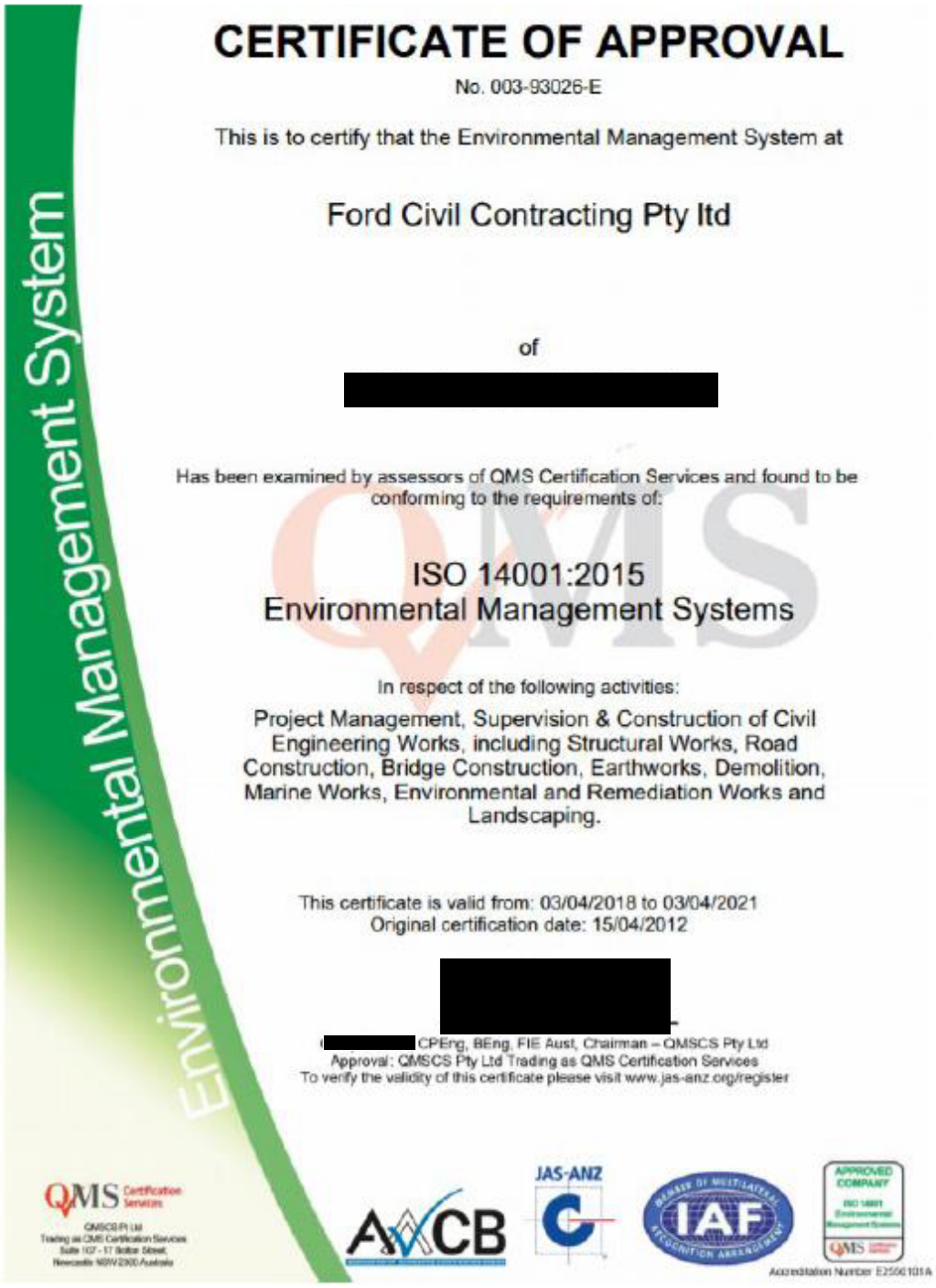
ISO 14001 Certification

NSW GOVERNMENT

Activity A

ISO 14001 Certification

FCC ISO14001 Certification



Environmental Management System

CERTIFICATE OF APPROVAL

No. 003-93026-E

This is to certify that the Environmental Management System at

Ford Civil Contracting Pty ltd

of

[redacted]

Has been examined by assessors of QMS Certification Services and found to be conforming to the requirements of:

ISO 14001:2015
Environmental Management Systems

In respect of the following activities:

Project Management, Supervision & Construction of Civil Engineering Works, including Structural Works, Road Construction, Bridge Construction, Earthworks, Demolition, Marine Works, Environmental and Remediation Works and Landscaping.

This certificate is valid from: 03/04/2018 to 03/04/2021
Original certification date: 15/04/2012

[redacted]

[redacted] CPEng, BEng, FIE Aust, Chairman – QMSCS Pty Ltd
Approval: QMSCS Pty Ltd Trading as QMS Certification Services
To verify the validity of this certificate please visit www.jas-anz.org/register

QMS Certification Services
QMSCS Pty Ltd
Trading as QMS Certification Services
Suite 107 - 17 Bolton Street,
Newcastle NSW 2300 Australia

AVCB

JAS-ANZ

IAF

APPROVED COMPANY
ISO 14001 Environmental Management Systems
QMS Certification Services

Accreditation Number: E2556101A

Activity B

ISO 14001 Certification

bsi.

By Royal Charter

Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015

This is to certify that:

[redacted]

Holds Certificate Number: **EMS 678737**

and operates an Environmental Management System which complies with the requirements of ISO 14001:2015 for the following scope:

Provision of construction, refurbishment, fit out and construction management in all major property industry sectors.

Previous certificate expires on 2017-09-07

Recertification audit ended 2017-08-09

For and on behalf of BSI:

[redacted]

Original Registration Date: 2014-09-08
Latest Revision Date: 2018-09-03

Effective Date: 2018-09-03
Expiry Date: 2020-09-07

...making excellence a habit.™

Activity C

ISO 14001 Certification

Sustainable Certification™

CERTIFICATE OF REGISTRATION

Donnelley Constructions Pty Ltd

[redacted]

has been assessed and certified as meeting the requirements of:

ISO 14001:2015

Environmental Management Systems.

For the following activities:

The design, construction, project management, construction management and development of all forms of commercial and industrial buildings and selected residential developments.

Certificate Number: 2018-4628

Certified Date: 12-8-2018

Expiry Date: 28-6-2021

Issue Date: 12-8-2018

This Certificate is valid subject to successful completion of surveillance audits.

Please visit www.sustainablecertification.com.au/verify to verify the validity of this certificate

This is a Single Site Certification

SUSTAINABLE CERTIFICATION™
ISO 14001 : 2015 Endorsed Environmental Management System

LIC.2018-4628

JAS-ANZ

www.jas-anz.org/register

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

Authorised By

[redacted]

[redacted]

Director
Sustainable Certification Pty Ltd
Level 5, 326 William Street
Melbourne 3000
Australia

Sustainable Certification™

CERTIFICATE OF REGISTRATION

Donnelley Constructions Pty Ltd

[redacted]

ISO 14001:2015

Environmental Management Systems.

Additional Information

None

Additional Facilities

None

Certified Date: 12-8-2018

Expiry Date: 28-6-2021

Issue Date: 12-8-2018

This Certificate is valid subject to successful completion of surveillance audits.

Please visit www.sustainablecertification.com.au/verify to verify the validity of this certificate

SUSTAINABLE CERTIFICATION™
ISO 14001 : 2015
Endorsed
Environmental
Management
System

LIC.2018-4628

[redacted]

JAS-ANZ

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

www.jas-anz.org/register

Appendix A6

Document Register

Document Register

Appendix Name	Contents
Appendix A1 Compliance Matrix	• Conditions of Approval (CoA) • Revised Environmental Mitigation and Management Measures (REMMM) • Environmental Performance Outcomes (EPO)
Appendix A2 Legal Requirements	• Legislation applicable to the project • TfNSW guidelines applicable to the project
Appendix A3 Environmental Risk Register	Project Environmental Risk Register
Appendix A4 Contractor Environmental Policy	Contractor Environmental Policy
Appendix A5 Environmental Management System ISO 14001 Certification	Contractor EMS ISO 14001 Certificate
Appendix A6 Document Register	• Document Register
Appendix A7 Environmental Control Maps	Environmental Control Maps
Appendix A8 Site Emergency Management Plan	Contractor Site Emergency Management Plan
Appendix A9 Approval and Endorsement Documents	Written Statements (e.g. ER endorsement / Secretary approval of CEMP)
Appendix C1 Complaints Spreadsheet	Complaints spreadsheet to record complaints if Consultation Manager is unavailable. If used, an updated spreadsheet must be sent to HAC and TfNSW within 24 hours of receipt of complaint.
Appendix C2 Sustainability Documentation	• TfNSW Sustainability Design Guideline workbook • Carbon Emission Reporting Tool • Air emissions workbook

The below documents are to be reviewed and updated by the Environmental Manager within two weeks if any of the following events occur:

- Change in Legislation
- Incident or Emergency
- Change in construction process
- Organisational Restructure

Additionally, for Activity A, the documents will be reviewed in-line with the 6 monthly internal audits.

Document Name	Document Number
Construction Environmental Management Plan	PLR-HAC-HRW-PE-PLN-000001
Appendix B1 - Construction Traffic, Transport and Access Management Sub-plan	PLR-HAC-HRW-PE-PLN-000002
Pedestrian and Cyclist Network and Facilities Strategy	PLR-HAC-HRW-PE-PLN-000010
Appendix B2 - Construction Flora and Fauna Management Sub-plan	PLR-HAC-HRW-PE-PLN-000003
Appendix B3 - Construction Noise and Vibration Management Sub-plan (and monitoring program)	PLR-HAC-HRW-NV-PLN-000001
Appendix B4 - Construction Soil and Water Quality Management Sub-plan	PLR-HAC-HRW-PE-PLN-000004
Appendix B5 - Construction Heritage Management Sub-plan	PLR-HAC-HRW-PE-PLN-000005
Historical Archaeological Research Design and Excavation Methodology (Activity A)	PLR-HAC-HRW-PE-PLN-000008
Historical Archaeological Research Design and Excavation Methodology (Activity B)	PLR-ARUP-HRW-HE-RPT-000001
Photographic Archival Recording (Activity B and C)	PLR-ARUP-HRW-HE-RPT-000002
Salvage Strategy (Activity B and C)	PLR-ARUP-HRW-HE-RPT-000003
Appendix B10 – Construction Compound Management Sub-plan (Applicable to Activity A only)	PLR-HAC-HRW-PE-PLN-000006
Appendix B11 - Construction Flood Management Sub-plan	PLR-HAC-HRW-PE-PLN-000007

Appendix A7

Environmental Control Maps

NSW GOVERNMENT

Activity A

Environmental Control Maps

Environmental Control Map: Hawkesbury Road Widening

Legend

- Watercourses
- Construction Area
- PLR Project Boundary
- Swept Path
- Haulage Routes
- Hoarding
- Stockpile Gate
- Concrete Jersey Fencing
- Cattle Grid/Wheel Washdown Facility
- Former Reserve Cemetry Area
- Heritage Structure (University Western Sydney)
- Areas of Heritage Significance
- Mons Road Stockpile

Stockpile Amenities

- Import DGB20 (100T)
- Import Sand (100T)
- Import Sands Stone (200T)
- Material Storage (300m2)
- Portable Toilet
- Site Concrete and Bitumen (400T)
- Spoil Site (400T)
- Tool Storage
- Site Compound

Site Compound Amenities

- Entry/Exit Gate - Workers
- Female Change Room
- Female Toilet/Shower
- Lunch Room
- Male Change Room
- Male Toilet/Shower
- Rainwater Tank
- Site Office
- Tool Storage

Sensitive Receivers

- Residential
- Commercial
- Place of Worship
- Medical
- Educational
- Hotels
- Childcare Centre
- Indicitive Stormwater Pits
- Indicative Stormwater Pipe Network
- Flora and Fauna Exculsion Fencing

Street Trees

- Likely Removal
- Prune
- Remove
- Retain

Tree Protection Zones (TPZ)

- Likely Removal
- Prune
- Retain

N

0 62.5 125 250

Meters

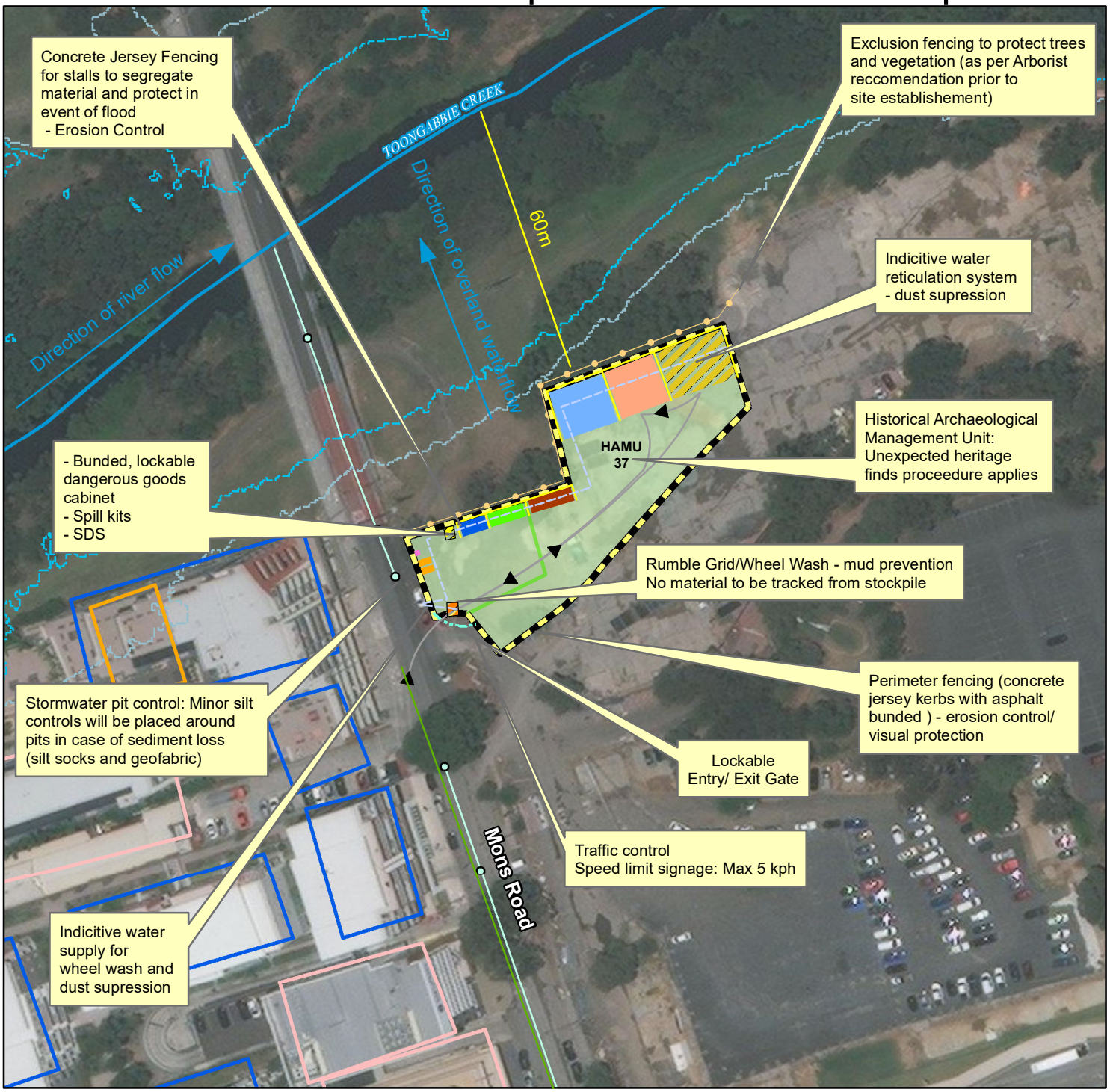
Map Number: ECM-1
Revision: 1, May 2019

No works are permitted outside the defined construction area

No contaminated material may be stockpiled

Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.

Environmental Control Map 1: Mons Road Compound



Legend

- Indicitive water reticulation system
- Flora and Fauna Exculsion Fencing
- Stockpile Gate
- Concrete Jersey Fencing
- Chemical Store
- Cattle Grid/Wheel Washdown Facility
- Construction Area
- Stockpile Fencing
- Mons Road Stockpile/HAMU 37

Sensitive Receivers

- Residential
- Medical
- Childcare Centre

- Haulage Routes
- Swept Path
- Indicitive Stormwater Pits
- Indicative Stormwater Pipe Network

Stockpile Amenities

- Import DGB20 (100T)
- Import Sand (100T)
- Import Sands Stone (200T)
- Material Storage (300m2)
- Portable Toilet
- Site Concrete and Bitumen (400T)
- Spoil Site (400T)
- Tool Storage

- Watercourses
- 1 in 20 yr Flood
- 1 in 100 yr Flood

N

0 15 30 60 Meters

Map Number: ECM-2
Revision: 1, May 2019

No works are permitted outside the defined consturuction area

No contaminated material may be stockpiled

Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.

Hawkesbury Road Widening Environmental Control Measures: Mons Road Stockpile

Stop Work Aspect	Requirements
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager and implement instructions. Follow instructions outlined in the Unexpected Heritage Finds Procedure.
Water discharge	No water is to be discharged.
Contamination/ Hazardous Materials– Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Implement the contaminated materials procedure.
Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Stop all work in vicinity immediately. Contact the Project Environmental Manager immediately and follow instruction.
Dust leaving work area	Stop dust generating work immediately. Contact Project Environmental Manager. Recommence work only when controls are implemented and effective.
Native fauna found within work site	Stop potentially impacting work. Contact Project Environmental Manager and action instructions.

Incident Response

• In the event of an environmental incident all work must stop immediately. The Environmental Manager must be contacted without delay. TfNSW must be informed immediately of the incident and all instructions given by them shall be followed.

• All incidents must be reported through INX in accordance with the Environment Incident and Classification Reporting Guidelines

Hours of Work

• Standard hours of work are: (E21 and E22)
- Monday to Friday: 7AM to 7PM
- Saturday: 8AM to 6PM
- At no time on Sundays or Public holidays

Any works outside these hours require an approved out of hours permit prior to commencing work

Highly noise intensive works are only permitted between: (E27)
- 8AM to 6PM Monday to Friday
- 8AM to 1PM Saturday
- Continuous blocks must not exceed 3hrs, with minimum 1hr respite in between blocks.

Key Project Contacts

Project Manager	[redacted]	[redacted]
Construction Environmental Manager	[redacted]	[redacted]
Superintendent	[redacted]	[redacted]
Project Engineer	[redacted]	[redacted]
Communications Manager	[redacted]	[redacted]
Foreman	[redacted]	[redacted]
Foreman	[redacted]	[redacted]
TfNSW Planning	[redacted]	[redacted]
TfNSW- PLR PM	[redacted]	[redacted]
Fire and Rescue NSW	[redacted]	[redacted]
The Ministry of Health	[redacted]	[redacted]
SafeWork NSW	[redacted]	[redacted]0
City of Parramatta Council	[redacted]	[redacted]

Community Communication

• The road and pedestrian pathway outside the site will be kept clean and free from obstructions

• TfNSW signage is to be erected and maintained for the duration of the project.

• If you are approached by the member of the community Be polite, professional and courteous

•If a community member has a general enquiry you are able answer, please do so

•If a community member has a complaint or requires further information

1.Listen and acknowledge

2.Inform your supervisor

3.Record the complaint or comment in the comment register

4. Provide a copy of the comment register to the Communications Manager to follow up ASAP.

5.Provide the member of the public the 24 hr Project Information Line phone number 1800 139 389

Construction Guidelines

• Works are only permitted within the defined construction area

• All mitigation measures identified in this ECM must be implemented

• Staff are to be inducted and trained on the requirements of this ECM.

• Stockpiles to be covered and stabilised prior to rain

• No contaminated materials to be stockpiled

• Hardstand areas are to be maintained and re-instated at the conclusion of construction

• Deposition of soil on to public roads will be prevented through rumble grids/wheel washes/cleaning of loose material off tailgates

Traffic and Transport

• All haulage vehicles to follow the defined haulage routes

• All construction vehicles to follow the defined swept paths – refer to Traffic, Transport and Access Management Plan for detailed drawings

• Traffic management measures identified in the ROL and Traffic, Transport and Access Management Plan (TTAMP) will be implemented.

Flora and Fauna

• No trees to be removed or pruned other than those identified in the ECM

• Temporary fencing is to be erected around trees as identified in the ECM for the duration of construction

• If wildlife is encountered on site do not approach and contact WIRES (1300 094 737)

Air Quality

• Vehicles and machinery are to be switched off when not in use.

• Water works areas as necessary to minimise the generation of dust

• Ensure all loads are covered when materials are being hauled to and from site

• All on-road trucks and equipment to comply with the relevant Australian emission standards and maintained to minimise emissions

Waste and Recycling

• Waste types are to be separated and recycled where possible

• Waste to be disposed of at an appropriately licensed facility

• Waste volumes to be tracked and recorded

• Contaminated material must be disposed of as per Unexpected finds – SWMS 005044

Chemical and Fuel Storage

• Any chemicals on site must be accompanied by a safety data sheet (SDS)

• A fully stocked spill kit is to be located onsite at all times. The location of the spill kit will be communicated during morning pre-start.

• All spills and leaks would be reported to site managers

• Plant is to be checked daily for leaks

• Where possible refuelling is to be conducted offsite. Where necessary, refuelling is to be conducted on a hardstand area using appropriate equipment

Noise and Vibration

Consultation

• Consultation to identify sensitive noise times shall be carried out with nearby schools, childcare centres and Westmead Hospital

• Notification of noisy works shall be provided as early as possible

Site Planning

• High noise and vibration generating activities to be scheduled outside sensitive time periods

• Select quieter equipment and construction methods; (e.g.'quacker' alarm is preferable to 'beeper' alarm

• Respite periods must be provided to sensitive receivers within defined Hours of Work for activities that exceed the Highly Noise Affected Level of 75 dB (LAeq,15 minute) or outside the defined Hours of Work for activities exceed the Highly Noise Affected Level of 65 dB (LAeq,15 minute)

• High noise generating activities must only be undertaken in continuous blocks not exceeding three (3) hours each with a minimum respite from those activities and works of not less than one (1) hour between each block.

Work Practices

• Avoid noisy plant operating simultaneously

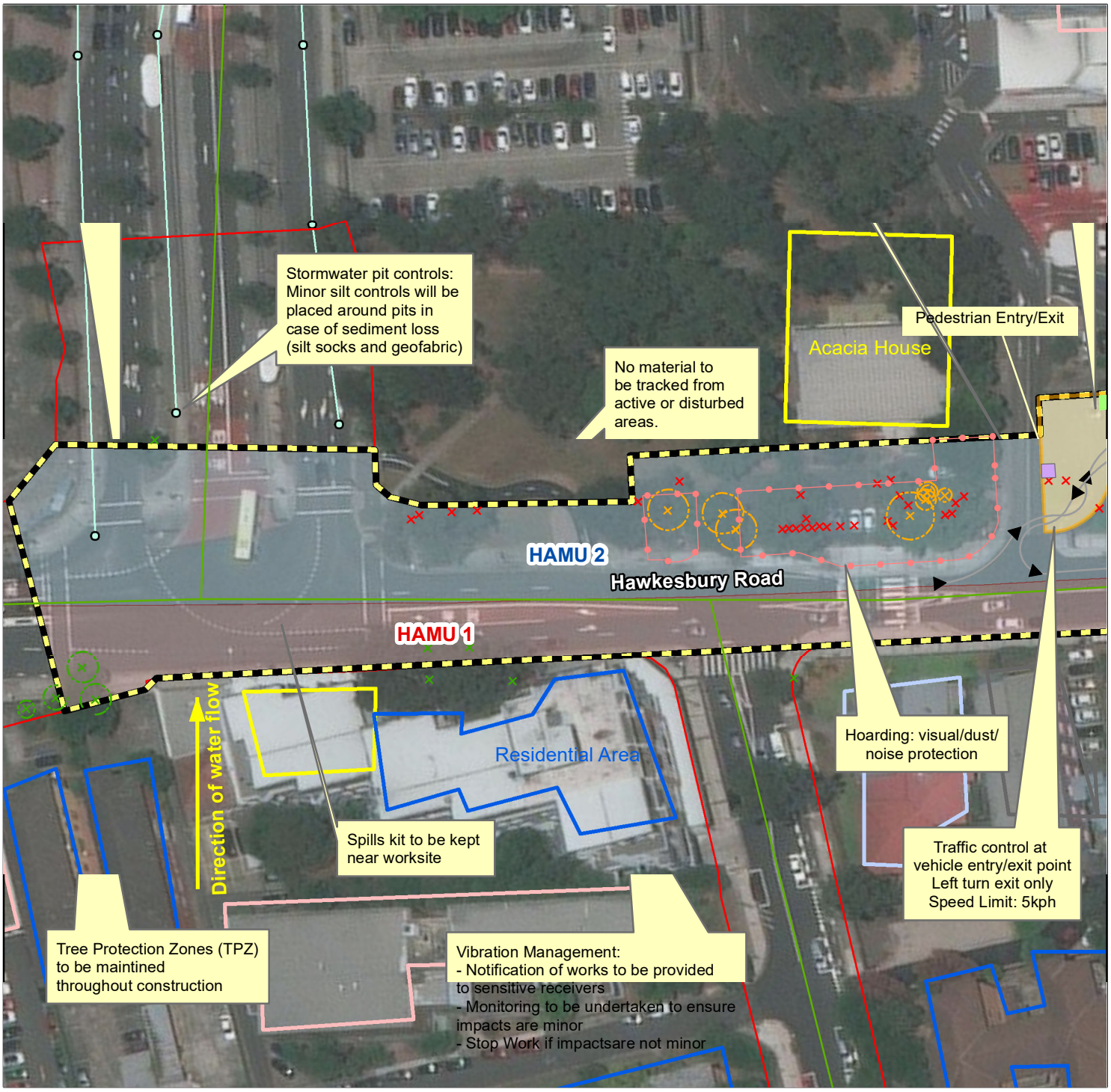
• No unnecessary shouting, use of loud radios or dropping material from height is permitted

Source Mitigation Measures

• Provide shielding around stationary noise sources and temporary fencing around work areas

• Maintain safe working distances

Environmental Control Map 2: Hawkesbury Road Works Area



Legend

- Swept Path
- PLR Project Boundary
- Construction Area
- Site Compound
- Site Compound Fencing

Sensitive Receivers

- Residential
- Commercial
- Place of Worship
- Medical
- Hotels

- Haulage Routes
- Hoarding
- Indicitive Stormwater Pits
- Indicative Stormwater Pipe Network

Street Trees

- Likely Removal
- Remove
- Retain

Tree Protection Zones (TPZ)

- Likely Removal
- Retain

Site Compound Amenities

- Entry/Exit Gate - Workers
- Site Office

0 10 20 40 Meters

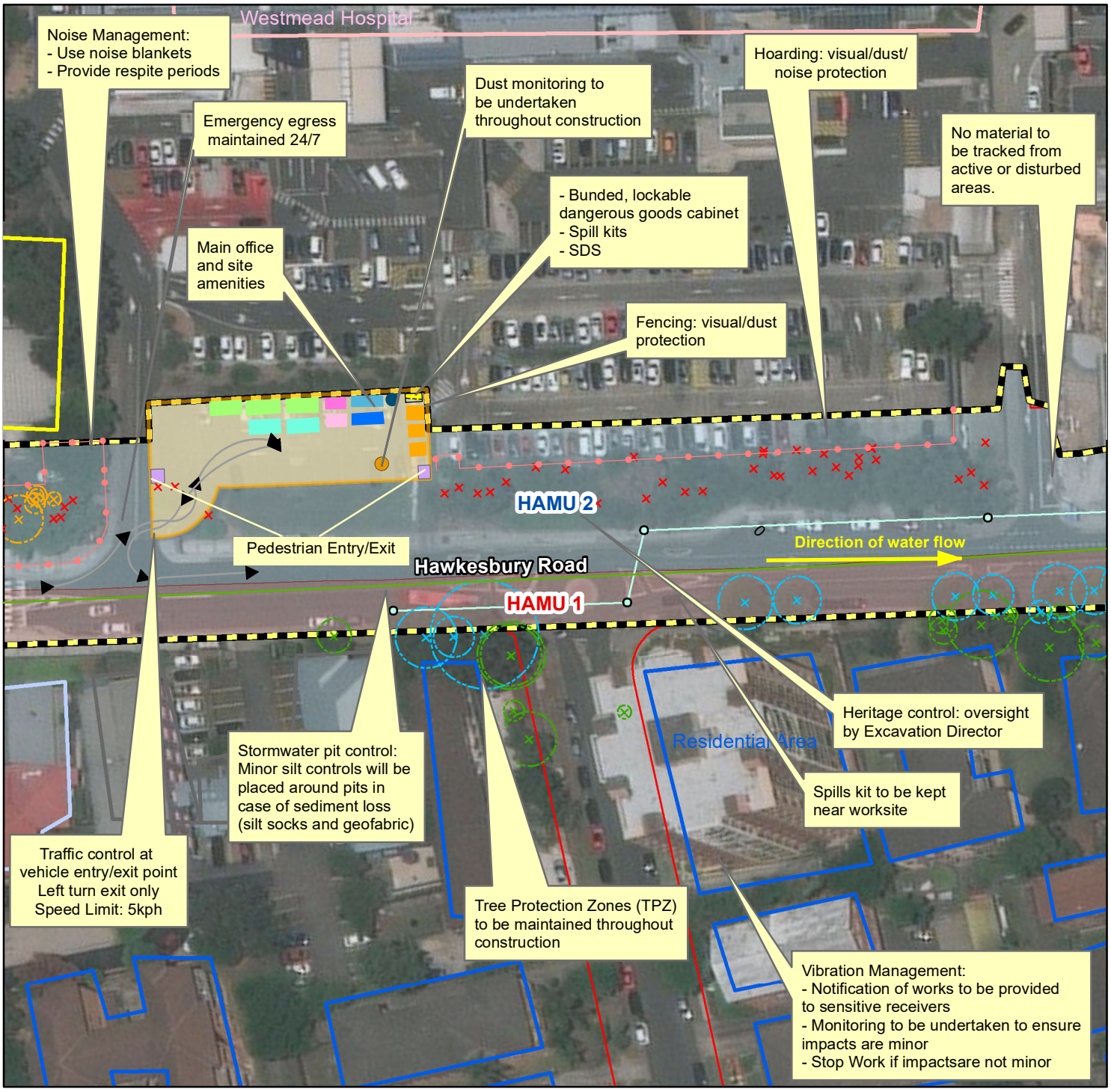
N

No works are permitted outside the defined consturuction area

Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.

Map Number: ECM-3
Revision: 1, May 2019

Environmental Control Map 3: Hawkesbury Road Compound



Legend

- Swept Path
- PLR Project Boundary
- Construction Area
- Site Compound
- Site Compound Fencing

Sensitive Receivers

- Residential
- Commercial
- Place of Worship
- Medical
- Hotels
- Dust Deposition Gauge

Site Compound Amenities

- Entry/Exit Gate - Workers
- Female Change Room
- Female Toilet/Shower
- Lunch Room
- Male Change Room
- Male Toilet/Shower
- Rainwater Tank
- Site Office
- Tool Storage
- Chemical Store

- Haulage Routes
- Hoarding
- Indicitive Stormwater Pits
- Indicative Stormwater Pipe Network

0 10 20 40 Meters

Street Trees

- Likely Removal
- Prune
- Remove
- Retain

Tree Protection Zones (TPZ)

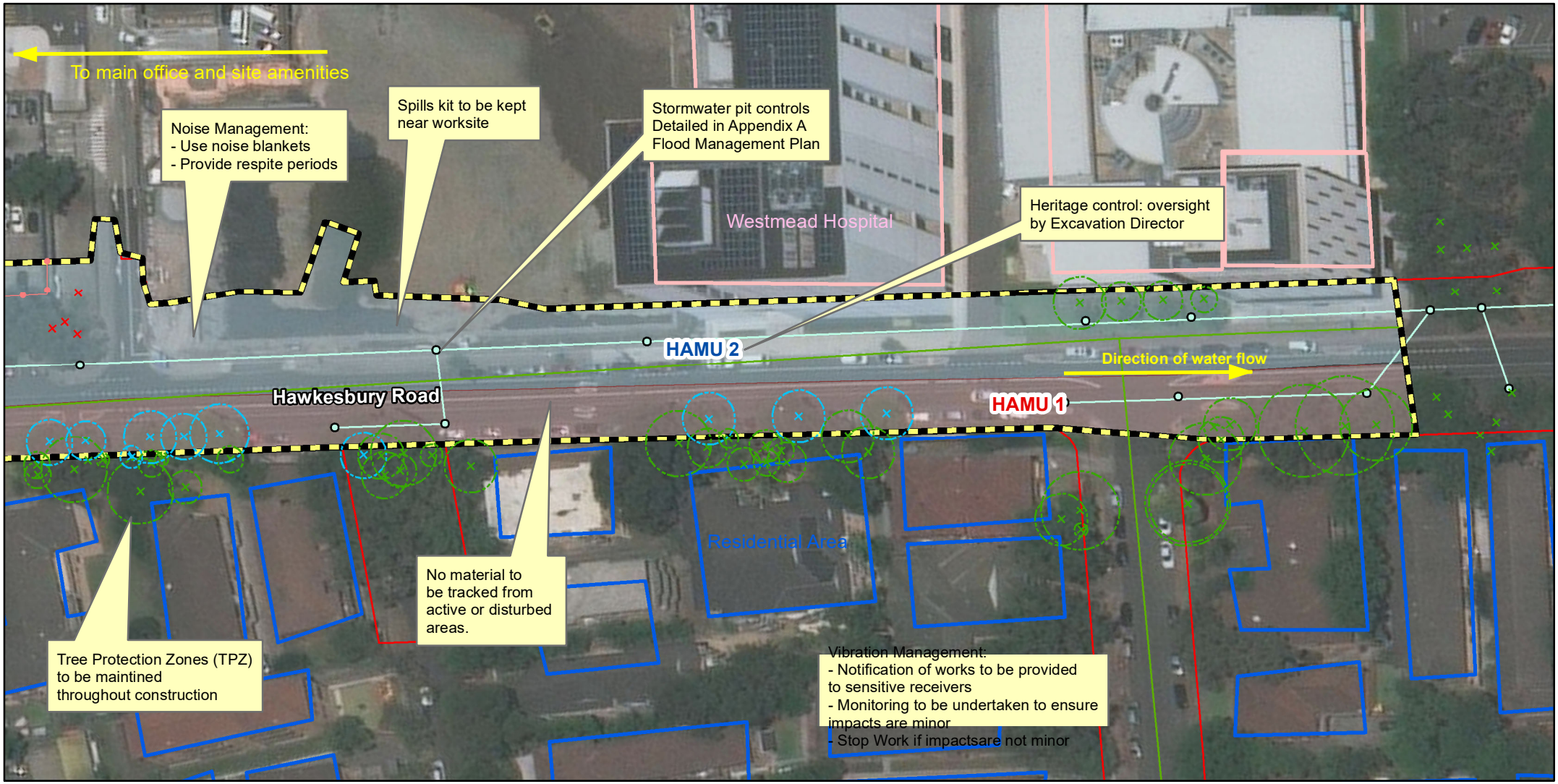
- Likely Removal
- Prune
- Retain

Map Number: ECM-4
Revision: 2, August 2019

No works are permitted outside the defined construction area.

Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.

Environmental Control Map 4: Hawkesbury Road Works Area



Legend

- PLR Project Boundary
- Construction Area

Sensitive Receivers

- Residential
- Medical

- Haulage Routes
- Indicitive Stormwater Pits
- Indicative Stormwater Pipe Network
- Hoarding

Street Trees

- Prune
- Remove
- Retain

Tree Protection Zones (TPZ)

- Prune
- Retain

No works are permitted outside the defined construction area

Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.

0 10 20 40 Meters

Map Number: ECM-5
Revision: 1, May 2019

Hawkesbury Road Widening Environmental Control Measures: Site Compound

Stop Work Aspect	Requirements
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager and implement instructions. Follow instructions outlined in the Unexpected Heritage Finds Procedure.
Water discharge	No water is to be discharged.
Contamination/ Hazardous Materials– Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Implement the contaminated materials procedure.
Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Stop all work in vicinity immediately. Contact the Project Environmental Manager immediately and follow instruction.
Dust leaving work area	Stop dust generating work immediately. Contact Project Environmental Manager. Recommence work only when controls are implemented and effective.
Native fauna found within work site	Stop potentially impacting work. Contact Project Environmental Manager and action instructions.

Incident Response

• In the event of an environmental incident all work must stop immediately. The Environmental Manager must be contacted without delay. TfNSW must be informed immediately of the incident and all instructions given by them shall be followed.
• All incidents must be reported through INX in accordance with the Environment Incident and Classification Reporting Guidelines

Hours of Work

• Standard hours of work are: (E21 and E22)
  • Monday to Friday: 7AM to 7PM
  • Saturday: 8AM to 6PM
  • At no time on Sundays or Public holidays
  Any works outside these hours require an approved out of hours permit prior to commencing work
• Highly noise intensive works are only permitted between: (E27)
  • 8AM to 6PM Monday to Friday
  • 8AM to 1PM Saturday
  • Continuous blocks must not exceed 3hrs, with minimum 1hr respite in between blocks.

Key Project Contacts		
Project Manager	[redacted]	[redacted]
Construction Environmental Manager		
Superintendent		
Project Engineer		
Communications Manager		
Foreman		
Foreman		
TfNSW Planning		
TfNSW- PLR PM		
Fire and Rescue NSW		
The Ministry of Health		
SafeWork NSW		
City of Parramatta Council		

Community Communication

• If you are approached by the member of the community Be polite, professional and courteous
•If a community member has a general enquiry you are able answer, please do so
•If a community member has a complaint or requires further information
1.Listen and acknowledge
2.Inform your supervisor
3.Record the complaint or comment in the comment register
4. Provide a copy of the comment register to the Communications Manager to follow up ASAP.
5.Provide the member of the public the 24 hr Project Information Line phone number 1800 139 389

Erosion and Sediment Control

• Erosion sediment controls devices shall be constructed and maintained in accordance with
Soils and Construction. Landcom, (4th Edition) March 2004 (reprinted 2006) (the "Blue Book"). Volume 1 and Volume 2
• Monitor erosion sediment controls to ensure that no material, including sedimentation or oil is tracked from active or disturbed areas.

Construction Guidelines

• Works are only permitted within the defined construction area
• All mitigation measures identified in this ECM must be implemented
• Staff are to be inducted and trained on the requirements of this ECM.
• The road and pedestrian pathway outside the site will be kept clean and free from obstructions
• TfNSW signage is to be erected and maintained for the duration of the project.

Flora and Fauna

• No trees to be removed or pruned other than those identified in the ECM
• The Project Arborist and experience and licensed fauna spotter/ catcher must be on site for any tree removal.
• Temporary fencing is to be erected around trees as identified in the ECM for the duration of construction
• If wildlife is encountered on site do not approach and contact WIRES (1300 094 737)

Air Quality

• Vehicles and machinery are to be switched off when not in use.
• Water works areas as necessary to minimise the generation of dust
• Ensure all loads are covered when materials are being hauled to and from site
• All on-road trucks and equipment to comply with the relevant Australian emission standards and maintained to minimise emissions

Waste and Recycling

• Waste types are to be separated and recycled where possible
• Waste to be disposed of at a licensed facility
• Waste volumes to be tracked and recorded
• Contaminated material must be disposed of as per Unexpected finds – SWMS 005044

Heritage

• The Excavation Director would oversee archaeological works.
• The Excavation Director would attend site where required to appropriately manage archaeological works. The Excavation Director would have the authority to advise on the duration and extent of oversight required during excavation.

Chemical and Fuel Storage

• Any chemicals on site must be accompanied by a safety data sheet (SDS)
• A fully stocked spill kit is to be located onsite at all times. The location of the spill kit will be communicated during morning pre-start.
• All spills and leaks would be reported to site managers
• Plant is to be checked daily for leaks
• Where possible refuelling is to be conducted offsite. Where necessary, refuelling is to be conducted on a hardstand area using appropriate equipment

Noise and Vibration

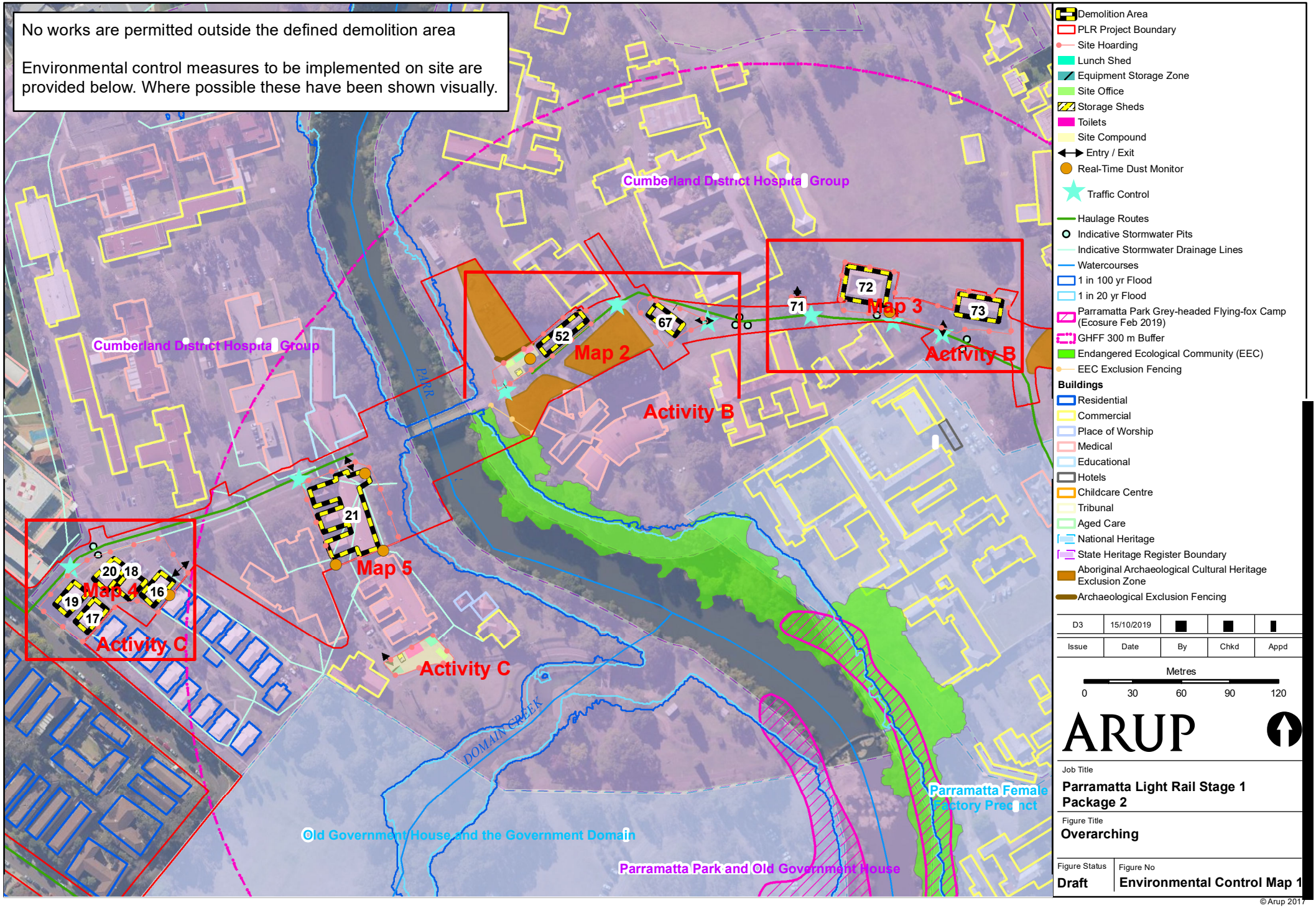
• Notification of noisy works shall be provided as early as possible
• High noise and vibration generating activities to be scheduled outside sensitive time periods
• Select quieter equipment and construction methods
• Respite periods must be provided to sensitive receivers within defined Hours of Work for activities that exceed the Highly Noise Affected Level of 75 dB (LAeq,15 minute) or outside the defined Hours of Work for activities exceed the Highly Noise Affected Level of 65 dB (LAeq,15 minute)
• High noise generating activities must only be undertaken in continuous blocks not exceeding three (3) hours each with a minimum respite from those activities and works of not less than one (1) hour between each block.
• Avoid noisy plant operating simultaneously
• No unnecessary shouting, use of loud radios
• Provide shielding around stationary noise sources and temporary fencing around work areas
• Maintain safe working distances

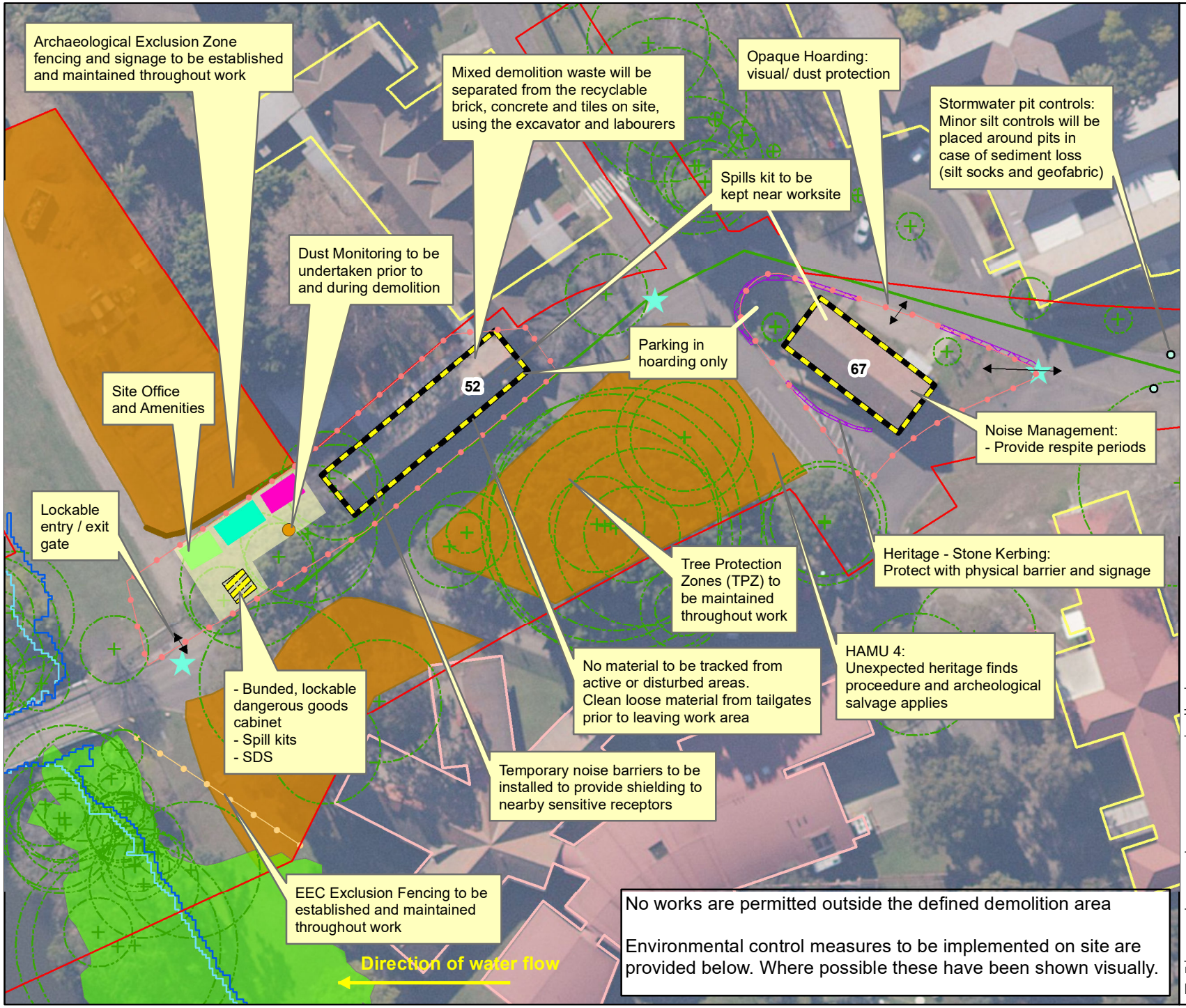
Traffic and Transport

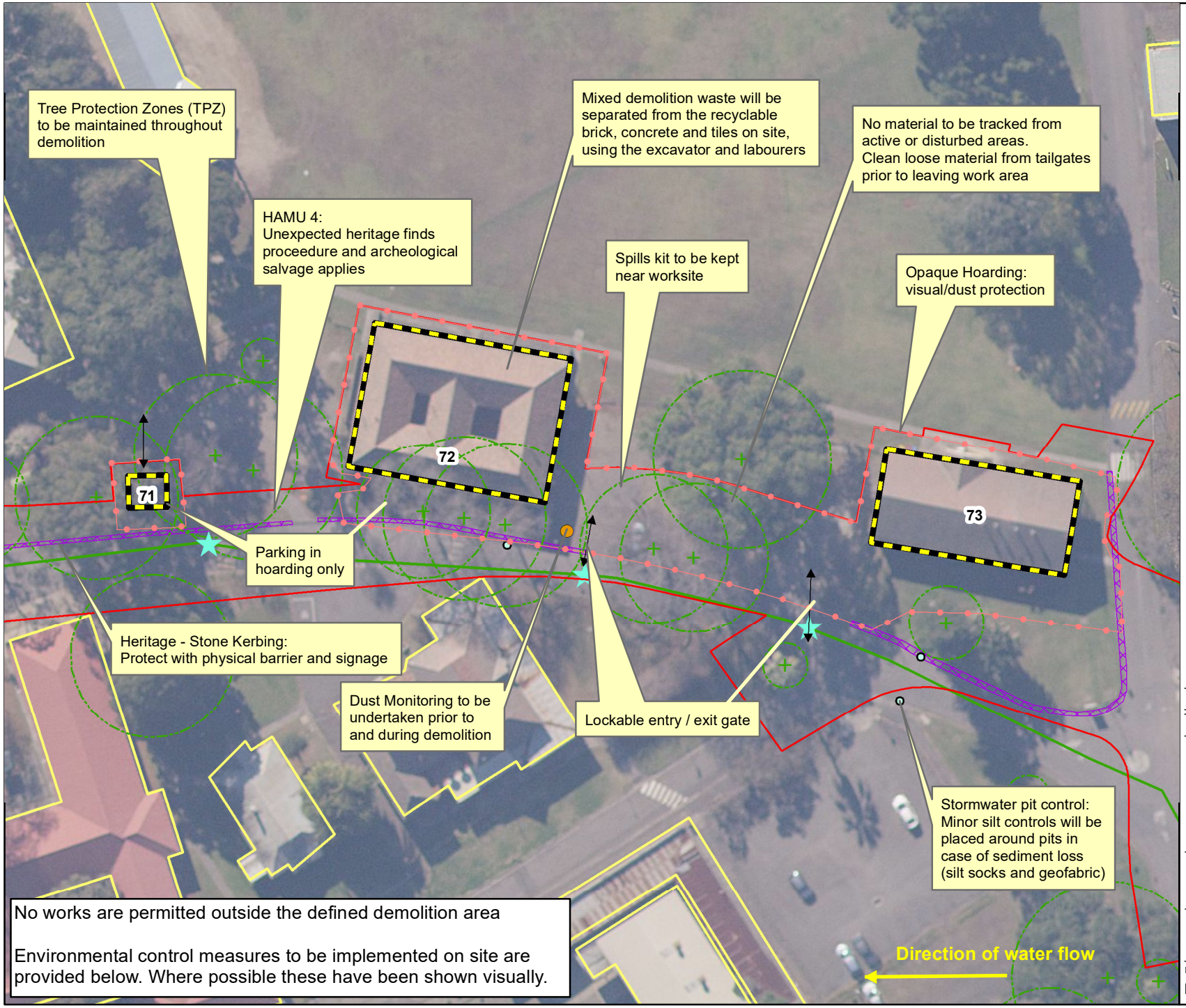
• All haulage vehicles to follow the defined haulage routes
• All construction vehicles to follow the defined swept paths – refer to Traffic, Transport and Access Management Plan for detailed drawings
• Deposition of soil on to public roads will be prevented through cleaning of loose material off tailgates
• Traffic management measures identified in the ROL and Traffic, Transport and Access Management Plan (TTAMP) will be implemented.

Activity B

Environmental Control Maps


No works are permitted outside the defined demolition area
Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.
Cumberland District Hospital Group
Cumberland District Hospital Group
Map 2
Map 3
Map 4
Map 5
Activity B
Activity B
Activity C
Activity C
52
67
71
72
73
16
17
18
19
20
21
PARR
DOMAIN CREEK
Old Government House and the Government Domain
Parramatta Park and Old Government House
Parramatta Female Factory Precinct
Demolition Area
PLR Project Boundary
Site Hoarding
Lunch Shed
Equipment Storage Zone
Site Office
Storage Sheds
Toilets
Site Compound
Entry / Exit
Real-Time Dust Monitor
Traffic Control
Haulage Routes
Indicative Stormwater Pits
Indicative Stormwater Drainage Lines
Watercourses
1 in 100 yr Flood
1 in 20 yr Flood
Parramatta Park Grey-headed Flying-fox Camp (Ecosure Feb 2019)
GHFF 300 m Buffer
Endangered Ecological Community (EEC)
EEC Exclusion Fencing
Buildings
Residential
Commercial
Place of Worship
Medical
Educational
Hotels
Childcare Centre
Tribunal
Aged Care
National Heritage
State Heritage Register Boundary
Aboriginal Archaeological Cultural Heritage Exclusion Zone
Archaeological Exclusion Fencing
D3
15/10/2019
Issue
Date
By
Chkd
Appd
Metres
0
30
60
90
120
ARUP
Job Title
Parramatta Light Rail Stage 1 Package 2
Figure Title
Overarching
Figure Status
Draft
Figure No
Environmental Control Map 1


Archaeological Exclusion Zone fencing and signage to be established and maintained throughout work
Mixed demolition waste will be separated from the recyclable brick, concrete and tiles on site, using the excavator and labourers
Opaque Hoarding: visual/ dust protection
Stormwater pit controls: Minor silt controls will be placed around pits in case of sediment loss (silt socks and geofabric)
Spills kit to be kept near worksite
Dust Monitoring to be undertaken prior to and during demolition
Parking in hoarding only
52
67
Site Office and Amenities
Noise Management:
- Provide respite periods
Lockable entry / exit gate
Tree Protection Zones (TPZ) to be maintained throughout work
Heritage - Stone Kerbing: Protect with physical barrier and signage
- Bunded, lockable dangerous goods cabinet
- Spill kits
- SDS
No material to be tracked from active or disturbed areas. Clean loose material from tailgates prior to leaving work area
HAMU 4: Unexpected heritage finds proceedure and archeological salvage applies
Temporary noise barriers to be installed to provide shielding to nearby sensitive receptors
EEC Exclusion Fencing to be established and maintained throughout work
Direction of water flow
No works are permitted outside the defined demolition area
Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.
Stone Kerbing
Demolition Area
Site Amenities
Lunch Shed
Site Office
Storage Sheds
Toilets
PLR Project Boundary
Site Hoarding
Site Compound
Entry / Exit
Real-Time Dust Monitor
Traffic Control
Haulage Routes
Indicative Stormwater Pits
in 100 yr Flood 1
in 20 yr Flood 1
Street Trees (Retained)
Tree Protection Zone (TPZ) Indicative
GHFF 300 m Buffer
Endangered Ecological Community (EEC)
EEC Exclusion Fencing
Buildings
Residential
Commercial
Place of Worship
Medical
Educational
Hotels
Childcare Centre
Tribunal
Aged Care
Archaeological Exclusion Fencing
Aboriginal Archaeological Cultural Heritage Exclusion Zone
D6
14/01/2020
Issue
Date
By
Chkd
Appd
Metres
0
9
18
27
36
ARUP
Job Title
Parramatta Light Rail Stage 1 Package 2
Figure Title
Activity B, Cumberland East Area 1
Figure Status
Draft
Figure No
Environmental Control Map 2



Stone Kerbing
Demolition
PLR Project Boundary
Site Hoarding
Entry / Exit
Real-Time Dust Monitor
Traffic Control
Haulage Routes
Indicative Stormwater Pits
Street Trees (Retained)
Tree Protection Zone (TPZ) Indicative
GHFF 300 m Buffer

Buildings

Residential
Commercial
Place of Worship
Medical
Educational
Hotels
Childcare Centre
Tribunal
Aged Care

Issue	Date	By	Chkd	Appd
D6	14/01/2020			

Metres

0 8.5 17 25.5 34

ARUP

Job Title
Parramatta Light Rail Stage 1 Package 2

Figure Title
Activity B, Cumberland East Area 2

Figure Status
Draft

Figure No
Environmental Control Map 3

Activity B (Cumberland East) Environmental Control Measures

Stop Work Aspect	Requirements
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager and implement instructions. Follow instructions outlined in the Unexpected Heritage Finds Procedure.
Water discharge	No water is to be discharged.
Contamination/ Hazardous Materials– Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Implement the contaminated materials procedure.
Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Stop all work in vicinity immediately. Contact the Project Environmental Manager immediately and follow instruction.
Dust leaving work area	Stop dust generating work immediately. Contact Project Environmental Manager. Recommence work only when controls are implemented and effective.
Native fauna found within work site	Stop potentially impacting work. Contact Project Environmental Manager and action instructions.

Incident Response

• In the event of an environmental incident all work must stop immediately. The Environmental Manager must be contacted without delay. TfNSW must be informed immediately of the incident and all instructions given by them shall be followed.
• All incidents must be reported through INX in accordance with the Environment Incident and Classification Reporting Guidelines

Hours of Work

• Standard hours of work are: (E21 and E22)
  • Monday to Friday: 7AM to 7PM
  • Saturday: 8AM to 6PM
  • At no time on Sundays or Public holidays
  Any works outside these hours require an approved out of hours permit prior to commencing work
• Highly noise intensive works are only permitted between: (E27)
  • 8AM to 6PM Monday to Friday
  • 8AM to 1PM Saturday
  • Continuous blocks must not exceed 3hrs, with minimum 1hr respite in between blocks.

Key Project Contacts

Project Manager	[redacted]	[redacted]
Construction Environmental Manager		
Superintendent	[redacted]	[redacted]
Project Engineer		
Communications Manager		
Foreman	[redacted]	[redacted]
TfNSW Planning		
TfNSW- PLR PM		
Fire and Rescue NSW		
The Ministry of Health	[redacted]	[redacted]
SafeWork NSW	[redacted]	[redacted]
City of Parramatta Council	[redacted]	[redacted]

Community Communication

• If you are approached by the member of the community Be polite, professional and courteous
•If a community member has a general enquiry you are able answer, please do so
•If a community member has a complaint or requires further information
1.Listen and acknowledge
2.Inform your supervisor
3.Record the complaint or comment in the comment register
4. Provide a copy of the comment register to the Communications Manager to follow up ASAP.
5.Provide the member of the public the 24 hr Project Information Line phone number 1800 139 389

Erosion and Sediment Control

• Erosion sediment controls devices shall be constructed and maintained in accordance with
Soils and Construction. Landcom, (4th Edition) March 2004 (reprinted 2006) (the "Blue Book"). Volume 1 and Volume 2
• Monitor erosion sediment controls to ensure that no material, including sedimentation or oil is tracked from active or disturbed areas.
• No contaminated materials to be stockpiled
• Deposition of soil on to public roads will be prevented through cleaning of loose material off tailgates
• In in the event of a flood warning for the Paramatta River, sand bags will be placed around work areas to divert water flow around the site.
• Erosion and sediment controls shall be placed to prevent sediment laden water from leaving the work zones

Construction Guidelines

• Works are only permitted within the defined demolition area
• All mitigation measures identified in this ECM must be implemented
• Staff are to be inducted and trained on the requirements of this ECM.
• The road and pedestrian pathway outside the site will be kept clean and free from obstructions
• TfNSW signage is to be erected and maintained for the duration of the project.
• All gates to have locks for security
• Opaque hoarding will be used for the privacy of sensitive receivers

Flora and Fauna

• No trees to be removed or pruned
• TPZ, as identified in the ECM is to be maintained for the duration of works
• Erect and maintain exclusion fencing
• Work in a TPZ must only be undertaken under guidance from project arborist
• Use of directional lighting to minimise light spill toward camp and riparian vegetation along the Parramatta River
• Above-ground powerlines should be bunded/spaced to avoid electrocution of fauna
• All site personnel inducted/briefed on Grey-headed Flying-fox threatened status
• If wildlife is encountered on site do not approach and contact WIRES (1300 094 737)

Air Quality

• Vehicles and machinery are to be switched off when not in use.
• Water works areas as necessary to minimise the generation of dust
• Ensure all loads are covered when materials are being hauled to and from site
• All on-road trucks and equipment to comply with the relevant Australian emission standards and maintained to minimise emissions

Waste and Recycling

• Waste types are to be separated and recycled where possible
• Waste to be disposed of at a licensed facility
• Waste volumes to be tracked and recorded
• Contaminated material must be disposed of at a licenced facility
• Mixed demolition waste will be separated from the recyclable brick, concrete and tiles on site, using the excavator and labourers

Traffic and Transport

• All haulage vehicles to follow the defined haulage routes
• All construction vehicles to follow the defined swept paths – refer to Traffic, Transport and Access Management Plan for detailed drawings
• Traffic management measures identified in the ROL and Traffic, Transport and Access Management Plan (TTAMP) will be implemented.

Chemical and Fuel Storage

• Any chemicals on site must be accompanied by a safety data sheet (SDS)
• A fully stocked spill kit is to be located onsite at all times. The location of the spill kit will be communicated during morning pre-start.
• All spills and leaks would be reported to site managers
• Plant is to be checked daily for leaks
• Where possible refuelling is to be conducted offsite. Where necessary, refuelling is to be conducted on a hardstand area using appropriate equipment

Noise and Vibration

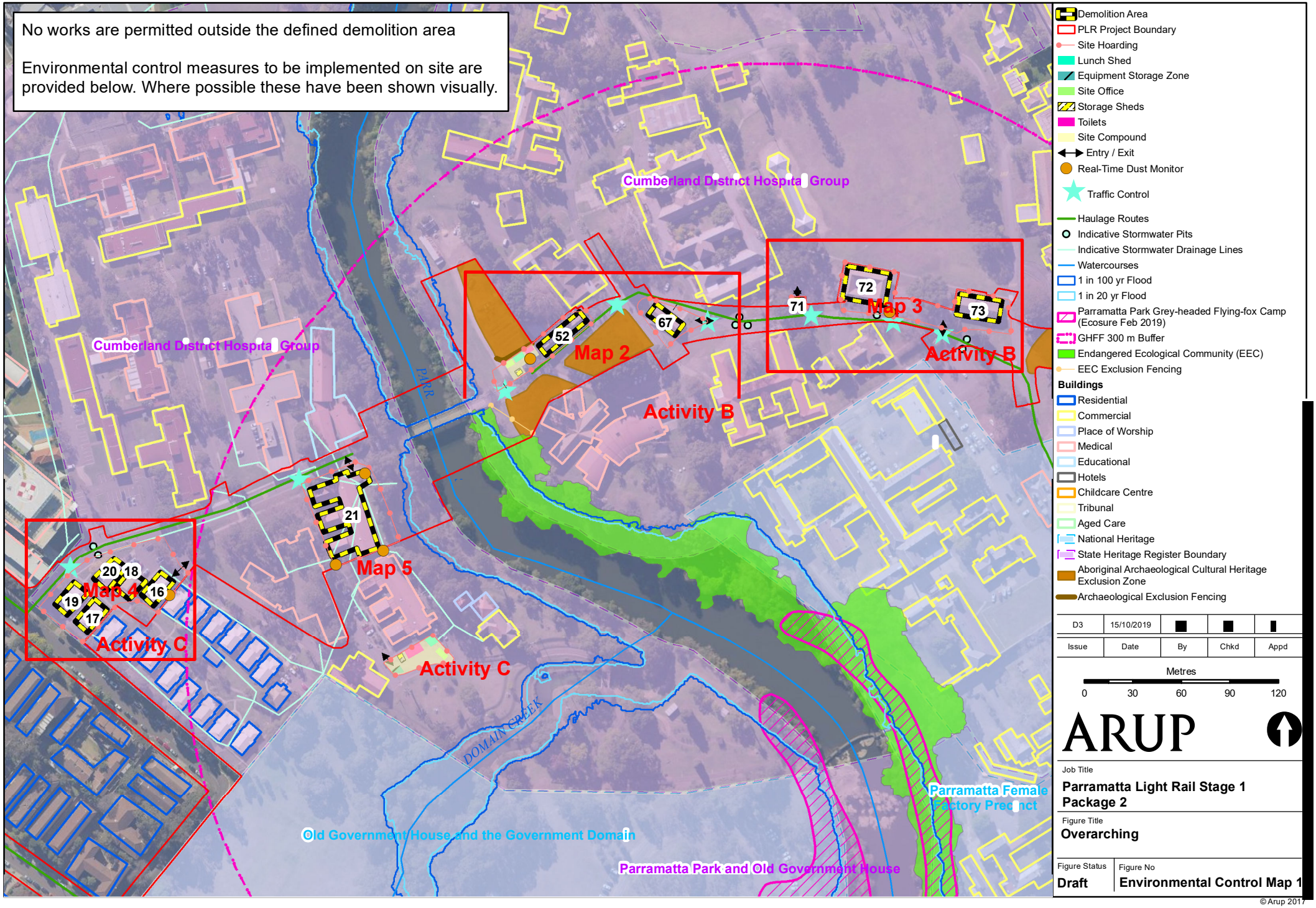
• Notification of noisy works shall be provided as early as possible
• Consultation to identify sensitive noise times shall be carried out with Cumberland Hospital
• High noise and vibration generating activities to be scheduled outside sensitive time periods
• Select quieter equipment and work methods
• Respite periods must be provided to sensitive receivers within defined Hours of Work for activities that exceed the Highly Noise Affected Level of 75 dB (LAeq,15 minute) or outside the defined Hours of Work for activities exceed the Highly Noise Affected Level of 65 dB (LAeq,15 minute)
• High noise generating activities must only be undertaken in continuous blocks not exceeding three (3) hours each with a minimum respite from those activities and works of not less than one (1) hour between each block.
• Avoid noisy plant operating simultaneously
• No unnecessary shouting, use of loud radios
• Provide shielding around stationary noise sources and temporary fencing around work areas
• Maintain safe working distances

Heritage

• The Excavation Director would oversee archaeological works.
• The Excavation Director would attend site where required to appropriately manage archaeological works. The Excavation Director would have the authority to advise on the duration and extent of oversight required during excavation.
• A Heritage Archival Recording and Salvage Report must be prepared by the proponent.
• Exclusion fencing of Aboriginal Archaeological Cultural Heritage to be established as shown on map

Activity C

Environmental Control Maps


No works are permitted outside the defined demolition area
Environmental control measures to be implemented on site are provided below. Where possible these have been shown visually.
Cumberland District Hospital Group
Cumberland District Hospital Group
Map 2
Map 3
Map 4
Map 5
Activity B
Activity B
Activity C
Activity C
52
67
71
72
73
16
17
18
19
20
21
PARR
DOMAIN CREEK
Old Government House and the Government Domain
Parramatta Park and Old Government House
Parramatta Female Factory Precinct
Demolition Area
PLR Project Boundary
Site Hoarding
Lunch Shed
Equipment Storage Zone
Site Office
Storage Sheds
Toilets
Site Compound
Entry / Exit
Real-Time Dust Monitor
Traffic Control
Haulage Routes
Indicative Stormwater Pits
Indicative Stormwater Drainage Lines
Watercourses
1 in 100 yr Flood
1 in 20 yr Flood
Parramatta Park Grey-headed Flying-fox Camp (Ecosure Feb 2019)
GHFF 300 m Buffer
Endangered Ecological Community (EEC)
EEC Exclusion Fencing
Buildings
Residential
Commercial
Place of Worship
Medical
Educational
Hotels
Childcare Centre
Tribunal
Aged Care
National Heritage
State Heritage Register Boundary
Aboriginal Archaeological Cultural Heritage Exclusion Zone
Archaeological Exclusion Fencing
D3
15/10/2019
Issue
Date
By
Chkd
Appd
Metres
0
30
60
90
120
ARUP
Job Title
Parramatta Light Rail Stage 1 Package 2
Figure Title
Overarching
Figure Status
Draft
Figure No
Environmental Control Map 1

Demolition
PLR Project Boundary
Site Hoarding
Entry / Exit
Real-Time Dust Monitor
Traffic Control
Haulage Routes
Indicative Stormwater Pits
Indicative Stormwater Drainage Lines
Street Trees (Retained)
Tree Protection Zone (TPZ) Indicative
GHFF 300 m Buffer

Buildings

Residential
Commercial
Place of Worship
Medical
Educational
Hotels
Childcare Centre
Tribunal
Aged Care

Issue	Date	By	Chkd	Appd
D6	14/01/2020			

Metres

0 5.5 11 16.5 22

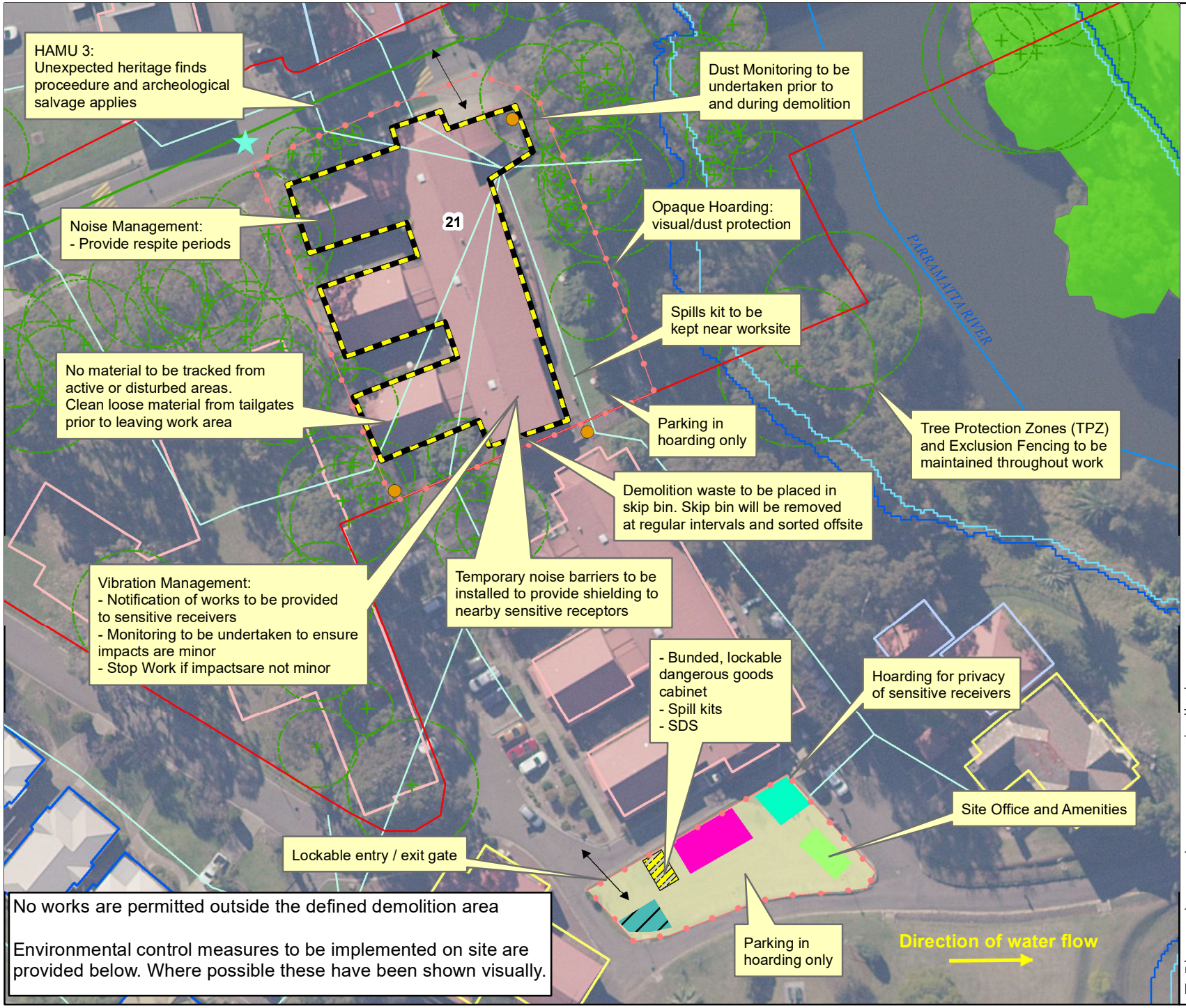
ARUP

Job Title
Parramatta Light Rail Stage 1 Package 2

Figure Title
Activity C, Cumberland West Area 1

Figure Status
Draft

Figure No
Environmental Control Map 4



Demolition

Site Amenities

- Lunch Shed
- Equipment Storage Zone
- Site Office
- Storage Sheds
- Toilets
- PLR Project Boundary
- Site Hoarding
- Site Compound
- Entry / Exit
- Real-Time Dust Monitor
- Traffic Control
- Haulage Routes
- Indicative Stormwater Drainage Lines
- Watercourses
- in 100 yr Flood 1
- in 20 yr Flood 1
- Street Trees (Retained)
- Tree Protection Zone (TPZ) Indicative
- GHFF 300 m Buffer
- Endangered Ecological Community (EEC)

Buildings

- Residential
- Commercial
- Place of Worship
- Medical
- Educational
- Hotels
- Childcare Centre
- Tribunal
- Aged Care

Issue	Date	By	Chkd	Appd
D6	14/01/2020			

Metres

0 9.5 19 28.5 38

ARUP

Job Title
Parramatta Light Rail Stage 1 Package 2

Figure Title
Activity C, Cumberland West Area 2

Figure Status
Draft

Figure No
Environmental Control Map 5

Activity C (Cumberland West) Environmental Control Measures

Stop Work Aspect	Requirements
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager and implement instructions. Follow instructions outlined in the Unexpected Heritage Finds Procedure.
Water discharge	No water is to be discharged.
Contamination/ Hazardous Materials– Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Implement the contaminated materials procedure.
Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Stop all work in vicinity immediately. Contact the Project Environmental Manager immediately and follow instruction.
Dust leaving work area	Stop dust generating work immediately. Contact Project Environmental Manager. Recommence work only when controls are implemented and effective.
Native fauna found within work site	Stop potentially impacting work. Contact Project Environmental Manager and action instructions.

Incident Response

• In the event of an environmental incident all work must stop immediately. The Environmental Manager must be contacted without delay. TfNSW must be informed immediately of the incident and all instructions given by them shall be followed.
• All incidents must be reported through INX in accordance with the Environment Incident and Classification Reporting Guidelines

Hours of Work

• Standard hours of work are: (E21 and E22)
  • Monday to Friday: 7AM to 7PM
  • Saturday: 8AM to 6PM
  • At no time on Sundays or Public holidays
  Any works outside these hours require an approved out of hours permit prior to commencing work
• Highly noise intensive works are only permitted between: (E27)
  • 8AM to 6PM Monday to Friday
  • 8AM to 1PM Saturday
  • Continuous blocks must not exceed 3hrs, with minimum 1hr respite in between blocks.

Key Project Contacts

Project Manager	[redacted]	[redacted]
Construction Environmental Manager		
Superintendent	[redacted]	[redacted]
Project Engineer	[redacted]	[redacted]
Communications Manager		
Foreman	[redacted]	[redacted]
TfNSW Planning	[redacted]	[redacted]
TfNSW- PLR PM	[redacted]	[redacted]
Fire and Rescue NSW	[redacted]	[redacted]
The Ministry of Health	[redacted]	[redacted]
SafeWork NSW	[redacted]	[redacted]
City of Parramatta Council	[redacted]	[redacted]

Community Communication

• If you are approached by the member of the community Be polite, professional and courteous
•If a community member has a general enquiry you are able answer, please do so
•If a community member has a complaint or requires further information
1.Listen and acknowledge
2.Inform your supervisor
3.Record the complaint or comment in the comment register
4. Provide a copy of the comment register to the Communications Manager to follow up ASAP.
5.Provide the member of the public the 24 hr Project Information Line phone number 1800 139 389

Erosion and Sediment Control

• Erosion sediment controls devices shall be constructed and maintained in accordance with
Soils and Construction. Landcom, (4th Edition) March 2004 (reprinted 2006) (the "Blue Book"). Volume 1 and Volume 2
• Monitor erosion sediment controls to ensure that no material, including sedimentation or oil is tracked from active or disturbed areas.
• No contaminated materials to be stockpiled
• Deposition of soil on to public roads will be prevented through cleaning of loose material off tailgates
• In in the event of a flood warning for the Paramatta River, sand bags will be placed around work areas to divert water flow around the site.
• Erosion and sediment controls shall be placed to prevent sediment laden water from leaving the work zones

Construction Guidelines

• Works are only permitted within the defined demolition area
• All mitigation measures identified in this ECM must be implemented
• Staff are to be inducted and trained on the requirements of this ECM.
• The road and pedestrian pathway outside the site will be kept clean and free from obstructions
• TfNSW signage is to be erected and maintained for the duration of the project.
• All gates to have locks for security
• Hoarding will be used for the privacy of sensitive receivers

Flora and Fauna

• No trees to be removed or pruned
• TPZ, as identified in the ECM is to be maintained for the duration of works
• Work in a TPZ must only be undertaken under guidance from project arborist
• Use of directional lighting to minimise light spill toward camp and riparian vegetation along the Parramatta River
• Above-ground powerlines should be bunded/spaced to avoid electrocution of fauna
• All site personnel inducted/briefed on Grey-headed Flying-fox threatened status
• If wildlife is encountered on site do not approach and contact WIRES (1300 094 737)

Air Quality

• Vehicles and machinery are to be switched off when not in use.
• Water works areas as necessary to minimise the generation of dust
• Ensure all loads are covered when materials are being hauled to and from site
• All on-road trucks and equipment to comply with the relevant Australian emission standards and maintained to minimise emissions

Waste and Recycling

• Waste types are to be separated and recycled where possible
• Waste to be disposed of at a licensed facility
• Waste volumes to be tracked and recorded
• Contaminated material must be disposed of at a licenced facility
• Demolition waste to be placed in skip bin. Skip bin will be removed at regular intervals and sorted offsite

Traffic and Transport

• All haulage vehicles to follow the defined haulage routes
• All construction vehicles to follow the defined swept paths – refer to Traffic, Transport and Access Management Plan for detailed drawings
• Traffic management measures identified in the ROL and Traffic, Transport and Access Management Plan (TTAMP) will be implemented.

Chemical and Fuel Storage

• Any chemicals on site must be accompanied by a safety data sheet (SDS)
• A fully stocked spill kit is to be located onsite at all times. The location of the spill kit will be communicated during morning pre-start.
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Activity A

Emergency Management Plan

FORD CIVIL

REMEDIATION
INFRASTRUCTURE
ROADWORKS
BULK EARTHWORKS
ENVIRONMENTAL
LANDSCAPING

Site Emergency Management Plan

Project: **Westmead Redevelopment – Hawkesbury Road Upgrade**

Site Entry: **Hawkesbury Road, Westmead NSW 2145**

Client: **NSW Government – Health Infrastructure**

NSW GOVERNMENT Health Infrastructure

Approved by: [redacted]

Date: **6th January, 2019**

JAS-ANZ

APPROVED COMPANY AS/NZS 4801 OH&S Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Document No: *181910-PSEMP (control copy 1- Client)*

Document approval

Development	
Approved by	[redacted]
Position	Compliance Manager
Date	27-02-2019

Document register

Document details	
Document name	Site Emergency Management Plan
Control Status	Uncontrolled when printed

Document control

Version	Date	Author	Reason
A	09-12-18	[redacted]	Issue to for internal review
B	10-12-18	[redacted]	Updated to reflect internal review
C	27-02-19	[redacted]	Updated to reflect TfNSW
D	6-01-20	[redacted]	Updated Definition

Contents

Section A – Introduction

Purpose

The main purpose of the PEMP is to describe FCC's Site Emergency Management system and associated procedures for this project that will guide, manage, and control the response to an event on the project.

The event can be either an emergency situation or damage to the environment.

Scope

Fortunately, emergencies do not occur very often, but should an emergency occur, this plan will help us assist each other through such an emergency.

The purpose of the plan is to establish a safe orderly method for dealing with an incident arising on site and the subsequent reporting and closure.

There will be a coordinated effort between Ford civil contracting Pty Ltd personnel, other site personnel and the Fire Department, Police Department and / or other emergency response agencies.

The plan also gives practical instructions for other emergencies as well. Success of any emergency procedure is dependent on advance planning and training. With your cooperation, we should be able to minimize any panic and confusion and provide an organized response to an emergency.

Ford Civil Contracting Pty Ltd will hold periodic unannounced drills to assess preparedness and capabilities to deal with a situation.

Roles and responsibilities

Roles and responsibilities associated with this process and associated procedures are as follows:

Roles	Responsibilities
Compliance Manager [redacted]	Review Emergency preparedness of the project and keep abreast of the changing requirements. Promote and maintain the Company's determination to continually improve in its Emergency awareness performance.
Systems Manager [redacted]	Identify and advise the Ford Civil Contracting Pty Limited's Manager of potential improvements to the system including those necessitated by revisions to Regulations, ACT's and Legislation.
Project Manager [redacted]	Ensure that all appropriate Emergency planning has been completed. Ensure the work place is well organised by establishing at the early stages any preventative measures required during the job to reduce any emergency type event.

External Reference

- WHS Act 2011
- WHS Regulation 2017
- CoP Managing the Work Environment and Facilities - WC03567
- Compliance standards
- Transport for NSW – environmental incident classification and reporting
- NSW EPA – preparation of pollution incident response management plans

Internal Reference

- FCC audit schedule, FCC unannounced trial

Abbreviations

PSEMP	Project Site Emergency Management Plan
FCC	Ford Civil Contracting Pty Ltd
SDS	Safety Data Sheet
Premises	Boundary of works prescribed under the contract or a like defining work zone
PSEMP	Project Site Emergency Management Plan

Section 1 Introduction

1.1 Purpose

The main purpose of this document is to describe FCC's Site Emergency Management system and associated procedures for this project that will guide, manage, and control the response to an event on the project.

This document is aligned with the EPA – preparation of pollution incident response plan and the Transport for NSW – environmental incident classification and reporting.

Associated documentation for compliance:

- Emergency response audit sheet
- Project risk register

1.2 Scope

Fortunately, emergencies do not occur very often, but should an emergency occur, this plan will help us assist each other through such an emergency. The purpose of the plan is to establish a safe, orderly method of evacuating people away from the fire area and out of the site. There will be a coordinated effort between Ford civil contracting Pty Ltd employees, other site personnel and the Fire Department, Police Department and/or other emergency response agencies.

The plan also gives practical instructions for other emergencies as well. Success of any emergency procedure is dependent on advance planning and training. With your cooperation, we should be able to minimize any panic and confusion and provide an organized response to an emergency.

Ford Civil Contracting Pty Ltd will hold periodic unannounced drills to trial and evaluate.

The FCC PSEMP provides the framework to manage an emergency event that may arise throughout the life of this project.

The PSEMP; Includes all safeguards required of FCC in regards to meeting its statutory requirements.

Provides a framework for FCC to monitor, audit, report on, review and improve.

This document includes procedures for investigating and resolving non conformances, initiating corrective and preventative measures.

1.3 Project Description.

Ford Civil Contracting Pty Limited has been awarded the Contract as principal for the works. The works consist of but are not limited to:

- Site establishment / demobilization:
- Barrier set-up and traffic management
- Survey
- Tree Removal /trimming
- Road and footpath demolitions
- Service investigations and diversions
- Underground service diversions
- Detailed excavation
- Concrete works – kerb and gutter & footpath
- Traffic Signal Works
- Road pavement
- Sealing and asphalt
- Line marking
- Landscaping
- Piling

High Risk Elements foreseen:

- Public interface/traffic management – pedestrians and vehicles
- Overhead services
- Working around underground services
- Note – day and night shift works
- Site Security

Included in this activities are high risk constructions works which include the following:

- working near road or other traffic corridor that is in use by traffic other than pedestrians
- working in at a workplace in which there is any movement of powered mobile plant

Works undertaken will be carried out in accordance with specifications, approved construction drawings, approved construction program and with consultation with the client**.**

1.4 Key Principal.

The Project Site Emergency Management Plan should ensure that a crisis is managed as near to the incident as is practicable using the best people for the job.

Senior management and key project personnel are required to be trained in crisis management procedures.

In the event of a crisis, emergency and management teams should be notified and mobilised earlier rather than later.

The impact of a crisis will have consequences beyond project management control, including intense media interest, and scrutiny from regulators and government. Appropriate internal notification procedures must be in place in a crisis including prompt notification of FCC management, FCC sub contractors.

Key crisis principles are to:

- Activate notification and mobilisation procedures quickly and calmly;
- Minimise the impact of any incident on the project;
- Provide a consistent, coordinated and unified message internally and Externally,
- Build and hold client, employee, parent company, and investor and community
- Confidence,
- Build and maintain media cooperation,
- Maintain business continuity and normal operations where possible or as soon as practicable following an incident.

Crisis management plans should be tested and revised as necessary for the project at intervals not exceeding 12 month intervals.

Section 2 Definitions.

2.1 Definition of an incident / event

Across the FCC there is a common definition of what constitutes an emergency event. It recognises that whilst incidents and issues arise on a daily basis that must be effectively and carefully managed, an emergency event is an extraordinary event that circumvents the normal operational and communications procedures on a project.

A key feature of an emergency event is the intense media and community interest generated in the incident.

An emergency event is an unforeseen occurrence; a sudden and urgent occasion for action.

A **pollution incident** means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise (as defined in the dictionary of POEO Act 1997).

A **notifiable event** is any environmental incident or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.

Incident: An occurrence or set of circumstances that causes, or threatens to cause material harm

Material Harm is harm that:

- Involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- Results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).

Environmental Incident is an occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred, is occurring, or is likely to occur. Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts.

Environmental **non-compliance is a non-compliance with any condition condition of approval, license** condition or any other statutory approval relevant to the activity and/or area where the activity occurs**.**

An **environmental issue** is any occurrence or set of circumstances that has the potential to cause or lead to an environmental incident or non-compliance if not rectified

2.2 Examples of an emergency event

Type of incident	Example
Fatality or multiple fatality	An accident that results in singular or multiple fatalities and/or serious injuries to individual or multiple employees, sub-contractors, members of the **community** or other third parties
Safety threat	A serious or immediate threat to the safety of employees during working hours such as fire, bomb scare, intrusion by violent person/s, mass demonstration, pandemic or motor vehicle accident entering the site. A failure of systems or process causing an immediate threat to personal engaged on the project.
Security threat	Criminal act which threaten the security of the project such as an extortion demand, theft of vital information both in terms of physical plant/equipment/materials or information in terms of electronic or hard copy.
Structural disaster	A major structural or operational disaster (due to **design** or **construction failure** or force majeure) which causes a significant disruption or threat to the surrounding community, particularly in a congested urban environment precinct.
Environmental disaster	An environmental disaster which results in significant environmental degradation and/or community disruption or hazard, particularly when it may be life threatening. Or material entering the waterways both directly or indirectly.

2.3 Examples of notifiable event

Event type	Legislation		Notification to
Pollution incident	POEO Act	Part 5.7	Immediately after becoming aware of the incident to each relevant authority: • EPA Environment Line • Local Council • Ministry of Health (via the Local Public Health Unit) • WorkCover Authority • Fire and rescue NSW
	POEO (General) Regulation 2009	Section 101	
Land contamination	Contaminated Land Management Act 1997	Section 60(1)	EPA in writing as soon as practical after becoming aware of the contamination, where required as prescribed by the EPA
Discover aboriginal relic	National Parks and Wildlife Act 1974	Section 89A	Director-General of the Department of Premier and Cabinet in writing within a reasonable time after becoming aware
Discover Aboriginal Remains	Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984	Section 20	Commonwealth Minister of Environment in writing as soon as practical after becoming aware
Discover a relic	Heritage Act 1977	Section 146	Heritage Council in writing within a reasonable time after becoming aware.

2.4 Examples of environmental incidents

Event type	Example incident
Air	Odour that travels beyond the site boundary
Air	Dust exceeding reasonable levels without active management measures in place
Air	Operation or maintenance of plant in a manner that causes or is likely to cause air pollution
Water	Discharge of water on or off site in a manner that causes or is likely to cause water pollution
Noise	Noise that travels beyond the site boundary as a result of poorly maintained plant or operation of plant in an efficient manner
Noise	Failure to comply with the approved hours of work
Land	Cause any substances to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment
Land	Spill/deposit material or allow material to be deposited on land in a manner that causes or is likely to cause land pollution
Land	Cause contamination of land
Land	Dispose of waste in a manner that harms or is likely to harm the environment
Flora / Fauna	Harm or 'pick' a threatened species, endangered population or endangered ecological community
Flora / Fauna	Damage to vegetation, fauna or habitat including watercourses
Heritage	Damage, disturbance, destruction or works to heritage items/relics
Heritage	Damage, disturbance, destruction of Aboriginal objects or places

2.5 Examples of environmental non-compliance

Example non-compliance
Works without the required planning approval
Failure to comply with a conditional approval
Works without the required EPL
Failure to comply with an EPL condition
Works undertaken without any other required statutory approval
Failure to comply with any other statutory requirement that does not result in an adverse environmental impact or pollution

2.6 Implementation timelines

Environmental issues identified during formal or informal inspections undertaken by employee or environmental management representative/environmental representative priority is to be given for action to be implemented, in accordance with the following:

Priority	**Actions required**
Immediate	Immediately and closed out on day of inspection
High	Within 24 hours
Medium	Within 3 working days
Low	Within 5 working days
Other	By the date noted

Section 3 Planning

The following information is extracted from FCC Site Emergency Management Plan. A copy of the document is kept on site.

3.1 Legislative Responsibilities

Relevant legislation	Brief summary of the legislation requirements
Work Health and Safety Act 2011	Work Health and Safety Act 2011 and the Work Health and Safety Regulations 2011 took effect and replaced: • the Occupational Health and Safety Act 1991 • the Occupational Health and Safety (Safety Standards) Regulations 1994 • The Occupational Health and Safety (Safety Arrangements) Regulations 1991.
CoP managing the work Environment and facilities	Emergency procedures including: • an effective response to an emergency • evacuation procedures • notifying emergency service organisations promptly • medical treatment and assistance • Effective communication between the authorised person who coordinates the emergency response and all persons at the workplace.

3.2 Approvals, Licences, Permits

3.3 Compliance Standards

Acts, Regulations, Legislation

- Work Health and Safety Act 2011
- Work Health and Safety Regulation 2017

Australian Standards

- AS 2436 Guide to noise Control on Construction, Maintenance and Demolition sites (1981)
- AS 1055 Acoustics – Description and Measurement of Environmental Noise (1997)
- AS 1940 the Storage and Handling of Flammable and Combustible Liquids
- AS 2107 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors (2000)

Codes of Practices

- CoP for the Safe Removal of Asbestos 2nd Edition
- CoP for OH&S Consultation
- CoP for Excavation Work
- CoP for Control of Workplace Hazardous Substances
- CoP for Safe Use and Storage of Chemicals
- CoP for Moving Plant on Construction Sites
- NOHSC:1003(1995) Exposure Standards for Atmospheric Contaminants in the Occupational Environment
- NOHSC:1005(1994) National Code of Practice for the Control of Workplace Hazardous Substances
- NOHSC:1007(2000) National Code of Practice for Noise Management and Protection of Hearing – 3rd Edition
- NOHSC:1010(1994) National Standard for Plant
- NOHSC:1013(1995) National Standard for Occupational Noise
- NOHSC:1016(2005) National Standard for Construction Work
- NOHSC:2005(1990) National Code of Practice for Manual Handling
- NOHSC:2007(1994) National Code of Practice for the labeling of Workplace Substances
- NOHSC:2013(1994) National Standard for the Prevention of Occupational Overuse Syndrome

3.4 Training

3.4.1 Induction and other training

1. All FCC staff and sub-contractor staff will receive an initial site insduction incorporating an emergency / community component prior to commencing on site.
2. FCC toolbox talks / pre-start meetings will be held to maintain and improve emergency awareness.

Section 4 Emergency Impact and Risk Assessment

4.1 Project Risk Assessment Process

Emergency preparedness aspects and impacts, as well as all other project risks, are identified and managed through the processes defined in the FCC manual. The process is under continual review of risk throughout the life of the project

4.2 Emergency Risk Management

The identification of emergency preparedness aspects and impacts that could eventuate during construction on this project is central to the selection of appropriate environmental safeguards.

The initial identification process involves review of documentation other reference materials as required.

Key elements of the project that may result in an emergency impact for FCC have been identified with one or more of the following criteria;

- Construction activities that have the potential to cause the discharge or release of pollutants to water, air or land,
- Construction activities that impact on workers safety,
- Construction activities that have the potential to create change to the environment,

The risk management process involves an assessment of all specific project activities and results in the development of a list of risks and a corresponding risk mitigation strategy and risk rating. Each risk is categorized, based on the following:

- Relative scale of the potential impact,
- Type of potential impact
- Likelihood of occurrence.

The FCC project team along with FCC subcontractors will review and itemize the risk assessments and strategies of works / storage etc. to minimize potential of incidents.

Section 5 Emergency preparedness

The primary responsibility for ensuring key personal are prepared for a crisis rests with the Project Manager who will act as Emergency Response Team leader.

In consultation with the FCC General Manager, the Project Manager is required to:

- Complete a project profile, including pre-determining and equipping the location of an Emergency response Equipment. This profile is to be reviewed and updated on an annual basis.
- Agree a crisis strategy with the client, including who will manage the incident, how lines of communication will be maintained and who will make public comment during a crisis. Where the client retains responsibility for media or communications
- Review and update the Emergency Response Team members list every six months.
- Determine an appropriate notification procedure.

5.1 Emergency team structure / definition

In an emergency there will be two streams of response - dealing with the incident at the site and dealing with the public consequences of the incident - requiring the combined resources and complementary efforts of Project, the client and FCC head office.

The following briefly summaries the role of each emergency team

- Located at the site of the incident and led by the Project Manager is the Emergency Response Team which has responsibility for responding to the physical incident and other internal matters associated with the crisis, as described in the Project Site Emergency Management Plan.

5.2 Responsibility to the client

The Project Manager, will supply to the client copies of any media statements, and responses to any questions at the time of distribution (or immediately prior where possible).

The information updates and briefings will take the form of both face-to-face contact and teleconferencing. Information updates will be provided as soon as possible after a request has been made

5.3 Responsibility to the client

The following staff will manage the on-the-ground response to an emergency event. Team members will be determined by the Project Manager and may include staff drawn from project and other projects if /as necessary

Description	Person	Contact details
Project Manager	[redacted]	[redacted]
Superintendent / Site Manager	[redacted]	[redacted]
Site Foreman	[redacted]	[redacted]
Site Foreman	[redacted]	[redacted]
Project Engineer / Communication Manager	[redacted]	[redacted]
Service Engineer / Site Engineer	[redacted]	[redacted]

5.4 Implementation steps

If an incident occurs that may constitute a crisis the Project Manager or nominee will typically follow the steps below (ASAP but within the first 60 mins):

Step	Description	Who is responsible
1	Any person discovering an incident should alert their Foreman or the Project Manager. Foreman immediately alerts Project Manager.	[redacted]
2	Project Manager activates project site emergency management plan including contacting emergency services, ensuring the safety and wellbeing of employees and containing the incident.	[redacted]
3	Within 20 minutes, gather and record any information known about the incident.	Nominated person by Project Manager
4	Consider whether the incident is severe or a Class 1 incident. Requiring further notifications both internally and externally	[redacted]
5	Contact FCC General Manager and together determine if incident constitutes a emergency event	[redacted]
6	If declared an emergency event, activate the project site emergency management plan.	[redacted]
7	Mobilise the emergency response personal	[redacted]
8	Notify client.	[redacted]
9	Conduct management and client on the incident and determine what supporting resources are required.	[redacted]
10	Brief project team and allocate team responsibilities.	[redacted]
11	Inform all project staff of the crisis and their required response.	[redacted]
12	Agree and issue a holding statement to the media about the incident.	[redacted]

5.5 Monitoring

Monitoring of the FCC Emergency Management Plan shall be initiated by the Project Manager.

This process will include internal audits at 6 monthly intervals as per FCC audit schedule. Weekly completion of the OHS / Environmental Project Inspection Form in the PMP, site meetings of the Project Management team, tool box talks / consultation with the works teams including FCC subcontractors & client audits.

The completion of hazardous materials register, the obtaining & filing of SDS's. FCC personnel including sub-contractors inductions into FCC Emergency Management Plan processes will be carried out by FCC via site induction, ongoing toolbox meetings, daily prestart meetings, SWMS's, Environmental alerts, etc.

5.6 Corrective Action

All emergency incidences should be logged using the FCC Incident / Accident form in the PMP & corresponded to the client representative.

Section 6 Incident Notification and Reporting

Definitions

- An emergency event is an unforeseen occurrence; a sudden and urgent occasion for action.
- A pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise (as defined in the dictionary of POEO Act 1997).
- A notifiable event is any environmental incident or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.
- Environmental Incident is an occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred, is occurring, or is likely to occur. Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts.
- Environmental non-compliance is a non-compliance with any condition of approval, license condition or any other statutory approval relevant to the activity and/or area where the activity occurs
- An environmental issue is any occurrence or set of circumstances that has the potential to cause or lead to an environmental incident or non-compliance if not rectified

6.1 Reporting to HAC and TfNSW

On projects relating to Transport for NSW (TfNSW) all environmental incidents and non-compliances will be reported immediately to HAC / TfNSW.

- All environmental incidents, reportable events and regulatory action will be reported to HAC and TfNSW
- All incidents will be recorded in the INX incident tracking software immediately following the incident - within a maximum of 4 hours.
- For an incident related to the discovery of asbestos, the incident will be recorded in the INX as a safety incident.
- A report will be submitted one (1) week following the incident. The Environmental Manager will ensure the information is delivered in the appropriate timeframe.
- The FCC Construction Environmental Manager will provide all records of the environmental incidents and regulatory action to HAC and the TfNSW Project team.
- Where an incident involves a potential impact to an Aboriginal site, the Project Manager will notify the Office of Environment and Heritage (OEH), Registered Aboriginal Parties and the Excavation Director and their input will be sought in closing out the incident.If emergency construction works are required, the Project Manager will notify the ER of the need for these works. Best practice endeavours will be used to notify all sensitive receiver of the likely impact and duration of these activities.
- The Project Manager is responsible for overseeing any written requirements from the Secretary to address the cause or impact of an incident must be complied with.

6.2 Reporting to EPA and other authorities

Pollution incidents which are causing or threatening material harm to the environment must be reported by TFNSW to each of the following authorities immediately after becoming aware of the incident, as required by Section 148 of the POEO Act. The contact numbers for these authorities are:

- EPA Environment Line 131 555
- Local Authority Local Council (specific to area)
- Ministry of Health Public Health Unit via 1300 066 055
  (full local area contact details are available on the Public Health Units pages of the NSW Health website)
- Workcover Authority 131 050
- Fire and Rescue NSW 1300 729 579

Note: If the situation warranted calling 000 as a first point of notification, you do not need to ring Fire and Rescue NSW again.

Relevant information required to be given to EPA when making a notification is specified in

Section 150 of the POEO Act as follows:

a) the time, date, nature, duration and location of the incident

b) the location of the place where pollution is occurring or is likely to occur

c) the nature, the estimated quantity or volume and the concentration of any pollutants involved

d) the circumstances in which the incident occurred (including the cause of the incident, if known)

e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution

f) other information prescribed by the regulations.

You are required to report the information known at the time of making the notification. If the information required by (c), (d) or (e) above is not known at the time of initial notification but becomes known afterwards it must be reported to each authority immediately after it becomes known. Verbal notification must be followed by notification in writing within 7 days of the date on which the incident occurred.

You are not required to report a pollution incident if:

a) you are aware that the incident has already come to the notice of each of the notification authorities

b) the incident is an ordinary result of action required to be taken to comply with an environment protection licence, an environment protection notice or other requirement of or made under the POEO Act

c) the pollution incident involves only the emission of an odour.

Failure to report a pollution incident as required by the POEO Act is an offence.

Where any work or activity is regulated by an EPL, notification of a pollution incident must be made by the licensee. Thus, where the alliance/contractor holds the EPL for the project, notification shall be made by the alliance/contractor.

For any work or activity that is not regulated by an EPL, notification of pollution incidents to EPA shall be made by project I&S, unless the alliance/contractor is instructed otherwise by the

project I&S. This includes pollution incidents that occur as a result of pre-construction activities which may be undertaken prior to an EPL being required for a project. Pre-construction activities are determined by the planning approval and may include, for example, geotechnical investigations, surveys or fencing.

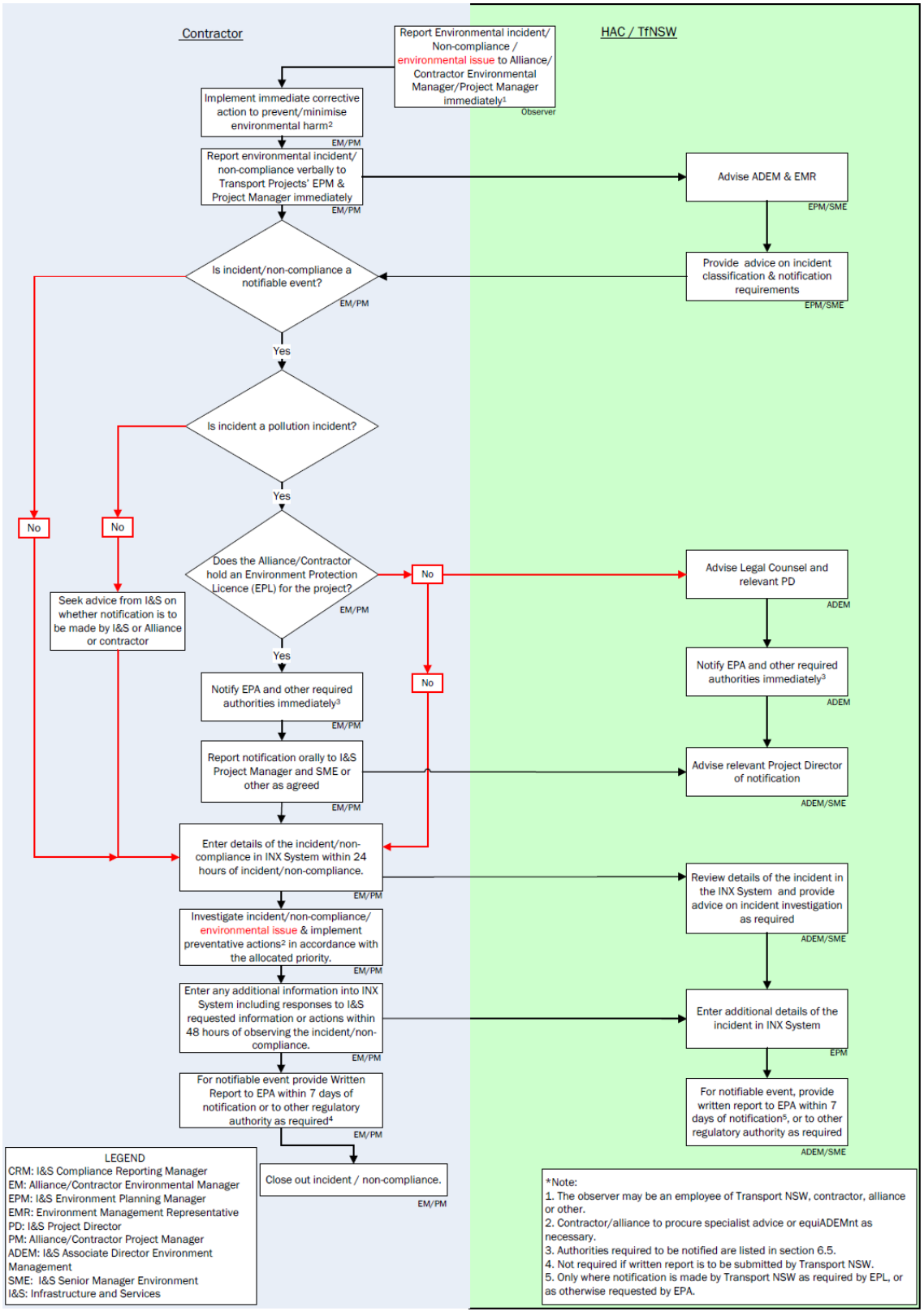


Figure 1 Environmental incident/non-compliance reporting procedure

Section 7 Evacuation Assembly Point

FCC project emergency evacuation meeting point will be aligned with either end of the site. (Refer - Appendix A)

Proceed via the safest and closest exit; proceed to the designated assembly area.

Check in with your Evacuation Warden to be counted. Do not re-enter the site until the directed to by Management or emergency services.

7.1 Fire Emergency – Evacuation

An evacuation is the very deliberate, unhurried, progression of a group of people from an area of danger to a designated safe assembly area. In the event that evacuation or relocation is necessary, the designated Evacuation Warden will assist and direct exiting. When evacuating the site, proceed immediately to the Evacuation Assembly Area. Any non-ambulatory and/or physically disabled people will need the assistance of a Disabled Aide.

- Everyone must be prepared to report the first signs of an emergency to the nearest management representative. In case of fire, raise the alarm. Do not assume someone else has or will report the fire.
- Maintain a calm, quiet, steady attitude.
- Use the portable fire extinguishers if possible, but do not take any risk. If the fire cannot be easily controlled – evacuate immediately.
- Calmly leave immediately, single file, through the nearest and safest exit.
- No running, rushing or excessive talking.
- If possible, do not use exit where the Fire Department is entering.

7.2 Evacuation Warden

An Evacuation Warden must be willing to perform the duties and responsibilities necessary, and their position is essential to the safety and care of FCC employees and visitors.

Deputy Evacuation Wardens will assume the duties of the Evacuation Warden in his absence and/or assist the Evacuation Warden as needed to fulfil duties.

- Know the location of all fire and emergency related equipment in the area or responsibility.
- Know the use of all fire and emergency related equipment in the area of responsibility.
- Be completely familiar with the floor arrangement, the number of floor occupants, and the location of exits.
- Be fully aware of the exiting procedures of the building as they relate to your Evacuation Warden's area.
- Be completely familiar with the entire site and all exits in case an alternate exit needs to be used in case your assigned area or exit is damaged or on fire.

7.3 Safe Work Method Statements

SWMS's will be prepared to address the hazards and risks of a particular construction method, task or discrete worksite. SWMS's will include information about the emergency controls to be implemented to address an emergency impacts and risks.

The risk assessment process as prescribed in the project FCC Project Risk Assessment was used to determine the potential level of risk for the project and its implementation into each SWMS.

7.4 Interaction with other management plans.

FCC operates a number of management systems Including AS14001, AS4801, ISO9001

The FCC Project Site Emergency Management Plan should be read in conjunction with the WHS and QA management plans.

7.5 FCC Subcontractor and interface contractor management.

All FCC subcontractors are required to operate within the requirements of the FCC Site Emergency Management Plan and associated approval documents. All FCC subcontractors will be inducted into the Emergency Management prior to commencing work on site and will be required to adhere to them whilst working on site.

Based on a risk assessment, the FCC Project Manager shall establish whether an FCC subcontractor is required to develop a project specific EMP or SWMS's to confirm that their processes and procedures conform to FCC's approved EMP. Any FCC subcontractor EMP or SWMS's submitted as requested by the FCC Project Manager shall be approved by the FCC Project Manager prior to the FCC subcontractor commencing works on site.

Appendix A – Site muster point

Emergency muster point

Project Name

Westmead Redevelopment – Hawkesbury Road Upgrade

Project Location:

Hawkesbury Road, Westmead

Project Manager:

[redacted]

Site Manager:

[redacted]

Site Foreman:

[redacted]

Project Engineer:

[redacted]

Site Engineer:

[redacted]

Site First Aider:

[redacted]

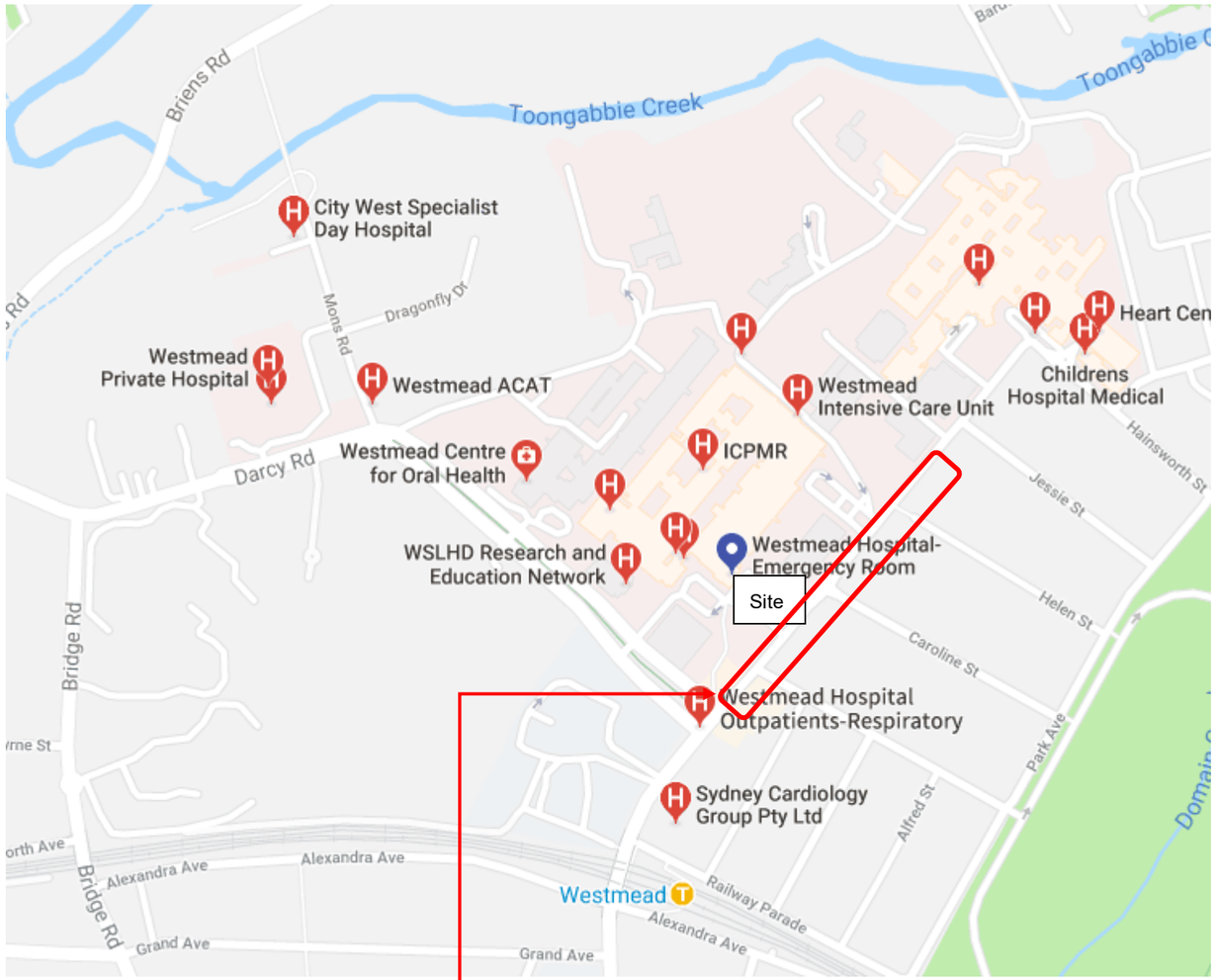
In the event of Muster, Client must be informed immediately

Site access:

In the event of any emergency, no road access is to be blocked by plant and equipment.
All persons are to walk to the muster point.
No person is to leave site unless directed

EMERGENCY VEHCILES ON SITE

All emergency vehicles are to be guided by site supervision OR nominated persons to and from the situation.



Activity B

Emergency Management Plan

Renascent
EMERGENCY RESPONSE PLAN

Contents

1. Purpose & Scope

The purpose of this plan is to clearly describe the actions and responsibilities required in the event of an emergency occurring on the project. This plan is applicable to all parts of this project and throughout all phases of works. It will be reviewed and, where applicable, updated after any major incident

2. Definitions

2.1 Emergency

Definition of emergency within this plan is defined as an unforeseen occurrence; a sudden and urgent occasion for action.

Some examples of these are listed but not limited to the following:

- Medical Emergency
- Breach of a utility or service
- Electric Shock
- Structural Collapse
- Fire or Explosion
- Bomb Threat

Action Plans for different types of emergency response can be found in Appendix A.

2.2 Emergency Response Services

Refer to police, ambulance, fire service, state emergency services, hospital or other specialist groups.

2.3 Incident

An unplanned or unwanted event resulting in or potential for, personal injury, environmental damage, loss of productivity or property damage. Work related incidents involve a work injury or non-injury occurrence.

2.4 Incident Class

2.4.1 Class 1

- People – Causes or has the potential to cause damage which permanently alters the future of the individual (fatality, permanent injury).
- Environment – Causes or has the potential to cause permanent environmental damage and results in remediation costs of > $50,000.
- Plant / Equipment / Property – Causes or has the potential to cause damage to plant / equipment and / or property > $50,000.

2.4.2 Class 2

- People – Causes or has the potential to cause an injury or disease resulting in temporary disability or time lost from work of one or more complete days or shifts.
- Environment – Causes or has the potential to cause damage to the environment which can be rectified and results in remediation costs of > $10,000 and < $50,000.
- Plant / Equipment / Property – Causes or has the potential to cause damage to plant / equipment and / or property > $10,000 and < $50,000.

2.4.3 Class 3

- People – Causes or has the potential to cause an injury which inconveniences the individual such as minor cuts or sprains, but allows the person to continue to carry out normal duties.
- Environment – Causes or has the potential to cause damage to the environment which can be easily rectified and results in remediation costs of < $10,000.
- Plant / Equipment / Property – Causes or has the potential to cause damage to plant / equipment and / or property < $10,000.

2.5 Near Miss

Any unplanned event in the workplace, although not resulting in injury or significant equipment, property and/or environmental damage, had the potential to do so.

3. Responsibilities

3.1 Emergency Response Team Leader (Site Manager)

- Assume initial control of the scene of the emergency and the evacuation of staff to emergency muster points as required.
- Assume the lead role in the event of an actual emergency; unless emergency services personnel take over.
- Control emergency response unless relieved by the site project manager.
- Activate the appropriate external emergency services.
- Ensure that all pollution incident response equipment is available on the project.
- Ensure a Hazardous & Chemical Substance register, including all Safety Data Sheets (SDS), is current.
- Ensure all first aid facilities, kits and alike are readily available on the project and refurbishment, replenishment of emergency stocks or equipment is carried out.
- Coordinate all incidents in accordance with this plan.
- Respond to incidents as appropriate. Record all details.
- Take site attendance register to the emergency muster point or relay the information to the emergency scene on site.
- Identify both the incident classification and other relevant details.
- Notify others according to hierarchy of notifications (including Emergency Services).
- Notify personnel that are affected to evacuate (as applicable).
- Maintain a clear phone line for incoming and outgoing emergency communications.
- Follow all directions from the Emergency Services controller (as applicable).
- Initiate incident report on conclusion of emergency.

3.2 Emergency Response Team

3.2.1 Directors/General Manager

- Facilitate through consultation to ensure health, safety and the welfare of employees.
- Facilitate applicable and appropriate information, training and instruction is provided to employees. In a manner as necessary to be able to provide employees the knowledge and skill to identify and implement critical incident response procedures.
- Ensure the well-being of employees following a critical incident.

3.2.2 HSEQ Manager/Advisor (Environmental Manager)

- Implementation of critical incident response procedure.
- Monitor and maintain risk control measures for critical or potentially critical incidents.
- Identify potentially critical incident circumstances, assess control measures, to ensure they are effective.
- Ensuring the well-being of employees following a critical incident.

3.2.3 Project Manager

- Ensure an Emergency Response Coordinator and the deputy are appropriately trained.
- Review plan and update to reflect changes in the workplace or opportunities for improvement.
- Implementation and activation of this plan.
- Appoint responsible persons to the response team on an incident by incident basis.
- Ensure site personnel receive training regarding incident response, in accordance with this plan.
- Activate applicable external emergency services. Liaise with Emergency Services (depending upon the severity of the incident). Ensure they are aware of all relevant factors affecting the incident.
- Provide high level decisions and instruction regarding personnel, property and/or the environment that are affected by the incident / emergency.
- Ensure that an appropriate level of resources are available.
- Report to senior management, in accordance with severity/status of the emergency.
- Control the following actions as appropriate.
- Movement within the site evacuation muster area.
- Ensure all head counts are conducted by relevant supervisors and any ‘missing persons’ are identified and subsequently accounted for.
- Direct emergency services to the exact location of the emergency incident.
- Provide up to date information as to the status of the incident to the emergency services.
- Remain in position until advised otherwise by the Emergency Services.
- Give instruction on when it is safe / appropriate to resume normal operations.
- Liaise with client with respect to community consultation and media management.

3.2.4 First Aid Personnel

- Attend to any casualties in the affected area, providing it is safe to do so.
- Await instruction from Site Management and respond to the requirements of first aid and treatment.

3.2.5 Site Safety Coordinator (Site Foreman/Manager)

- Provide assistance to the Project Manager in establishment and training in this plan.
- Delegate meeting and direction of emergency services at the site entry.
- Ensure all emergency equipment is maintained on the project.
- Ensure emergency response specifics are included & current in project induction.
- Coordinate emergency response specifics for mock emergency drills to test its effectiveness.
- Ensure all environmental incident response requirements and equipment is maintained on the project.
- Respond to the requirements of Regulatory Authorities as required.

3.2.6 All other Personnel

- Comply with any directions given by management or supervisors in the event of an emergency or critical incident.
- Report any emergency to their immediate supervisor as soon as they become aware of the emergency.
- Activate and assistexternal emergency services in the event of no supervision being present and notify the site project manager immediately of the emergency and of their actions.

3.2.7 Visitors

- Comply with any directions given by management or supervision in the event of an emergency.
- Do not interfere with the management of any emergency unless requested by site supervision.

4. Incident Response Priorities

In the event of an incident, the following priorities will be observed:

a) ***Protect and rescue human life;***
b) ***Render affected areas safe; and***
c) ***Protect property, environment and information.***

Further to this, implement training as learned from action plans.

5. Training

All site personnel, including sub-contractors, will be instructed in the correct response to an incident, as part of the induction process.
Evacuation and emergency response drills will be conducted. The first drill will be held within 1 month of commencement of construction works and 3 monthly thereafter throughout the life of the project.
Records of all training will be maintained in the Renascent Training Plan.

6. Incident Response Actions

A list of potential incidents – together with typical treatments applicable to each of these – is shown in Appendix A, Action Plans. This table provides a guide to assist project personnel to initiate appropriate action as well as a summary of ongoing actions.
Details of contact numbers are provided in Appendix B.

In addition to these notifications, the following reporting requirements will be observed:

a) If an actual or potential Class 1 event occurs, the Project Manager will report verbally immediately to the Director/General Manager, HSEQ Manager/Advisor and client and provide the following details:

- ✓ Why the incident occurred?
- ✓ What system of work was in place prior to the incident?
- ✓ What actions were taken prior to the event to train and direct employees?
- ✓ What actions have now been implemented to prevent any re-occurrence of the event?

b) The Project Manager will ensure that any Class 2 incident that does / may affect the public and / or cause adverse publicity is reported to the Director/General Manager, HSEQ Manager/Advisor and client within 1 hour of the incident occurring.

c) Prior to commencing an investigation, any incident that has the potential to result in an infringement notice and / or legal proceedings must be reported to the HSEQ Manager/Advisor immediately.

7. Trauma Counselling

7.1 Counsellors

Where counselling is required, the HSEQ Manager/Advisor shall facilitate counselling services.

7.2 Support of Family of Injured or Deceased Employee

The family of the injured worker must be advised of the accident. Where an employee is deceased the Police will inform the next of kin. The task of advising a family member of an injured employee shall be performed by two senior company representatives. Personnel and witnesses to an accident will be supported, with counselling.

8. Legal Advice

For class 1 traumatic/fatal accidents or significant incidents the HSEQ Manager/Advisor and the Director/General Manager be advised, they'll organise legal advice if required.

9. Media

All statements to media concerning any emergency at any Renascent' workplace shall be made only after consultation with client and the Director/General Manager.

In the majority of cases involving serious injury or fatality the media may learn of the accident from the reports made to the authorities and then attend the site without notice. The media will be treated courteously but not be allowed free access to site. All media enquiries and/or releases are to be referred to the Director/General Manager. In case of a fatality, it is important that the name(s) of those involved are not broadcast until all next of kin have been notified.

10. Recovery Phase / Reporting

Part of the recovery process is to ensure that appropriate steps are taken to investigate cause of the emergency and the response so that corrective measures can be introduced as soon as possible.

On projects relating to Transport for NSW (TfNSW) all environmental incidents and non-compliances will be reported immediately to HAC / TfNSW. All environmental incidents, reportable events and regulatory action will be reported to HAC and TfNSW. All incidents will be recorded in the INX incident tracking software immediately following the incident - within a maximum of 4 hours.

For an incident related to the discovery of asbestos, the incident will be recorded in the INX as a safety incident. A report will be submitted one (1) week following the incident. The Environmental Manager will ensure the information is delivered in the appropriate timeframe. The Construction Environmental Manager will provide all records of the environmental incidents and regulatory action to HAC and the TfNSW Project team.

Where an incident involves a potential impact to an Aboriginal site, the Project Manager will notify the Heritage Division of the Drpatrtment of Premier and Cabinet (DPC) formerly the Office of Environment and Heritage (OEH), Registered Aboriginal Parties and the Excavation Director and their input will be sought in closing out the incident. If emergency construction works are required, the Project Manager will notify the Environbmental Represnettaive (ER) of the need for these works. Best practice endeavours will be used to notify all sensitive receivers of the likely impact and duration of these activities.

The Project Manager is responsible for overseeing any written requirements from the Secretary to address the cause or impact of an incident must be complied with.

11. Appendices

Title	Number
Action Plans	A
Emergency Contact Details	B
Emergency Call Procedure	C
Locality Plans	D
Emergency Evacuation Procedures	E
Site Plan	F
Additional Action Plans	G

ATTACHMENT A1: **ACTION PLANS**

MEDICAL EMERGENCY: IF A PERSON IS SERIOUSLY HURT OR INJURY IS SUSPECTED

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP</u> WORK. . <u>Raise the alarm: contact the site first aider:</u>
<u>Assess the situation-</u>: Identify the severity (if necessary) evacuate

If the injured person cannot be moved to a medical centre, call Emergency Services 000 Act on their instructions</td></tr>
<tr><td>Notification</td><td>For Class 1 incident contact

▪ HSEQ Manager/Advisor
▪ Site Manager
▪ Project Manager
▪ Director/General Manager
▪ Client
and:
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Site Manager
▪ Project Manager
▪ HSEQ Manager/Advisor</td></tr>
<tr><td>Treatment</td><td colspan="2">If the patient is unconscious:

Danger – do not enter an area that could be unsafe for you.
Response – establish the patient’s level of consciousness
Send for help – organise for help to come asap where possible
Airway – open and clear airway
Breathing – check fro breathing
CPR - commence CPR in cycles of 30 chest compressions with 2 breaths
Defibrilate – apply defibrillator if available
} action plan

If the patient is conscious:
▪ Check for bleeding and control with direct pressure.
▪ Do not move patient except where the location is not safe & secure.
▪ Monitor vital signs
▪ Provide First Aid to the level of your training.
▪ Contact the Site Manager or Project Manager.</td></tr>
<tr><td>Follow up</td><td colspan="2">Notify HSEQ Manager/Advisor as soon as possible .
▪ Document the incident on Accident/ Incident Investigation report
▪ Forward Accident/Incident Report as soon as possible.
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A2: **ACTION PLANS**

RETRIEVAL OF A PERSON: EWP OR SUSPENDED FROM A STRUCTURE

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP WORK.</u>

Assess the situation:
▪ Identify the severity - (if necessary) evacuate
▪ Do not enter an area that could be unsafe for you.</td></tr>
<tr><td>Notification</td><td>For Class 1 incident contact
▪ HSEQ Manager/Advisor
▪ Site Foreman/Manager
▪ Project Manager
▪ Director/General Manager
▪ Emergency Response Coordinator
▪ Emergency Services</td><td>For Class 2 or 3 incident contact:

▪ Site Manager
▪ Site
▪ Project Manager
▪ HSEQ Manager/Advisor</td></tr>
<tr><td>Treatment</td><td colspan="2">Assessment:
Assess the area where the injured worker is situated,
if the injured worker is unconscious look for signs of:
▪ exposure to electricitiy
▪ Impact with an object(s)
▪ Atmosphere
▪ A fall from height
▪ Structure collapse
Where the injured worker can not be accessed safely DO NOT PROCEED. Notify Emergency services and ensure no one enters the area.
If the injured worker can communicate, assess the area for potential hazards and brief the rescue team. Ensure that the rescue team have appropriate equipment and have appropriate training.
Where the injured worker cannot be assisted/removed from the structure without risk to the worker or the rescue team DO NOT PROCEED Notify Emergency services and provide first aid and support to the injured worker.

FOLLOW THE INSTRUCTIONS FROM THE EMERGENCY SERVICES PERSONNEL</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – document all details on Incident Investigation form
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A3: **ACTION PLANS**

STRUCTURAL COLLAPSE – DURING CONSTRUCTION or COMPLETED BUILDING

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP</u> WORK. .
• <u>Assess the situation</u>: Identify the severity (if necessary) evacuate
• Do not enter an area that could be unsafe for you, particularly in the case of connection with a power line. Contact the utility/service provider as necesary
• Isolate area to prevent harm to persons & minimise damage to property & environment. Includes local community plus traffic control.
• Where possible prevent access to area;
• Try to determine if anyone is trapped or unaccounted for;
• Call Emergency Services 000
• Where danger exists to the public or employees act on emergency services instructions.
• Engage the services of relevant, suitably qualified engineers to prepare a report and rectification plan;
• Assuming there is no injury or harm to persons, initiate immediate investigation of materials to determine the level of risk & proposed further course of action in conjunction with engineers reports;
• Check to see that all personnel are accounted for;
• Notify emergency services if all personnel are not accounted for;</td></tr>
<tr><td rowspan="2">Notification</td><td>For Class 1 incident contact

▪ HSEQ Manager/Advisor
▪ Utility/Service provider
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project/Construction Manager
▪ Director/General Manager
▪ Client
and:
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Utility/Service provider
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project Manager
▪ HSEQ/Construction Manager</td></tr>
<tr><td colspan="2">Where danger exists to the public or employees (e.g. major gas leak) act on emergency services instructions.</td></tr>
<tr><td>Treatment</td><td colspan="2">▪ Isolate the area to prevent harm to persons & minimise damage to property & the environment. This includes the local community plus traffic control.
▪ If possible and safe to do so, implement corrective action.
▪ Provide assistance to the Service Authorities as requested.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Document the incident on Accident / Incident Investigation report
▪ Forward Accident / Incident Report within 48 hours of notification.
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – If the breach of service causes an environmental and/or safety incident, record on relevant accident/incident reporting
▪ Provide site personnel with information on the incident including corrective / action
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A4: **ACTION PLANS**

BREACH OF: A UTILITY / SERVICE

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP</u> WORK. .
<u>Assess the situation</u>:
Identify the severity (if necessary) evacuate

Do not enter an area that could be unsafe for you, particularly in the case of connection with a power line.

Contact the utility/service provider</td></tr>
<tr><td rowspan="2">Notification</td><td>For Class 1 incident contact

▪ HSEQ Manager/Advisor
▪ Utility/Service provider
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project/Construction Manager
▪ Director/General Manager
▪ Client
and:
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Utility/Service provider
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project Manager
▪ HSEQ Manager/Advisor</td></tr>
<tr><td colspan="2">Where danger exists to the public or employees (e.g. major gas leak)
act on emergency services instructions.</td></tr>
<tr><td>Treatment</td><td colspan="2">▪ Isolate the area to prevent harm to persons & minimise damage to property & the environment. This includes the local community plus traffic control.
▪ If possible and safe to do so, implement corrective action.
▪ Provide assistance to the Service Authorities as requested.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – If the breach of service causes an environmental and/or safety incident, record on relevant accident/incident reporting
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A5: **ACTION PLANS**

TRENCH: COLLAPSE

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP</u> WORK.
Assess the situation:
Identify the severity
▪ Send someone immediately to telephone or radio for emergency services that may be needed. Ensure that the person sent to make the call is relatively calm, can communicate clearly and knows where the telephone is.
▪ Look for evidence of where the trapped person is eg. tools, safety helmet etc.
▪ Try to locate what section of the collapsed excavation/trench the person is trapped in.
▪ Clear the area of all non-required personnel.
▪ Identify if any further collapse is likely.
▪ Establish and arrange for a person to monitor a safety zone.
▪ If possible, batter the sides of the excavation/trench in the collapsed area.
▪ Install shoring where possible to protect the trapped person and the rescuers.
▪ Carefully remove the collapsed soil with shovels. NEVER have anyone on top of the collapsed soil. They may be on top of the person trapped beneath the soil.
▪ If the excavation/trench is over 1.5 metres deep, rescuers SHALL wear safety harnesses with lifelines attached securing them to the surface.
▪ If the excavation/trench is over 1.5 metres deep, rescuers SHALL wear safety harnesses with lifelines attached securing them to the surface.
▪ When the digging is close to the trapped person, continue excavation using hands. If shovels have to be used, extreme care must be taken not to cause any further injury to the person who is trapped.
▪ When the trapped person has been located, clear soil from around the head and chest areas. Check for breathing and a pulse.
▪ If breathing has stopped – commence expired air resuscitation (E.A.R.) and continue until emergency services have arrived and have taken over.
▪ If breathing has stopped and no pulse is present, commence E.A.R. and C.P.R. and continue until emergency services have arrived and have taken over.

After the trapped person has been freed, treated and stabilised by the emergency services personnel, make arrangements for the person to be removed from the excavation/trench in a safe manner, ensuring that no further collapse occurs during this operation</td></tr>
<tr><td rowspan="2">Notification</td><td>For Class 1 incident contact

▪ HSEQ Manager/Advisor
▪ Utility/Service provider
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project/Construction Manager
▪ Director/General Manager
▪ Client
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project Manager
▪ HSEQ Manager/Advisor
▪ Construction Manager</td></tr>
<tr><td colspan="2">Where danger exists to the public or employees act on emergency services instructions.</td></tr>
<tr><td>Treatment</td><td colspan="2">▪ Isolate the area to prevent harm to persons. This includes local community plus traffic control.
▪ If possible and safe to do so, implement corrective action.
▪ Provide assistance to the Service Authorities as requested.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Forward Accident/Incident Report within 24 hours of notification.
▪ Document the incident on Accident/ Incident Investigation report
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A6: **ACTION PLANS**

ELECTRIC SHOCK emergency response plan

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP</u> WORK. .
Assess the situation:
Identify the severity
▪ Look first - do not touch! The victim may still be in contact with the electrical source and touching him/her may only pass the current through you.
▪ Turn off the source electricity.
▪ If you can’t turn off the power, separate the victim from the power source using a dry object made of non-conducting material. Use a dry wood or plastic object to knock them loose.
▪ If the victim is outdoors & touching a high voltage power line - stay clear, dial 000 or your. If a power line is down, wait for the fire department or a power company. If there are people in a vehicle with a downed wire across it, tell them not to move and to stay in the car.
▪ Where available, personnel with LV rescue training and equipment are to be utilised in accordance with their SWMS and training.</td></tr>
<tr><td rowspan="2">Notification</td><td>For Class 1 incident contact
▪ HSEQ Manager/Coordinator
▪ Utility/Service provider
▪ Site Foreman/Manager
▪ Project/Construction Manager
▪ Director/General Manager
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:
▪ Utility/Service provider
▪ Site Foreman/Manager
▪ HSEQ Manager/Advisor
▪ Project/Construction Manager</td></tr>
<tr><td colspan="2">Where danger exists to the public or employees act on emergency services instructions.</td></tr>
<tr><td>Treatment</td><td colspan="2">▪ Isolate area to prevent harm to persons. This includes the local community plus traffic control.
▪ If possible and safe to do so, implement corrective action.
▪ Provide assistance to the Service Authorities as requested.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Forward Accident/Incident Report within 2 hours of notification.
▪ Document the incident on Accident/ Incident Investigation report
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A7: **ACTION PLANS**

FIRE OR EXPLOSION (INCLUDING BUSH FIRE)

<table>
<tr><td>Immediate Action</td><td colspan="2">▪ If safe to do so, attempt to extinguish the fire.
▪ If explosion, evacuate area immediately
▪ If fire cannot be extinguished, call Emergency services 000</td></tr>
<tr><td>Notification</td><td>For Class 1 incident contact

▪ HSEQ Manager/Advisor
▪ Site Foreman/Manager
▪ Project Manager
▪ Construction Manager
▪ Director/General Manager
▪ Client
and:
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Site Foreman/Manager
▪ Project Manager
▪ Construction Manager
▪ HSEQ Manage/Advisor</td></tr>
<tr><td>Treatment</td><td colspan="2">▪ Ensure all persons are evacuated & isolated from potential harm. This includes the local community plus traffic control.
▪ Where safe to do so, isolate property from further damage.
▪ If fire brigade has been called, ensure street environmental controls are in place (if safe to do so) in anticipation of large volumes of water being used to extinguish fire
▪ Provide assistance as directed.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – document all details on form Accident/Incident Investigation
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A8: **ACTION PLANS**

CONTAMINATED MATERIAL

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>Assess the situation</u>: Identify the severity (if necessary) evacuate

Do not enter an area that could be unsafe for you.</td></tr>
<tr><td>Notification</td><td>For Class 1 incident contact

▪ Site Foreman/Manager
▪ Project Manager
▪ HSEQ Manager/Advisor
▪ Construction Manager
▪ Director/General Manager
▪ Client
and:
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Site Foreman/Manager
▪ Project Manager
▪ Construction Manager
▪ HSEQ Manager/Advisor</td></tr>
<tr><td>Treatment</td><td colspan="2">▪ Assuming there is no injury or harm to persons, initiate immediate investigation of materials to determine the level of risk & proposed further course of action.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – document all details on form Accident/Incident Investigation
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A9: **ACTION PLANS**

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>ASSESS SUSPICIOUS ITEMS</u>

▪ C</td></tr>
<tr><td>Notification</td><td>For Class 1 incident contact:

▪ HSEQ Manager/Advisor
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project Manager
▪ Construction Manager
▪ Director/General Manager
▪ Client
and:
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project Manager
▪ Construction Manager
▪ HSEQ Manager/Advisor</td></tr>
<tr><td>Treatment</td><td colspan="2">Bomb Threat – follow the ‘Bomb Threat Check List’
▪ let the caller finish the message;
▪ write down all information – keep replies short;
▪ when the caller hangs up DO NOT HANG UP. Leave receiver off the hook;
▪ on a different phone - & NOT A MOBILE – contact Police (000)
▪ follow directions given by Police;
▪ evacuate if necessary.

Chemical, Biological or Radiological (CBR) incident
▪ staff in the affected area are to isolate the suspicious mail item;
▪ do not touch their mouth or nose, isolate themselves from others in the building;
▪ inform the Project Manager/ Emergency Response Advisor
▪ Call 000 - advise them of the nature of the incident & wait for their response;

If concerned about the spread of potential contaminant to other parts of the site / building, or if instructed to do so by 000 or the appropriate Emergency Service, initiate a site evacuation and close off the affected building / site to prevent any further entry.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Coordinator,
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – document all details on form Accident/Incident Investigation
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT A10: **ACTION PLANS**

ENVIRONMENTAL INCIDENTS: CONCERN FOR THE HEALTH AND SAFETY OF WORKERS, THE PUBLIC AND/OR THE ENVIRONMENT

<table>
<tr><td>Immediate Action</td><td colspan="2"><u>STOP WORK.</u>

Assess the situation:
▪ Identify the severity - (if necessary) evacuate
▪ Do not enter an area that could be unsafe for you.</td></tr>
<tr><td>Notification</td><td>For Class 1 incident contact
▪ HSEQ Manager/Advisor
▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project /Construction Manager
▪ Director/General Manager
▪ Emergency Response Coordinator
▪ Emergency Services / 000 Act on their instructions</td><td>For Class 2 or 3 incident contact:

▪ Site Foreman/Manager
▪ Site WHS Rep.
▪ Project Manager
▪ Construction Manager
▪ HSEQ Manager/Advisor</td></tr>
<tr><td>Treatment</td><td colspan="2">Spills / escape of polluted water:
▪ contain the spill - ensure that no further escape occurs, especially off-site;
▪ determine whether clean up is likely to be required - recover spilt material;
▪ Site Foreman/Manager, in consultation with Project Manager, determine process for clean up & disposal of contaminated materials.

Odours and dust:
▪ apply odour / dust suppression agents (including water mists, soil, chemicals);
▪ consider carefully which option to select in light of the scale & type of problem;
▪ Site Foreman/Manager in consultation with Project Manager, determine corrective actions.

Landslip:
▪ isolate (turn off) water mains that could discharge into the area;
▪ obtain specialist advice BEFORE attempting to rescue people or equipment - zone of the landslip is likely to be unstable;
▪ once source is contained or discharge has stopped, determine extent of clean up required;
▪ Site Foreman/Manager in consultation with the Project Manager, determines the most suitable process for clean up & disposal of materials.

Flora / Fauna, Injury or Disturbance(including Heritage items):
▪ cease activity causing flora / fauna injury or disturbance;
▪ Site Foreman/Manager, in consultation with Project Manager, determine corrective actions.
▪ Notify relevant authority if an endangered / threatened flora species is affected or killed or a heritage item is discovered the Project Manager to be notified firstly who will then notify relevant authority etc appropriately

Release of Waste:
▪ Cease activity causing the release of wastes off-site;
▪ Contain waste with suitable equipment ie: spill kit, sand or bunds
▪ the Site Foreman/Manager in consultation with the HSEQ Manager/, determines the most suitable process for clean-up.</td></tr>
<tr><td>Follow up</td><td colspan="2">▪ Notify HSEQ Manager/Advisor,
▪ Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable.
▪ Record – document all details on form Incident Investigation
▪ Report incident on INX</td></tr>
</table>

ATTACHMENT B: **EMERGENCY CONTACT DETAILS**

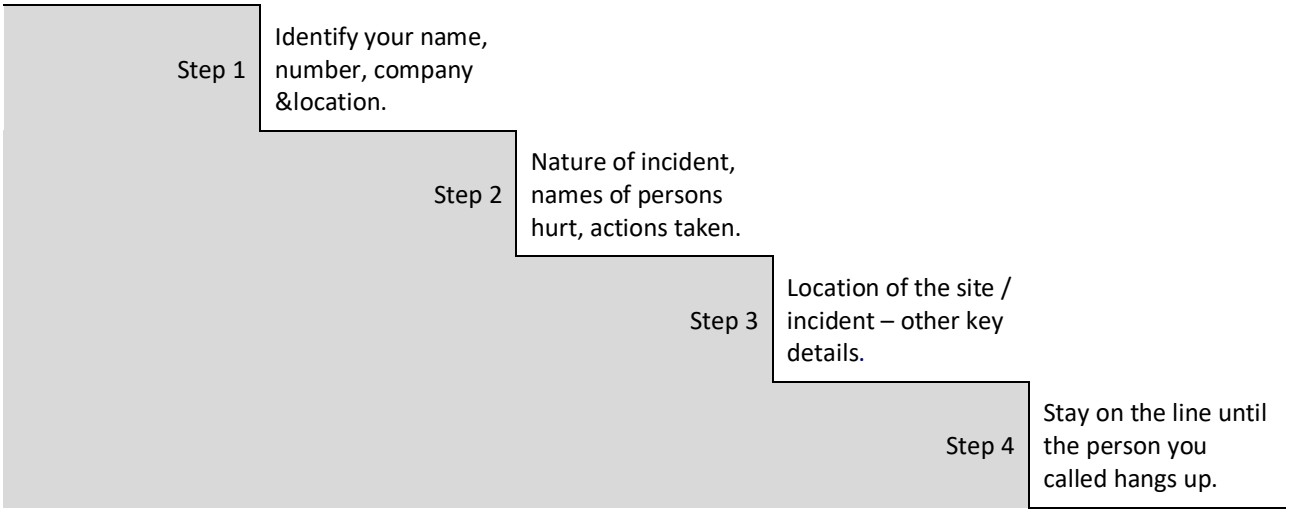
EMERGENCY PHONE NUMBERS		
PRINCIPAL CONTRACTOR: **Renascent Australia**		
Project: Cumberland Hospital	Customer: Job No:	WSLHD 18-023
Director/General Manager	[redacted]	[redacted]
HSEQ Manager	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]
Site Foreman/Manager/Manager	[redacted]	[redacted]
Emergency Controller/First Aider	[redacted]	[redacted]
Deputy Emergency Controller	[redacted]	[redacted]

WorkCover	[redacted]	[redacted]

Poisons Information Centre		[redacted]
Ambulance, Fire Station, Police	[redacted]	[redacted]
HAZMAT		[redacted]
Hospital	[redacted]	[redacted]
OEH /EPA– POLLUTION LINE		[redacted]
State Emergency Service		[redacted]
Telstra – Underground Services		[redacted]
Telstra – Damaged Cables		[redacted]
Local Electricity Supply:		[redacted]
Gas Emergency		[redacted]
Police Services		[redacted]
Parks & Wildlife Service (OEH/EPA)		[redacted]
Local Aboriginal Land Council		[redacted]

ATTACHMENT C:

EMERGENCY TELEPHONE INSTRUCTIONS



- **Keep calm – so you can help**
- **Protect yourself from danger at all times**
- **Call for First Aid assistance – First Aider or Supervisor will arrange for Ambulance if required**
- **Direct someone to wait at site entrance to guide emergency vehicles**
- **Maintain a diary of phone calls / details, events and times.**

EMERGENCY RESPONSE COORDINATOR	[redacted]	[redacted]
DEPUTY EMERGENCY RESPONSE COORDINATOR	[redacted]	[redacted]

ATTACHMENT D.1:

Locality Plan

ATTACHMENT D.2:

Medical Centre Route Map

NA

ATTACHMENT D.3:

Hospital Route Map

ATTACHMENT ; E

Emergency Evacuation Procedures

EMERGENCY EVACUATION

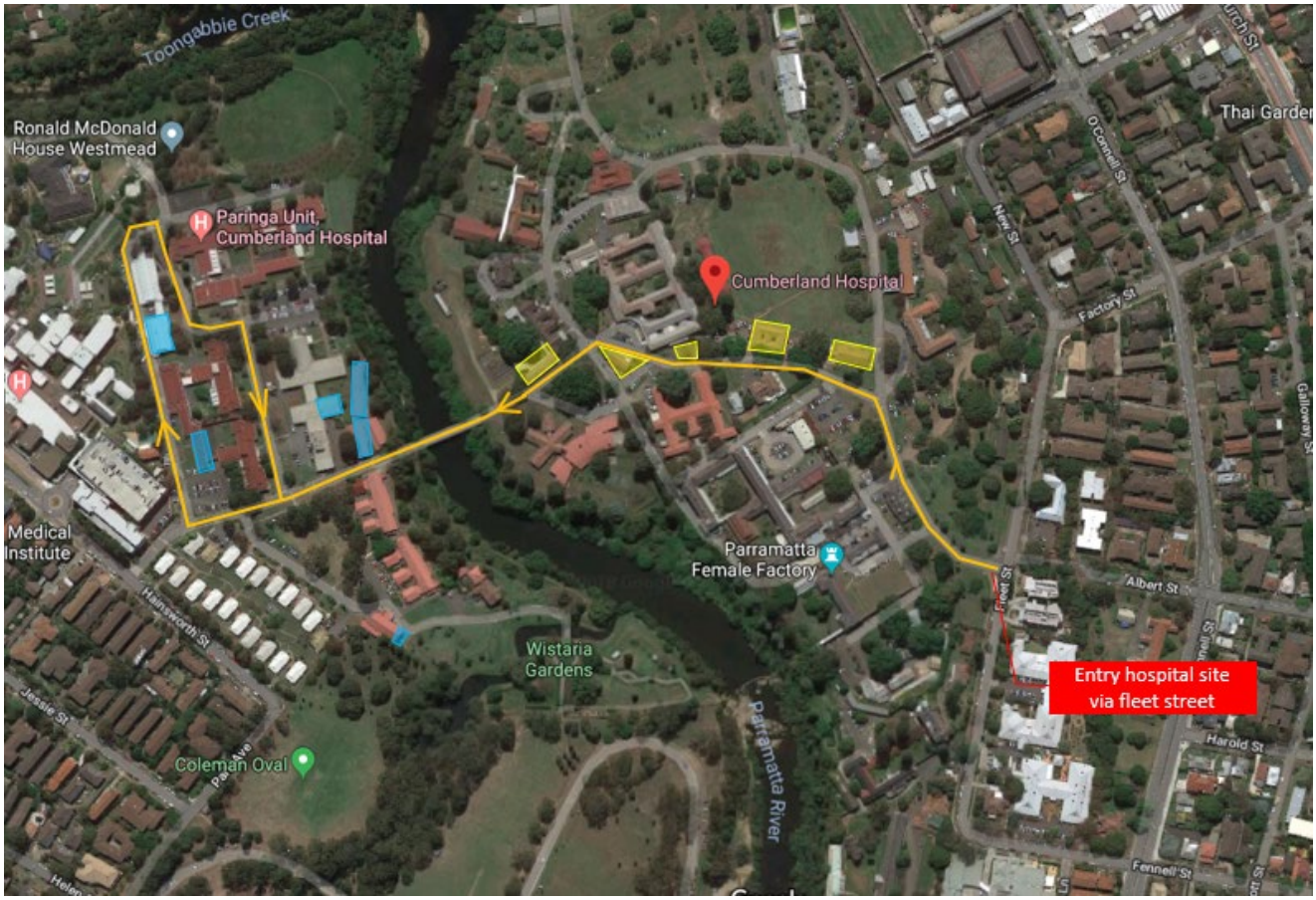
Notice of an evacuation to all personnel on site will take place by the sounding of 3 blasts of an air horn. This will be initiated by a Management Representative. In the event an Evacuation from site, you must immediately:

- Stop your work activity, check to ensure that this action will not endanger others and that the workplace can be left in a safe condition.
- All equipment, machinery etc must be switched off immediately the emergency is sounded and "Live" electrical equipment must be disconnected where possible.
- Ensure all equipment is properly shut off before closing any supply of water, gas or air.
- If safe to do so, remove all mobile equipment to the designated safe zone.
- Where practicable, road ways, walkways etc must be left clear of obstructions to permit access if needed.
- Cranes with suspended loads must, with the consideration of the safety of all persons (including themselves), bring the load to rest in the shortest operating time without exceeding the normal operating capacity of the crane.
- Switch off all forms of electric or internal combustion power supply.
- Management personnel located on the project at the time the alarm is sounded are required to assist in the quick and efficient removal of all personnel from the work site and must ensure all personnel are completely vacated prior to proceeding to the muster point(s).
- Requirements at the Muster Point:
    - All personnel shall immediately report to the Site Foreman/Manager;
    - The Site Foreman/Manager (or representative) shall account for all personnel under their control (including visitors) and report this immediately to the Project Manager or Management representative together with the names of any personnel unaccounted for and their last known location;
    - All personnel are required to remain at the muster point for the duration of the emergency unless under further risk of harm or otherwise advised to leave by the Project Manager.

PERSONNEL MUST NOT RETURN TO WORK UNLESS ADVISED BY MANAGEMENT AS BEING SAFE TO DO SO

ATTACHMENT ; F

Site Plan



ATTACHMENT ; G:

BOMB THREAT CHECKLIST

BOMB THREAT CHECK LIST
PLACE THIS CARD UNDER YOUR PHONE

QUESTIONS TO ASK
• When is the bomb going to explode ? • Where did you put the bomb? • When did you put it in there? • What does the bomb look like? • What kind of bomb is it? • What will make the bomb explode? • Did you place the bomb? • What is your name? • Where are you? • What is your address?
RECORD EXACT WORDS OF HERE

ACTION	
Report call immediately to:	
Phone Number:	
CALLERS VOICE	
Accent (specify):	
Any impediment (specify)"	
Voice (loud, soft, etc)	
Speech (fast, slow, etc)	
Diction (Clear, muffed)	
Manner (calm, emotional, etc)	
Did you recognise the voice?	
If so who do you think it was?	
Was caller familiar with the area?	
REMEMBER KEEP CALM- DON'T HANG UP	

THERE AT LANGUAGE	
Well spoken:	
Incoherent:	
Irrational:	
Taped:	
Message read by callers:	
Abusive:	
Other:	

BACKGROUND NOICES	
Street noises:	
House noises:	
Aircraft:	
Voices:	
Music:	
Machinery:	
Local Call:	
Long Distance:	
Other:	

OTHER	
Duration of call:	
Number called:	

RECIPIENT	
Name Print:	
Telephone Number:	
Signature:	

Activity C

Emergency Management Plan

Emergency Response Plan

Name of Principal Contractor:	Donnelley Constructions Pty Ltd
Company Address:	[redacted]
Phone:	[redacted]
Fax:	[redacted]
Email:	[redacted]
ABN:	66 000 179 028
Client:	Health Infrastructure
Project Name:	Cumberland West – PLR Relocation Project
Contract No:	HI18328EW
Emergency Response Plan Revision:	C
Date Approved:	09.07.19

REVISION STATUS

DATE	REV	PURPOSE	REVIEWED BY
09.07.19	A	Initial Submission for Review	[redacted]
02.09.19	B	Updated to include TfNSW elements	[redacted]
06.01.20	C	Updated emergency description	[redacted]

Contents

1 Purpose & Scope

The purpose of this plan is to clearly describe the actions and responsibilities required in the event of an emergency occurring on the project. This plan is applicable to all parts of this project and throughout all phases of works. It will be reviewed and, where applicable, updated after any major incident.

2 Definitions

i) Critical Incident

- An event or point of decision which, if not handled in an appropriate and timely manner (or if not handled at all), may turn into a disaster or catastrophe significantly impacting on the operations of the project site and or company as a whole.

ii) Critical Incident Management Team (CIMT)

- CIMT to deal with a Crisis situation or event.

iii) Emergency Response Controller (ERC)

- The relevant Site Manger or other person appointed to deal with a specific crisis event or developing situation.

iv) Emergency

- For the purpose of this plan, an emergency shall be defined as an unforeseen occurrence; a sudden and urgent occasion for action.

v) Emergency Response Services

- May, as appropriate, mean police, ambulance, fire brigades, state emergency services, hospital or other specialist groups.

vi) Incident

- An unplanned or undesirable event resulting in, or has the potential for, personal injury, loss of productivity, environmental damage or property damage. Work related incidents may involve a work injury and/or non-injury occurrence

vii) Incident Class

- Class 1

  People – Causes or has the potential to cause damage which permanently alters the future of the individual (fatality, quadriplegia, amputee, disabled or psychological disturbance).
  Environment – Causes or has the potential to cause permanent environmental damage and results in remediation costs of > $50,000.
  Plant / Equipment / Property – Causes or has the potential to cause damage to plant / equipment and / or property > $50,000.

- Class 2

  People – Causes or has the potential to cause an injury or disease resulting in temporary disability or time lost from work of one or more complete days or shifts.
  Environment – Causes or has the potential to cause damage to the environment which can be rectified and results in remediation costs of > $10,000 and < $50,000.
  Plant / Equipment / Property – Causes or has the potential to cause damage to plant / equipment and / or property > $10,000 and < $50,000.

- Class 3

  People – Causes or has the potential to cause an injury which inconveniences the individual such as minor cuts or sprains, but allows the person to continue to carry out normal duties.
  Environment – Causes or has the potential to cause damage to the environment which can be easily rectified and results in remediation costs of < $10,000.
  Plant / Equipment / Property – Causes or has the potential to cause damage to plant / equipment and / or property < $10,000.

viii) Near Miss

- Any unplanned event in the workplace that, although not resulting in injury or significant equipment, property and/or environmental damage, had the potential to do so.

ix) Non-Compliance (Environmental)

- Environmental non-compliance is a non-compliance with any Condition of Approval, license condition or any other statutory approval relevant to the activity and/or area where the activity occurs.

3 Critical Incident Management

3.1 General

A Critical Incident is when an event or point of decision which may lead to a fatality, possible fatality, possible permanent disability due to injury, or turn into a disaster or catastrophe significantly impacting on the operations of the project site, surroundings and or company as a whole. Critical incidents shall be managed on site by the Critical Incident Management Team (CIMT)

3.1.1 Critical Incident Management Team (CIMT)

A CIMT is to be established in the event of a critical incident, or potential critical incident.

The CIMT will comprise of:
i) Site Manager (CIMT Leader)
ii) Project Manager
iii) Systems Manager (Environmental Coordinator)
iv) Managing Director (Communication Manager)
v) Site Staff & Other Personnel

3.2 Responsibilities

3.2.1 Site Manager (CIMT Leader)

i) Overall control & coordination of a critical incident response
ii) Coordinate & Initiate Critical Response Process in accordance with this plan (Section 3.3)
iii) Assume initial control of the scene of the emergency and the evacuation of staff to emergency muster points as required.
iv) Activate the appropriate external emergency services if not already completed.
v) Assume the lead role in the event of an actual emergency; unless emergency services personnel take over the site as part of an Emergency Services Act.
vi) Activate & liaise with Emergency Services (depending upon the severity of the incident). Ensure they are aware of all relevant factors affecting the incident.

vii) Notify the Project Manager ASAP.
viii) Ensure the site is secure.
ix) Ensure that all pollution incident response equipment is available on the project.
x) Ensure a Hazardous Substance register, including all Material Safety Data Sheets (MSDS), is available and current.
xi) Ensure emergency response requirements are included and up to date in the project induction.
xii) Control the following actions as appropriate:

- Movement within the site evacuation muster area;
- Ensure all head counts are conducted and any 'missing persons' are identified and subsequently accounted for;
- Direct emergency services to the exact location of the emergency incident;
- Provide up to date information as to the status of the incident to the emergency services.

xiii) Ensure that all first aid facilities, kits and alike are readily available on the project and refurbishment, replenishment of emergency stocks or equipment.
xiv) Coordinate all incidents in accordance with this plan;
xv) Respond to incidents as appropriate. Record all details;
xvi) Identify both the incident classification and other relevant details;
xvii) Notify personnel that are affected to evacuate (as applicable);
xviii) Maintain a clear phone line for incoming and outgoing emergency communications;
xix) Give instruction on when it is safe / appropriate to resume normal operations.

3.2.2 Project Manager

i) Ensure the Critical Incident Team Leader is appropriately trained
ii) Ensure this plan is reviewed and updated to reflect changes in the workplace or opportunities for improvement.
iii) Provide high level decisions and instruction regarding personnel, property and/or the environment that are affected by the incident / emergency.
iv) Ensure that an appropriate level of resources are available.
v) Initialise off site response (including notification to Managing Director, WorkCover, relevant authorities, insurance brokers, etc.).
vi) Liaise with the client with respect to community consultation and media management.
vii) Liaise with the WorkCover Authority where applicable.
viii) Communicate events requiring response, notifications and reporting.
ix) Respond to the requirements of Regulatory Authorities as required.
x) Organise trauma counselling for critical incidents.
xi) Develop a plan on how to get the site back up and running.

3.2.3 Systems Manager (Environmental Coordinator)

i) Assist in identifying potentially critical incident circumstances, environmental non-compliances and assessing and controlling of critical incident risks effectively.
ii) Implementing, monitoring and maintaining risk control measure for critical or potentially critical incidents in their areas of responsibility.
iii) Consulting with employees on critical incident practices or any proposed changes.
iv) Ensuring the well-being of employees following a critical incident.

3.2.4 Managing Director (Communication Manager)

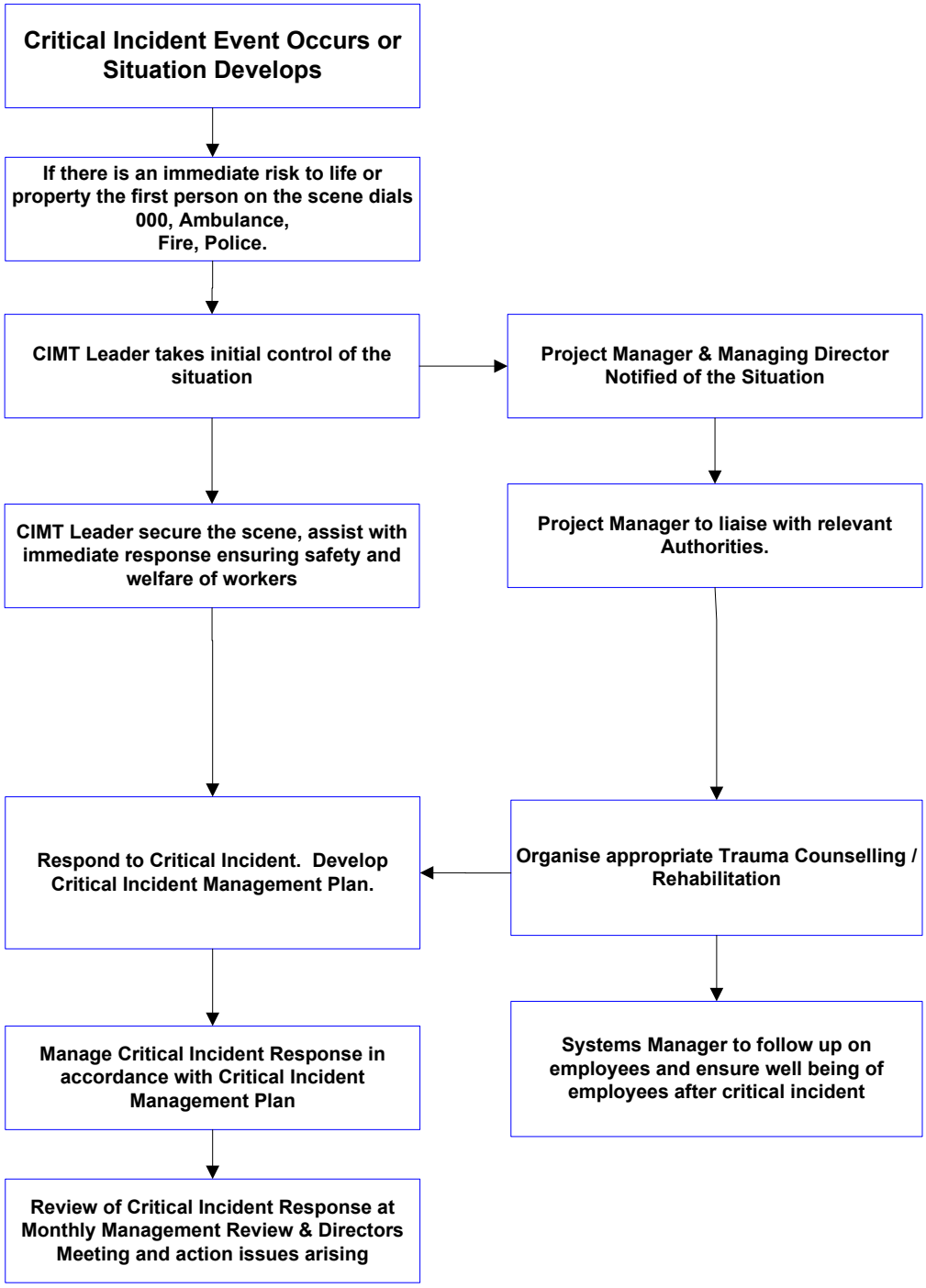
i) Initialise contact with general counsel. Direct all personnel in accordance with general counsel advice.

ii) Ensure that a Critical Incident Management Team (CIMT) has been formed, along with a CIMT Leader elected.
iii) Approval to comment to media.

3.2.5 Site Staff & Other Personnel

i) Comply with any directions given by management or supervisors in the event of an emergency or critical incident.
ii) Report any emergency to their immediate supervisor as soon as they become aware of the emergency.
iii) Making themselves available for the support mechanisms (Employee Assistance Programme) in the event of exposure to critical incidents.

3.3 Critical Incident Response – Summary



3.4 Critical Incident Priorities

In the event of a critical incident, the following priorities will be observed:

1. Protect and rescue human life;
2. Render affected areas safe; and
3. Protect property, environment and information.
4. Follow this by:-

- Clearing of damage / affected area
- Restoration of disrupted services, including traffic operations
- Resumption of normal workplace conditions
- A debriefing with all of those involved
- A prompt investigation & review with lessons learnt / corrective actions
- Communicate lessons learnt / corrective actions with relevant personnel

Once an investigation has been carried out, implement training as learned from investigation.

3.5 Review of Critical Incident

i) Following any critical incident, the critical incident response shall be reviewed using the Critical Incident Response Evaluation form (Form 104) and at High Level by the Directors Quarterly Meeting & Monthly Management Review.

ii) The critical incident response shall also be reviewed at site level at the Team Meeting (Form 015).

iii) A response from both site level and management level shall be combined & a direction forward shall be implemented.

iv) Managing Director to issue all Donnelley Sites an update and new protocols / rules may be put in place.

v) Any new rules / protocols are to be conveyed to site staff via tool box meeting and introduction into any new procedures.

4 Emergency Management

4.1 General

All other incidents that occur on site shall be handled under emergency management. These incidents can be handled by the Emergency Response Controller, the Deputy Emergency Response Controller and the Project Manager.

An Emergency Management Team will comprise of:-

i) Emergency Response Controller (ERC) (Site Manager)
ii) Deputy Emergency Response Controller (Foreman)
iii) First Aid Personnel
iv) Project Manger
v) Site Staff & Other Personnel

4.2 Responsibilities

4.2.1 Emergency Response Controller (Site Manager)

i) Implementation and activation of this plan.
ii) Coordinate & Initiate Emergency Response Process in accordance with this plan (Section 4.3).
iii) Assume initial control of the scene of the emergency and the evacuation of staff to emergency muster points as required.
iv) Activate the appropriate external emergency services if required.
v) Assume the lead role in the event of an actual emergency; unless emergency services personnel take over the site as part of an Emergency Services Act.
vi) Activate & liaise with Emergency Services (depending upon the severity of the incident). Ensure they are aware of all relevant factors affecting the incident.
vii) Ensure the site is secure.
viii) Ensure that all pollution incident response equipment is available on the project.
ix) Ensure a Hazardous Substance register, including all MSDS, is available and current.
x) Ensure emergency response requirements are included and up to date in the project induction.
xi) Control the following actions as appropriate:
- Movement within the site evacuation muster area;
- Ensure all head counts are conducted by Deputy Emergency Response Controller and any 'missing persons' are identified and subsequently accounted for;
- Direct emergency services to the exact location of the emergency incident;
- Provide up to date information as to the status of the incident to the emergency services.

xii) Ensure that all first aid facilities, kits and alike are readily available on the project and refurbishment, replenishment of emergency stocks or equipment.
xiii) Coordinate all incidents in accordance with this plan.
xiv) Respond to incidents as appropriate. Record all details.
xv) Identify both the incident classification and other relevant details.
xvi) Notify personnel that are affected to evacuate (as applicable).
xvii) Notify Project Manager on conclusion of emergency.
xviii) Give instruction on when it is safe / appropriate to resume normal operations.
xix) Assist project manager in reporting & review of Emergency.

4.2.2 Deputy Emergency Response Controller (Foreman)

i) Assume control of the scene of the emergency and the evacuation of staff to emergency muster points if the Emergency Response Controller is not available.
ii) Assist the Emergency Response Controller in ensuring that all pollution incident response equipment is available on the project.
iii) Assist the Emergency Response Controller in ensuring a Hazardous Substance register, including all MSDS, is available and current.
iv) Assist the Emergency Response Controller in ensuring that all first aid facilities, kits and alike are readily available on the project and refurbishment, replenishment of emergency stocks or equipment.
v) Assist in Coordination all incidents in accordance with this plan.
vi) Respond to incidents as appropriate. Record all details.
vii) Take site attendance register to the emergency muster point or relay the information to the emergency services on site.
viii) Identify both the incident classification and other relevant details.
ix) Notify personnel that are affected to evacuate (as applicable).
x) Assist Project Manager & Emergency Response Controller in reporting & review of Emergency.

4.2.3 First Aid Personnel

i) Attend to any casualties in the affected area, providing it is safe to do so;
ii) Await instruction from the Emergency Response Controller (ERC) and respond to the requirements of first aid and treatment.
iii) Maintain their Senior First Aid Accreditation (including CPR).
iv) Assist the Emergency Response Controller in ensuring that all first aid facilities & kit contents and restock as required.

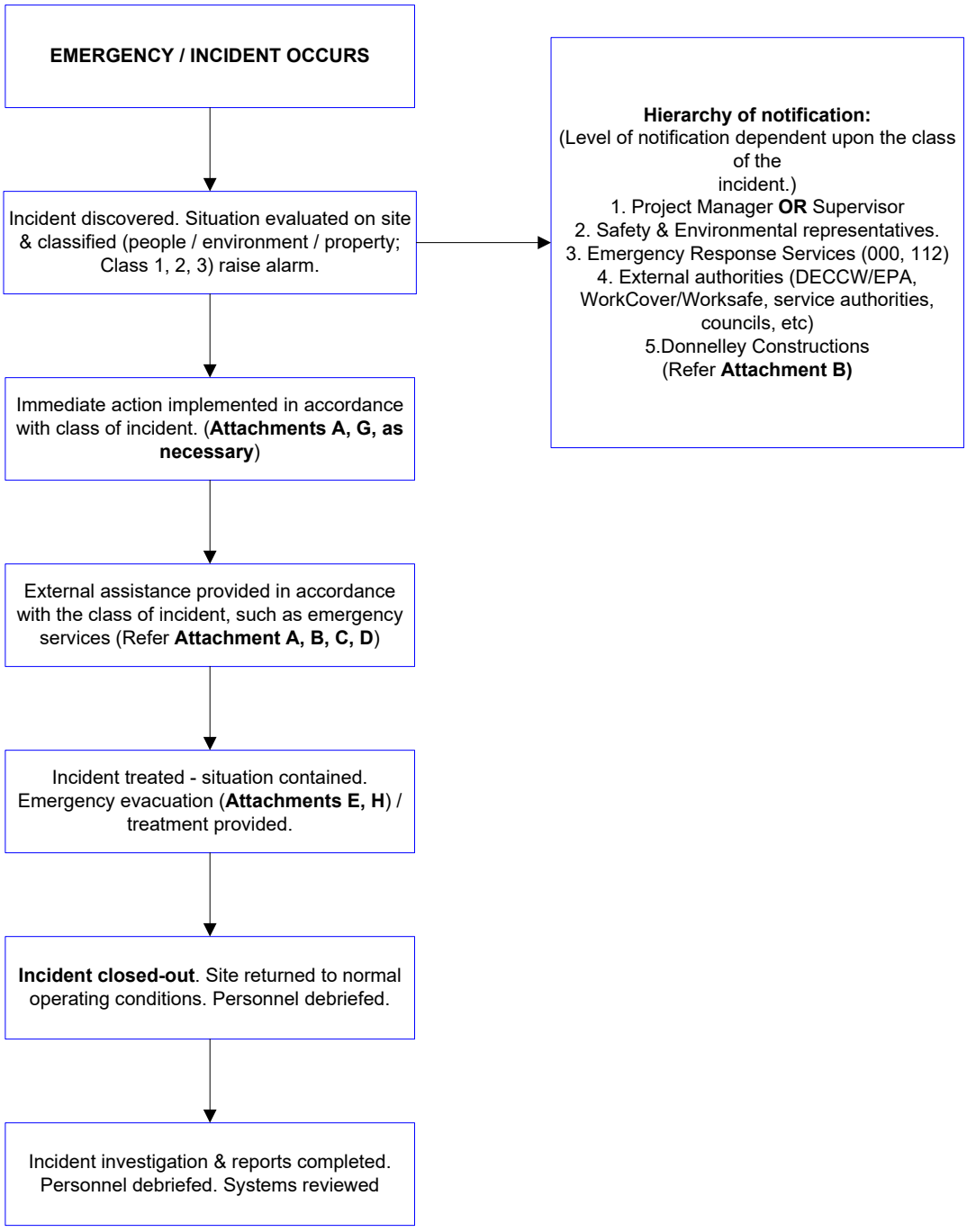
4.2.4 Project Manager

i) Attend Site as soon as possible.
ii) Carry out all reporting as required.
iii) Ensure the Emergency Response Controller and the deputy are appropriately trained.
iv) Ensure this plan is reviewed and updated to reflect changes in the workplace or opportunities for improvement.
v) Ensure that an appropriate level of resources are available.
vi) Initialise off site response (including notification to Managing Director, WorkCover, relevant authorities, insurance brokers, etc.).
vii) Liaise with the client where required.
viii) Respond to the requirements of Regulatory Authorities as required.

4.2.5 Site Staff & Other Personnel

i) Comply with any directions given by management or supervisors in the event of an emergency or critical incident.
ii) Report any emergency to their immediate supervisor as soon as they become aware of the emergency.
iii) Do not interfere with the management of any emergency unless requested by site supervision.
iv) Assemble at the designated muster point.
v) Do not leave muster point unless directed to do so.

4.3 Emergency Response – Summary



4.4 Emergency Priorities

i) In the event of an incident, the following priorities will be observed:

1. Protect and rescue human life;
2. Render affected areas safe; and
3. Protect property, environment and information.
4. Follow this by:-

- Clearing of damage / affected area
- Restoration of disrupted services, including traffic operations
- Resumption of normal workplace conditions
- A debriefing with all of those involved
- A prompt investigation & review with lessons learnt / corrective actions
- Communicate lessons learnt / corrective actions with relevant personnel

ii) Once an investigation has been carried out, implement training as learned from investigation.

4.5 Response & Review of Emergency

i) Part of the recovery process is to ensure that appropriate steps are taken to investigate the cause of the emergency and the response so that corrective measures can be introduced as soon as possible.

ii) This is achieved by initially completing the Accident/Incident Investigation Report (Form 031).

iii) This is also reviewed at Team Meetings (Form 015).

iv) Findings of reports are to be conveyed to site staff via tool box meeting and introduction into any new procedures.

5 Training

i) All site personnel, including sub-contractors, will be instructed in the correct response to an incident, as part of the induction process.

ii) Local Emergency Services – police, fire, ambulance, etc. – will be contacted and invited to site for familiarisation purposes.

iii) Evacuation and emergency response drills will be conducted. The first drill will be held within 1 month of commencement of construction works and 3 monthly thereafter throughout the life of the project.

iv) Records of all training will be maintained in the project site file.

6 Incident Response Actions

i) A list of potential incidents – together with typical treatments applicable to each of these – is shown in **Attachment A**, Action Plans. This table provides a guide to assist project personnel to initiate appropriate action as well as a summary of ongoing actions.

ii) Where applicable, personnel will be evacuated in accordance with **Attachment H**, Emergency Evacuation Flowchart.

iii) Details of contact numbers are provided in **Attachment B**, and **Attachment D** contains a Hierarchy of Incident Notifications.

iv) In addition to these notifications, the following reporting requirements will be observed:

- If an actual or potential Class 1 event occurs, the Project Manager will report verbally within 1 hour to the Managing Director and client and provide the following details:
- Why the incident occurred?
- What system of work was in place prior to the incident?
- What actions were taken prior to the event to train and direct employees?
- What actions have now been implemented to prevent any re-occurrence of the event?

v) The Project Manager will ensure that any Class 2 incident that does / may affect the public and / or cause adverse publicity is reported to the Managing Director and client within 1 hour of the incident occurring.

vi) Prior to commencing an investigation, any incident that has the potential to result in an infringement notice and / or legal proceedings must be reported to the Systems Manager immediately.

7 Trauma Counselling & Rehabilitation

7.1 Counsellors

i) Where counselling is required, the Project Manager shall organise counselling services through the Donnelley Constructions nominated trauma counselling organisation (see appendix B). Counselling will be undertaken by appropriate qualified Counsellors. Depending upon the size of the site and closeness of the employees such counselling may be required on an on-going basis particularly in the case of a fatality. Individuals who are badly affected will be identified so they receive special attention.

7.2 Support of Family of Injured or Deceased Employee

ii) The family of the injured worker must be advised of the accident. Where an employee is deceased, the Police will inform the next of kin. The task of advising a family member of an injured employee should preferably be performed by two people, one of whom is a senior company representative. They will be assisted by the Police and / or a Counsellor if necessary. The advice will be factual and appropriate counselling assistance be offered, particularly in the case of a fatality.

7.3 Support of Co-workers and Witnesses

iii) Co-workers and witnesses to the accident will be supported and counselled, with trauma counselling being considered. Depending upon the condition of these personnel, they will be treated sympathetically and moved to another area in order to assist with their recovery. When appropriate, these persons shall be interviewed by investigators. Initially the witnesses will be supported in their distressed state particularly in accidents involving graphic injuries or death.

iv) Managers, Supervisors or others who may feel responsible for a traumatic injury of fatality, and First Aiders who gave treatment may require special support. People affected will be debriefed before they leave the site and be provided with relevant contact details should they require assistance e.g. a Counsellor.

v) The workforce will be advised of the accident and as necessary trauma counselling will be provided. Consistent and factual information will be given quickly to prevent the grapevine generating rumour and innuendo.

7.4 Rehabilitation

vi) The rehabilitation of any Donnelley Constructions employee will be in accordance with the Company's return to work program (Form 044).

vii) The Systems Manager is responsible for liaising with the company's workers compensation provider and the rehabilitation provider in the management of any particular 'Workers Injury Management Plan'. The plan will be developed in consultation with the sick/injured Donnelley Constructions employee and medical advisers.

8 Legal Advice

i) For traumatic or fatal accidents or other significant incidents the Managing Director shall be advised. They will organise legal advice where required.

9 Media

i) All statements to the media concerning any emergency at any Donnelley Constructions workplace shall be made only after consultation with the client and the Managing Director.

ii) In the majority of cases involving serious injury or fatality the media may learn of the accident from the reports made to the authorities and then attend the site without notice. The Media will be treated courteously but should not be allowed free access to the site. All media enquiries and/or releases shall be referred to the Managing Director.

iii) In case of a fatality, it is important that the name(s) of those involved are not broadcast until all next of kin have been notified.

10 Reporting

i) On projects relating to Transport for NSW (TfNSW) all environmental incidents and non-compliances will be reported immediately to HAC / TfNSW.

ii) All environmental incidents, reportable events and regulatory action will be reported to HAC and TfNSW.

iii) All incidents will be recorded in the INX incident tracking software immediately following the incident - within a maximum of 4 hours.

iv) For an incident related to the discovery of asbestos, the incident will be recorded in the INX as a safety incident.

v) A report will be submitted one (1) week following the incident. The Environmental Manager will ensure the information is delivered in the appropriate timeframe.

vi) The Construction Environmental Manager will provide all records of the environmental incidents and regulatory action to HAC and the TfNSW Project team.

vii) Where an incident involves a potential impact to an Aboriginal site, the Project Manager will notify the heritage Division of the Department of premier and Cabinet (DPC) formerly Office of Environment and Heritage (OEH), Registered Aboriginal Parties and the Excavation Director and their input will be sought in closing out the incident. If emergency construction works are required, the Project Manager will notify the Environmental Representative (ER) of the need for these works. Best practice endeavours will be used to notify all sensitive receiver of the likely impact and duration of these activities.

viii) The Project Manager is responsible for overseeing any written requirements from the Secretary to address the cause or impact of an incident must be complied with.

11 APPENDICES

Title	Number
Emergency Action Plans	A
Emergency Contact Details	B
Emergency Telephone Instructions	C
Locality Plans	D
Emergency Evacuation Procedures	E
Site Plan	F
Bomb Threat Checklist	G
Emergency Action Flowchart	H

ATTACHMENT A:

ACTION PLANS
Medical Emergency

If a person is seriously hurt or injury is suspected:

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. • **Assess the situation**: - Identify the severity - (if necessary) evacuate **If the injured person cannot be moved to a medical centre, call Emergency Services 000 (or 112) & ask for an Ambulance. Act on their instructions**	For **Class 1** incident contact • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client	If the patient is unconscious: • **D**anger – do not enter an area that could be unsafe for you. • **R**esponse – Establish the patient's level of consciousness • **A**irway • **B**reathing • **C**irculation If the patient is conscious: • Check for bleeding and control with direct pressure. • Do not move patient except where the location is not safe & secure. • Monitor vital signs • Provide First Aid to the level of your training. • Contact the Site Manager or Project Manager.	• Notify Systems Manager, • Forward Accident/Incident Report within 24 hours of notification. • Document the incident on Accident/ Incident Investigation report • Report incident on INX

Retrieval of a Person – EWP or Suspended from a Structure

Immediate Action	Notification	Treatment	Follow up
EMERGENCY RESCUE PROCEDURE FOR WORK ON ELEVATED WORK PLATFORMS **Assess the situation. If required, call Emergency Services.** • If possible to do so, use the emergency decent device controls to carefully lower the platform (be aware that the ground controls will override the platform controls for emergency purposes). • There are to be no persons underneath the platform, or in the direct drop vicinity of the EWP when using the emergency device. • Where it is not possible to use the emergency decent device a second boom or scissor shall be used to retrieve the injured worker. **EMERGENCY RESCUE PROCEDURE FROM A STRUCTURE** • Have someone call for assistance from ambulance/first aid etc. • Put on a rescue harness	For **Class 1** incident contact • WHS Manager • Site Managerr • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • WHS Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client	If the patient is unconscious: • **D**anger – do not enter an area that could be unsafe for you. • **R**esponse – Establish the patient's level of consciousness • **A**irway • **B**reathing • **C**irculation If the patient is conscious: • Check for bleeding and control with direct pressure. • Do not move patient except where the location is not safe & secure. • Monitor vital signs • Provide First Aid to the level of your training. • Contact the Site Manager or Project Manager.	• Notify WHS Manager, • Document the incident on Accident/ Incident Investigation report • Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. This may include review of HRCW Safe Work Method Statements. • Forward Accident/Incident Report within 24 hours of notification. • Report incident on INX

Immediate Action	Notification	Treatment	Follow up
• Ensure rescue equipment is positioned to give an unobstructed drop. • Attach the rescue line to a sling holding the rescue container. • Remove the descent device and attach to rescuer • Disconnect your safety strap from the tower • Lower yourself down to a position slightly above the victim • Re-attach your safety strap • Attach the descent device with the adjustable rescue strap to the victim • Adjust the strap so that it is as short as possible • Release or cut victim's safety strap • Release your safety strap and lower yourself with the victim to the ground using the descent device. Use your feet to push clear of any obstructions. • Carry out resuscitation and first aid as required **At no time shall a worker place his/her own safety at risk in order to perform these procedures.**			

Immediate Action	Notification	Treatment	Follow up
EMERGENCY RESCUE PROCEDURE FROM A ROOF • All roof work must be carried out in pairs as a minimum • If the worker is conscious, worker can unclip the harness and either lower themselves or assistance can be obtained via the stretcher stair on the scaffold (Scaffold is also acting as the edge protection) • If the worker is unconscious, utilise 2 people to lift up unconscious worker, unclip worker, lie him down and either remove him from scaffold on a stretcher, or wait till emergency services arrive.			

Breach of a Utility / Service

If a utility or service is breached:

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. • **Assess the situation**: - Identify the severity - (if necessary) evacuate • Do not enter an area that could be unsafe for you, particularly in the case of connection with a power line. • Contact the utility/service provider	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director **Where danger exists to the public or employees eg. major gas leak. Act on emergency services instructions.**	• Isolate the area to prevent harm to persons & minimise damage to property & the environment. This includes the local community plus traffic control. • If possible and safe to do so, implement corrective action. • Provide assistance to the Service Authorities as requested.	• Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. • Record – If the breach of service causes an environmental and/or safety incident, record on relevant accident/incident reporting • Report incident on INX

Structural Collapse

If a structure collapses:

Immediate Action	Notification	Treatment	Follow up
• Stop work • Assess the situation Identify the severity • Evacuate area if necessary • Isolate the area to prevent harm to persons & minimise damage to property & the environment. This includes the local community plus traffic control. • Do not enter an area that could be unsafe for you • Where possible prevent access to area; • Do not enter an area that could be unsafe for you. • Determine if anyone is trapped or unaccounted for; • Contact the utility/service provider • A nominated company representative will call	• Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions **Where danger exists to the public or employees Act on emergency services instructions.**	• Isolate the area to prevent harm to persons. This includes the local community plus traffic control. • If possible and safe to do so, implement corrective action. • Provide assistance to the Service Authorities as requested.	• Notify Systems Manager, • Forward Accident/Incident Report within 24 hours of notification. • Document the incident on Accident/ Incident Investigation report • Debrief the site team to identify causes and corrective/preventive action • Provide site personnel with information on the incident including corrective /action • Report incident on INX

Immediate Action	Notification	Treatment	Follow up
Emergency Services 000 • Where danger exists to the public or employees act on emergency services instructions • Engage the services of suitably qualified engineers to prepare a report and rectification plan; • Assuming there is no injury or harm to persons, initiate immediate investigation of materials to determine the level of risk & proposed further course of action in conjunction with engineers reports; • Check to see that all personnel are accounted for; • Notify emergency services if all personnel are not accounted for;			

Trench Collapse

If a trench or excavation collapses:

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. • Send someone immediately to telephone or radio for emergency services that may be needed. Ensure that the person sent to make the call is relatively calm, can communicate clearly and knows where the telephone is. • Look for evidence of where the trapped person is eg. tools, safety helmet etc. • Try to locate what section of the collapsed excavation/trench the person is trapped in. • Clear the area of all non-required personnel. • Identify if any further collapse is likely. • Establish and arrange for a person to monitor a safety zone. • If possible, batter the sides of the excavation/trench in the collapsed area.	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director **Where danger exists to the public or employees Act on emergency services instructions.**	• Isolate the area to prevent harm to persons. This includes the local community plus traffic control. • If possible and safe to do so, implement corrective action. • Provide assistance to the Service Authorities as requested.	• Notify Systems Manager, • Forward Accident/Incident Report within 24 hours of notification. • Document the incident on Accident/ Incident Investigation report • Report incident on INX

Immediate Action	Notification	Treatment	Follow up
• Install shoring where possible to protect the trapped person and the rescuers. • Carefully remove the collapsed soil with shovels. NEVER have anyone on top of the collapsed soil. They may be on top of the person trapped beneath the soil. • If the excavation/trench is over 1.5 metres deep, rescuers SHALL wear safety harnesses with lifelines attached securing them to the surface. • If the excavation/trench is over 1.5 metres deep, rescuers SHALL wear safety harnesses with lifelines attached securing them to the surface. • When the digging is close to the trapped person, continue excavation using hands. If shovels have to be used, extreme care must be taken not to cause any further injury to the person who is trapped. • When the trapped person has been located, clear soil from around the head and chest areas. Check for breathing and a pulse.			

Immediate Action	Notification	Treatment	Follow up
• If breathing has stopped – commence expired air resuscitation (E.A.R.) and continue until emergency services have arrived and have taken over. • If breathing has stopped and no pulse is present, commence E.A.R. and C.P.R. and continue until emergency services have arrived and have taken over. • After the trapped person has been freed, treated and stabilised by the emergency services personnel, make arrangements for the person to be removed from the excavation/trench in a safe manner, ensuring that no further collapse occurs during this operation			

Confined Space Rescue

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. • **Assess the situation**: - Identify the severity - (if necessary) evacuate - Exposure monitoring to be in place (acceptable air quality) • Have someone call for assistance from ambulance/first aid etc. **At no time shall a worker place his/her own safety at risk in order to perform these procedures.** Preferred method of rescue from a confined space;- 1) Self-Rescue, where the person can remove themselves from the confined space themselves, possible with verbal assistance 2) Non Entry Rescue, which involves extricating the person from the confined space, via a type 2 device, safety line, or similar. To be carried out by a trained person **And only as a last resort – to be carried out by a trained person (usually emergency services)** 3) Entry Rescue, where a person enters the confined space to retrieve the person.	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Coordinator • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	Once the patient has been removed from the confined space. If the patient is unconscious: • **D**anger – do not enter an area that could be unsafe for you. • **R**esponse – Establish the patient's level of consciousness • **A**irway • **B**reathing • **C**irculation If the patient is conscious: • Check for bleeding and control with direct pressure. • Do not move patient except where the location is not safe & secure. • Monitor vital signs • Provide First Aid to the level of your training. • Contact the Site Manager or Project Manager.	• Notify Systems Manager, • Document the incident on Accident/ Incident Investigation report • Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. This may include review of HRCW Safe Work Method Statements. • Forward Accident/Incident Report within 24 hours of notification. • Report incident on INX

Roll over of Plant / Fall Over of Plant

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. • **Assess the situation**: - Identify the severity - (if necessary) evacuate • Have someone call for assistance from ambulance/first aid etc. • Carry out resuscitation and first aid as required **At no time shall a worker place his/her own safety at risk in order to perform these procedures.**	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Coordinator • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director **Where danger exists to the public or employees eg major gas leak. Act on emergency services instructions.**	If the patient is unconscious: • **D**anger – do not enter an area that could be unsafe for you. • **R**esponse – Establish the patient's level of consciousness • **A**irway • **B**reathing • **C**irculation If the patient is conscious: • Check for bleeding and control with direct pressure. • Do not move patient except where the location is not safe & secure. • Monitor vital signs • Provide First Aid to the level of your training. • Contact the Site Manager or Project Manager.	• Notify Systems Manager, • Document the incident on Accident/ Incident Investigation report • Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. This may include review of HRCW Safe Work Method Statements. • Forward Accident/Incident Report within 24 hours of notification. • Report incident on INX

Traffic Accident

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. • **Assess the situation**: - Identify the severity - (if necessary) evacuate • Have someone call for assistance from ambulance/first aid etc. • Carry out resuscitation and first aid as required **At no time shall a worker place his/her own safety at risk in order to perform these procedures.**	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Coordinator • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	If the patient is unconscious: • **D**anger – do not enter an area that could be unsafe for you. • **R**esponse – Establish the patient's level of consciousness • **A**irway • **B**reathing • **C**irculation If the patient is conscious: • Check for bleeding and control with direct pressure. • Do not move patient except where the location is not safe & secure. • Monitor vital signs • Provide First Aid to the level of your training. • Contact the Site Manager or Project Manager.	• Notify Systems Manager, • Document the incident on Accident/ Incident Investigation report • Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. This may include review of HRCW Safe Work Method Statements. • Forward Accident/Incident Report within 24 hours of notification. • Report incident on INX

Plant in Contact with Electrical Service

Immediate Action	Notification	Treatment	Follow up
• **Stop** work immediately. • **ENSURE THE PERSON IN THE PLANT DOES NOT GET OUT OF THE VEHICLE** • Contact Emergency Services **At no time shall a worker place his/her own safety at risk in order to perform these procedures.**	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Coordinator • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director **Where danger exists to the public or employees e.g. power lines on the ground, act on emergency services instructions.**	If the patient is unconscious: • **D**anger – do not enter an area that could be unsafe for you. • **R**esponse – Establish the patient's level of consciousness • **A**irway • **B**reathing • **C**irculation If the patient is conscious: • Check for bleeding and control with direct pressure. • Do not move patient except where the location is not safe & secure. • Monitor vital signs • Provide First Aid to the level of your training. • Contact the Site Manager or Project Manager.	• Notify Systems Manager, • Document the incident on Accident/ Incident Investigation report • Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. This may include review of HRCW Safe Work Method Statements. • Forward Accident/Incident Report within 24 hours of notification. • Report incident on INX

Electric Shock

If a worker suffers from electric shock:

Immediate Action	Notification	Treatment	Follow up
• **Stop** work. Emergency Response for Electric Shock • Look first - do not touch! The victim may still be in contact with the electrical source and touching him or her may only pass the current through you. • Turn off the source electricity. • If you can't turn off the power, separate the victim from the power source using a dry object made of non-conducting material. Use a dry wood or plastic object to knock them loose. • If the victim is outdoors and touching a high voltage power line - stay clear and dial 000 or your emergency number. If a power line is down, wait for the fire department or power company. If there are people in a vehicle with a downed wire across it, tell them not to move and to stay in the car. • Act fast - speed is essential - delegate someone to call 000 or your emergency number.	For **Class 1** incident contact • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Utility/Service provider • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director **Where danger exists to the public or employees Act on emergency services instructions.**	• Isolate the area to prevent harm to person. This includes the local community plus traffic control. • If possible and safe to do so, implement corrective action. • Provide assistance to the Service Authorities as requested.	• Notify Systems Manager, • Forward Accident/Incident Report within 24 hours of notification. • Document the incident on Accident/ Incident Investigation report • Report incident on INX

Immediate Action	Notification	Treatment	Follow up
• Keep the victim lying down and make sure you are both in a safe area. • If the victim is not breathing, apply rescue breathing. If the victim is not breathing and has no pulse, begin CPR. • Cover the victim with a blanket to maintain body heat and wait for emergency medical personnel to arrive. Emergency Response for Flame Burns • If the victim's clothing is on fire - remind him/her to drop and roll or tackle the victim to smother the flames. • Check the victim for shock and follow the steps previously discussed for treating shock. • No signs of shock - begin treating the burned area. • Delegate someone to call 000 or your emergency number. • Cool the burn with running water continually until help arrives • Don't remove burned clothing and don't apply any ointments or other medication. • Remove constricting items from the victim, such as shoes, belts, jewellery and tight collars.			

Immediate Action	Notification	Treatment	Follow up
Emergency Response for Arc Burns • Follow the same procedures for flame burns; these burns cover large areas of the body			

Fire or Explosion

If a fire or explosion occurs (Including Bush Fire):

Immediate Action	Notification	Treatment	Follow up
• If **safe** to do so, attempt to extinguish the fire. • If explosion, evacuate area immediately • **If fire cannot be extinguished, call Emergency services 000 (or 112) and ask for Fire Brigade.**	For **Class 1** incident contact • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	• Ensure all persons are evacuated & isolated from potential harm. This includes the local community plus traffic control. • Where safe to do so, isolate property from further damage. • If fire brigade has been called, ensure street environmental controls are in place (if safe to do so) in anticipation of large volumes of water being used to extinguish fire • Provide assistance as directed.	• Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. • Record – document all details on form Accident/Incident Investigation • Report incident on INX

Contaminated Material

If suspected contact with contaminated material occurs:

Immediate Action	Notification	Treatment	Follow up
• **<u>Assess the situation</u>**: - Identify the severity - (if necessary) evacuate • Do not enter an area that could be unsafe for you.	For **Class 1** incident contact • Systems Manager • Site Manager • Site WHS Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	• Assuming there is no injury or harm to persons, initiate immediate investigation of materials to determine the level of risk & proposed further course of action.	• Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. • Record – document all details on form Accident/Incident Investigation • Report incident on INX

Asbestos Emergency (emergency in the asbestos zone)

Immediate Action	Notification	Treatment	Follow up
• **Assess the situation**: - Identify the severity - (if necessary) evacuate • Do not enter an area that could be unsafe for you.	For **Class 1** incident contact • Systems Manager • Site Manager • Site WHS Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	• For Class 2 & 3 incidents, Decontamination of the injured worker shall occur and then appropriate action to occur outside of the asbestos zone • For Class 1 incidents, emergency personnel to be notified that the incident has occurred in an asbestos zone, and they are to be offered appropriate protective equipment and to be assisted by a licensed worker if applicable / required	• Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. • Record – document all details on form Accident/Incident Investigation • Report incident on INX

Chemical, Biological or Radiological Emergency / Bomb Threat

If a suspicious package or letter is identified:

Immediate Action	Notification	Treatment	Follow up
Assess suspicious items. Check for: • Protruding wires or foil. • Excessive security such as masking tape, string etc. • Excessive weight. • Handwritten or poorly typed address to senior personnel. • Lopsided or uneven envelopes. • Postage dispatch stamp from a city or state that does not match the return address. • Title of person but no name shown. • Foreign and / or unexpected mail. • Call 000	For **Class 1** incident contact • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	• **Bomb Threat** – follow the 'Bomb Threat Check List' - let the caller finish the message; - write down all information – keep replies short; - When the caller hangs up DO NOT HANG UP. Leave receiver off the hook; - on a different phone - & NOT A MOBILE – contact Police (000) - follow directions given by Police; - evacuate if necessary • **Chemical, Biological or Radiological (CBR) incident** - staff in the affected area are to isolate the suspicious mail item; - do not touch their mouth or nose, isolate themselves from others in the building; - inform the Project Manager/ Emergency Response Controller - Call 000 - advise them of the nature of the incident & wait for their response; - if concerned about the spread of potential contaminant to other parts of the site / building, or if instructed to do so by 000 or the appropriate Emergency Service, initiate a site evacuation and close off the affected building / site to prevent any further entry.	• Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. • Record – document all details on form Accident/Incident Investigation • Report incident on INX

Environmental Incidents

If there is an incident that causes concern for the health and safety of workers, the public and/or the environment

Immediate Action	Notification	Treatment	Follow up
• **Stop Work** • **Assess the situation**: - Identify the severity - (if necessary) evacuate • Do not enter an area that could be unsafe for you.	For **Class 1** incident contact • Systems Manager • Site Manager • Site WH&S Rep. • Project Manager • Managing Director • Client and: • Emergency Response Controller • Emergency Services / 000 Act on their instructions For **Class 2 or 3** incident contact: • Systems Manager • Emergency Response Controller • Site Manager • Site WH&S Rep. • Project Manager • Managing Director	• **Spills / escape of polluted water:** - contain the spill - ensure that no further escape occurs, especially off-site; - determine whether clean-up is likely to be required - recover spilt material; - the Site Manager, in consultation with the Project Manager, determines the most suitable process for clean-up & disposal of contaminated materials. • **Odours and dust:** - apply odour / dust suppression agents (including water mists, soil, chemicals); - consider carefully which option to select in light of the scale & type of problem; - the Site Manager in consultation with the Project Manager, determines the most suitable corrective actions. • **Landslip:** - isolate (turn off) water mains that could discharge into the area; - obtain specialist advice BEFORE attempting to rescue people or equipment - zone of the landslip is likely to be unstable; - once the source is contained or the discharge has stopped, determine whether clean-up is likely to be required; - the Site Manager in consultation with the Project Manager, determines the most suitable process for clean-up & disposal of materials. • **Flora / Fauna Kills, Injury or Disturbance(including Heritage items):** - cease activity causing flora / fauna injury or disturbance;	• Debrief – identify the reason for the occurrence of the event & identify ways of preventing repeat incidents. Use a toolbox talk to follow up as soon as practicable. • Record – document all details on form Incident Investigation • Report incident on INX

Immediate Action	Notification	Treatment	Follow up
		- the method selected must be carefully considered in light of the scale & nature of the problem; - the Site Manager, in consultation with the Project Manager, determines the most suitable corrective actions. - **Notify DECCW/EPA** if an endangered / threatened flora species is affected or killed or a heritage item is discovered the Project Manager **to be notified firstly who will then notify DECCW/EPA etc. appropriately** • **Release of Waste:** - Cease activity causing the release of wastes off-site; - the method selected must be carefully considered in light of the scale & type of problem; - the Site Managerr in consultation with the Project Manager, determines the most suitable process for clean-up.	

ATTACHMENT B:

EMERGENCY CONTACT DETAILS

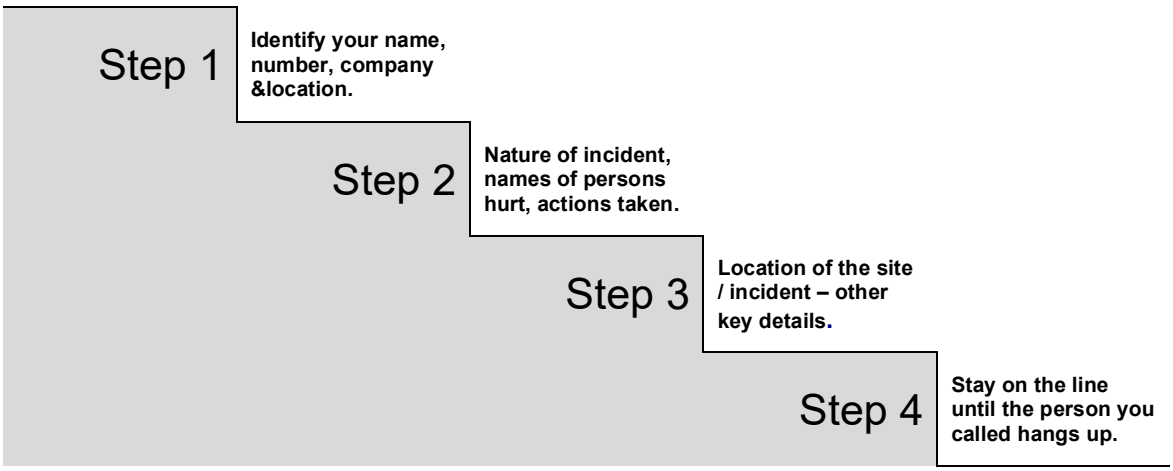
SITE ADDRESS:

In case of emergency: Site GPS Coordinates =

EMERGENCY PHONE NUMBERS		
PRINCIPAL CONTRACTOR: **Donnelley Constructions**		
Project: Cumberland Hospital West (Demolition)		
Managing Director		
Systems Manager		
Project Manager		
Site Manager		
CIMT Leader		
Emergency Controller		
Deputy Emergency Controller		
First Aid Officer		
WorkCover		
Cumberland Hospital Disaster Controller		
Poisons Information Centre		
Ambulance, Fire Station, Police		
HAZMAT		
Westmead Hospital		
OEH /EPA– POLLUTION LINE		
State Emergency Service		
Telstra – Underground Services		
Telstra – Damaged Cables		
Local Electricity Supply:		
Gas Emergency		
Police Services		
Parks & Wildlife Service (OEH/EPA)		
Local Aboriginal Land Council		
City of Paramatta Council		
Trauma Counselling	Mend Services	

ATTACHMENT C:

EMERGENCY TELEPHONE INSTRUCTIONS

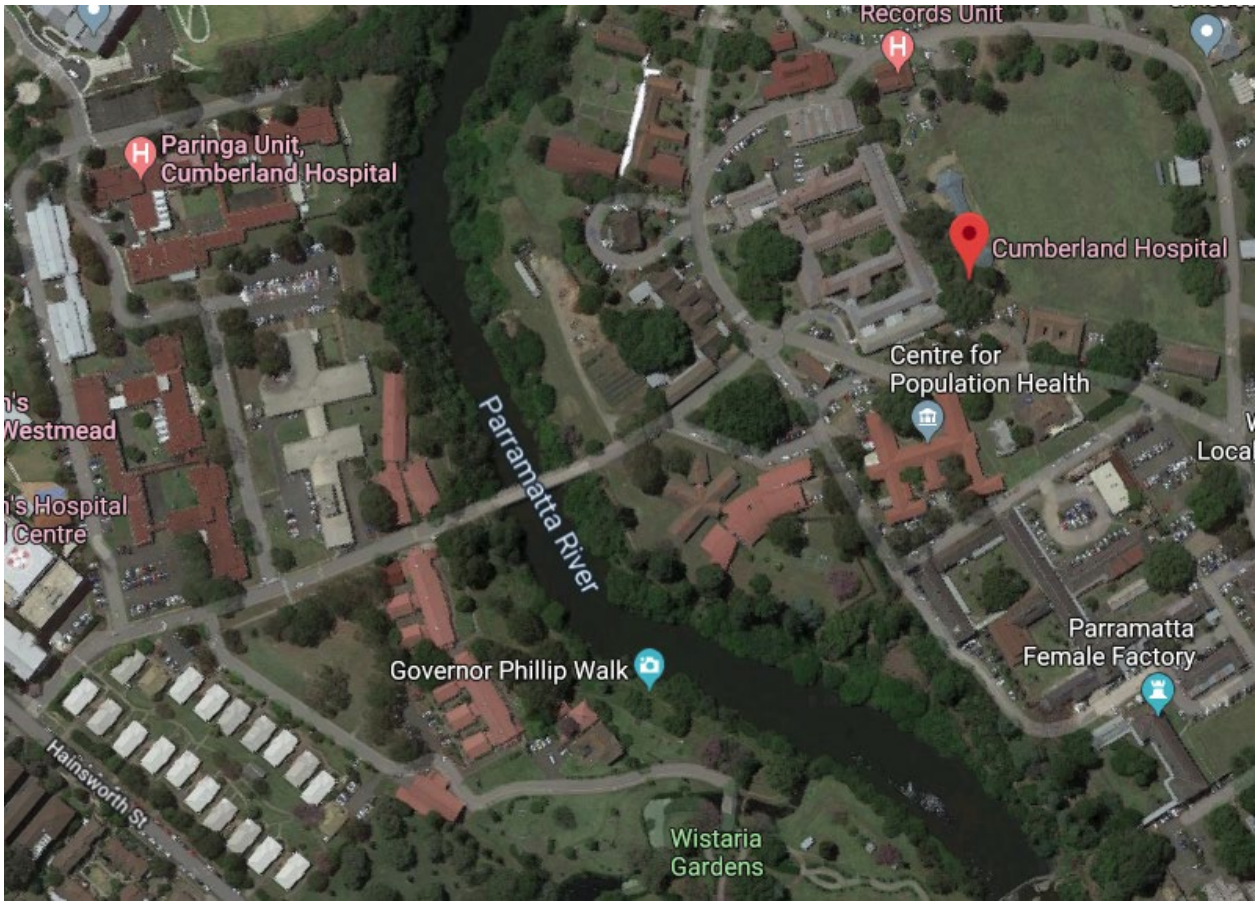


- **Keep calm – so you can help**
- **Protect yourself from danger at all times**
- **Call for First Aid assistance – First Aider or Site Manager will arrange for Ambulance if required**
- **Direct someone to wait at site entrance to guide emergency vehicles**
- **Maintain a diary of phone calls / details, events and times.**

EMERGENCY RESPONSE CONTROLLER	[redacted]	[redacted]
DEPUTY EMERGENCY RESPONSE CONTROLLER	[redacted]	[redacted]
CRITICAL INCIDENT TEAM LEADER	[redacted]	[redacted]

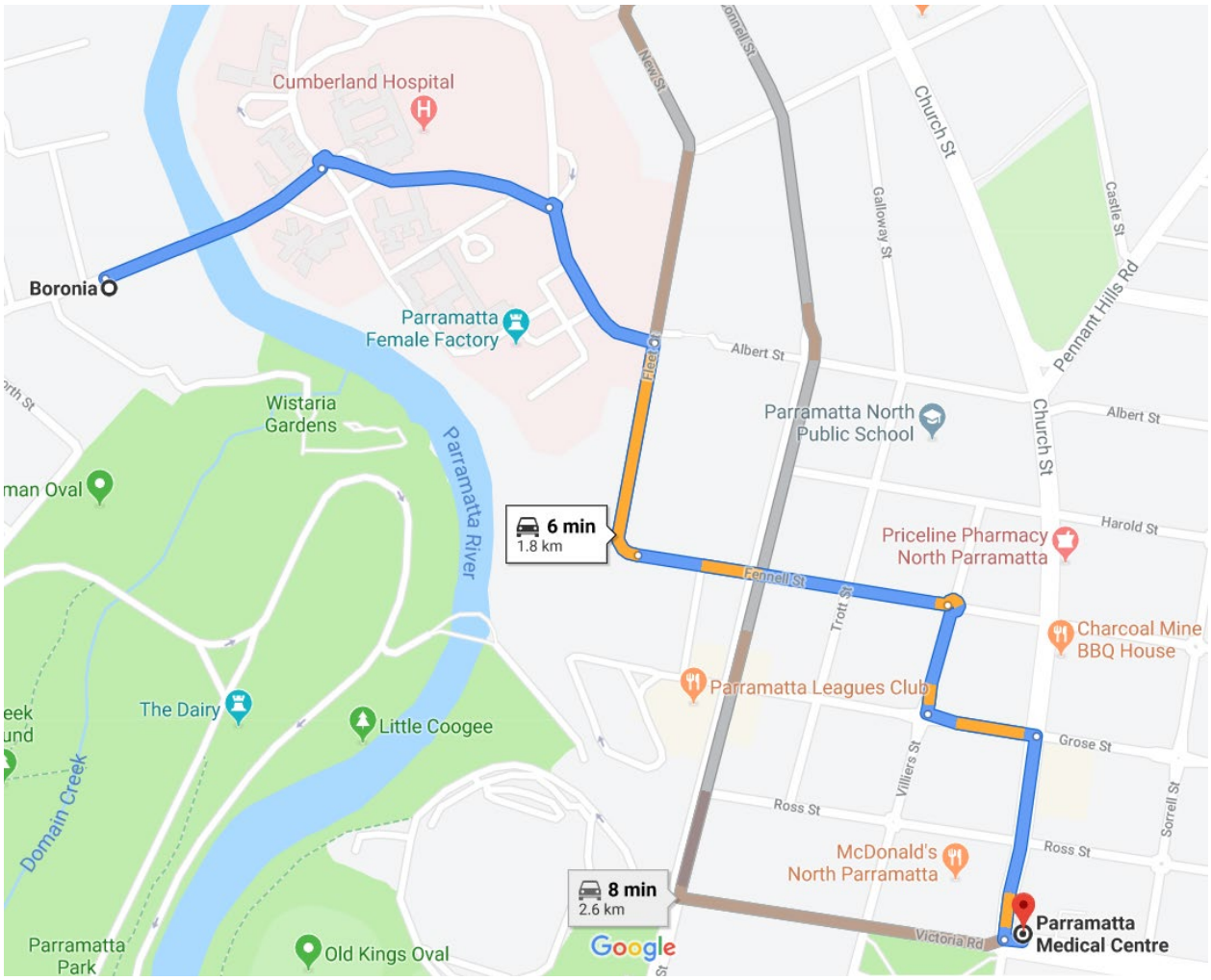
ATTACHMENT D.1:

Locality Plan



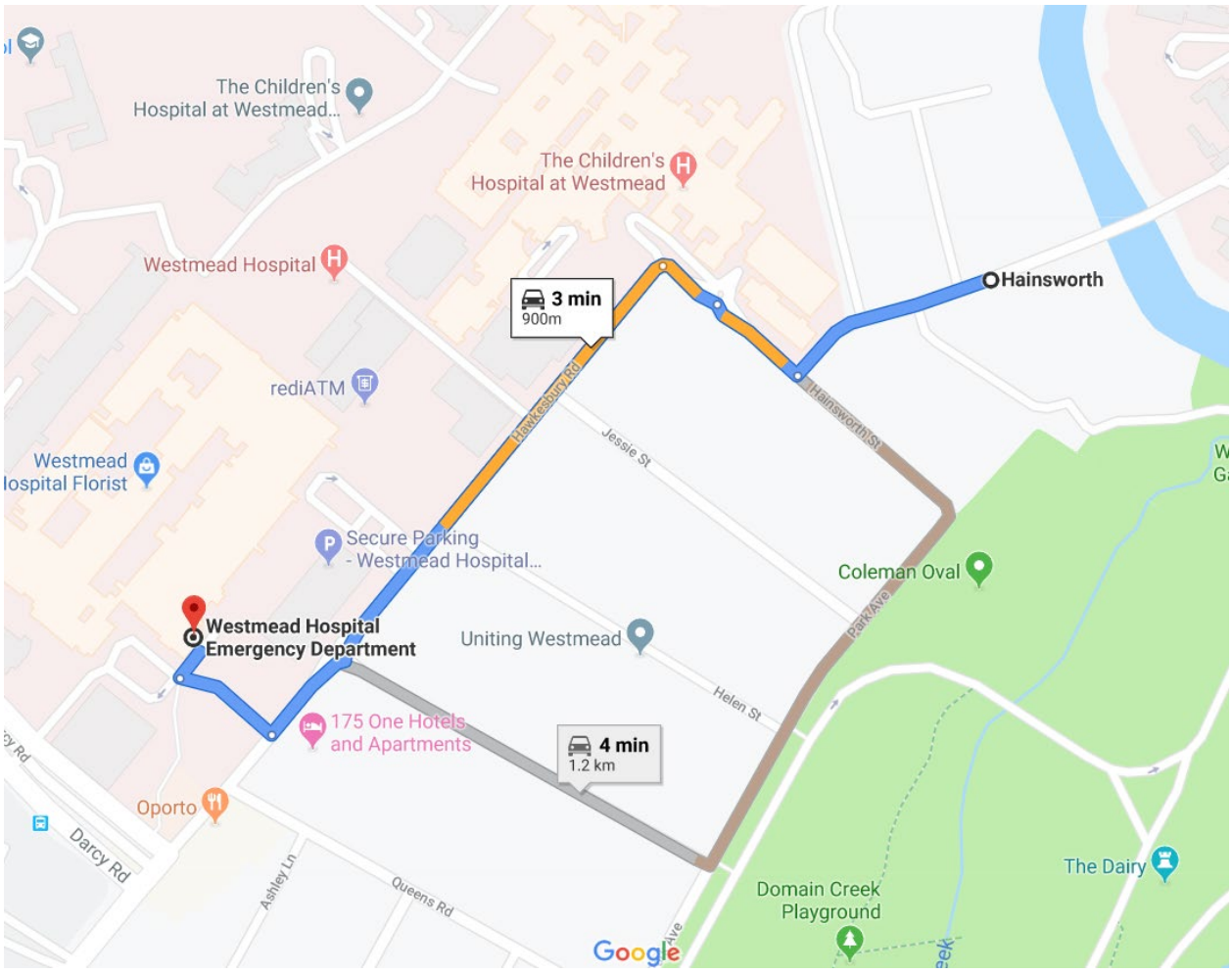
ATTACHMENT D.2:

Medical Centre Route Map



ATTACHMENT D.3:

Hospital Route Map:



ATTACHMENT E

ATTACHMENT E

Emergency Evacuation Procedures

EMERGENCY EVACUATION

Notice of an evacuation to all personnel on site will take place by the sounding of 3 blasts of an air horn. This will be initiated by a Management Representative. In the event an Evacuation from site, you must immediately:

- Stop your work activity, check to ensure that this action will not endanger others and that the workplace can be left in a safe condition.
- All equipment, machinery etc. must be switched off immediately the emergency is sounded and "Live" electrical equipment must be disconnected where possible.
- Ensure all equipment is properly shut off before closing any supply of water, gas or air.
- If safe to do so, remove all mobile equipment to the designated safe zone.
- Where practicable, road ways, walkways etc. must be left clear of obstructions to permit access if needed.
- Cranes with suspended loads must, with the consideration of the safety of all persons (including themselves), bring the load to rest in the shortest operating time without exceeding the normal operating capacity of the crane.
- Switch off all forms of electric or internal combustion power supply.
- Management personnel located on the project at the time the alarm is sounded are required to assist in the quick and efficient removal of all personnel from the work site and must ensure all personnel are completely vacated prior to proceeding to the muster point(s).
- Requirements at the Muster Point:
    - All personnel shall immediately report to the Site Manager;
    - The Site Manager (or representative) shall account for all personnel under their control (including visitors) and report this immediately to the Project Manager or Management representative together with the names of any personnel unaccounted for and their last known location;
    - All personnel are required to remain at the muster point for the duration of the emergency unless under further risk of harm or otherwise advised to leave by the Project Manager.

- Personnel must not return to work unless advised by Management as being safe to do so

COORDINATION WITH THE EXISTING FACILITY

These notes are to be followed when the building site is on the grounds of an existing facility:-

In case of an emergency on Site

- Follow emergency procedures as above
- Emergency Controller to phone existing facility emergency contact to notify them of the emergency ASAP
- Emergency Controller to phone existing facility emergency contact to notify them that it is safe to return to facility once it is safe to do so

In case of emergency from existing facility

- If Emergency Controller has heard the facilities emergency evacuation Signal (i.e. bell), ring the Facilities emergency evacuation contact as detailed on Attachment B to confirm emergency.
- Follow site emergency procedures as above
- Wait for telephone call from existing facility contact with confirmation that it is safe to return to work

1) **In case of Lockdown**

2) **Donnelley Constructions to sound hooter 5 times**

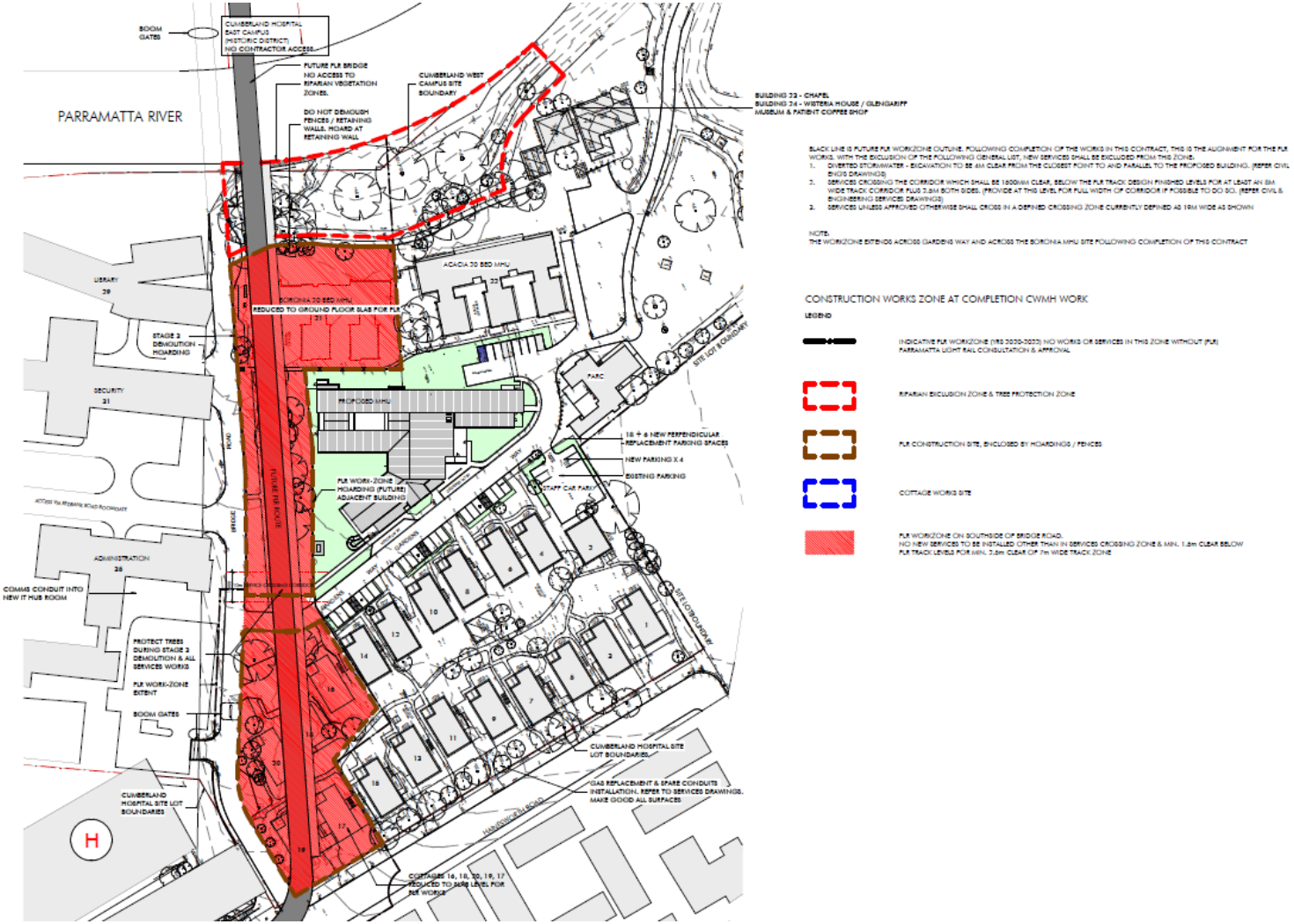
3) **Site Manager to warn every one of the emergency and usher all workers into the site sheds**

4) **Secure all site sheds, mobile plant and vehicles**

5) **Site Manager to liaise with the school emergency Coordinator of when it is safe to return to work**

ATTACHMENT F

SITE PLAN



ATTACHMENT G:

BOMB THREAT CHECKLIST

DONNELLEY CONSTRUCTIONS

BOMB THREAT CHECK LIST

PLACE THIS CARD UNDER YOUR PHONE

QUESTIONS TO ASK

- WHEN IS THE BOMB GOING TO EXPLODE?
- WHERE DID YOU PUT THE BOMB
- WHEN DID YOU PUT IT THERE?
- WHAT DOES THE BOMB LOOK LIKE?
- WHAT KIND OF BOMB IS IT?
- WHAT WILL MAKE THE BOMB EXPLODE?
- DID YOU PLACE THE BOMB?
- WHAT IS YOUR NAME?
- WHERE ARE YOU?
- WHAT IS YOUR ADDRESS?

EXACT WORDS OF THERE

ACTION

Report call immediately to:	
Phone Number:	

CALLERS VOICE

Accent (specify):	
Any impediment (specify)"	
Voice (loud, soft, etc.)	
Speech (fast, slow, etc.)	
Diction (Clear, muffed)	
Manner (calm, emotional, etc.)	
Did you recognise the voice?	
If so who do you think it was?	
Was the caller familiar with the area?	

REMEMBER KEEP CALM- DON'T HANG UP

DONNELLEY CONSTRUCTIONS

THERE AT LANGUAGE

Well spoken:	
Incoherent:	
Irrational:	
Taped:	
Message read by callers:	
Abusive:	
Other:	

BACKGROUND NOICES

Street noises:	
House noises:	
Aircraft:	
Voices:	
Music:	
Machinery:	
Local Call:	
Long Distance:	
Other:	

OTHER

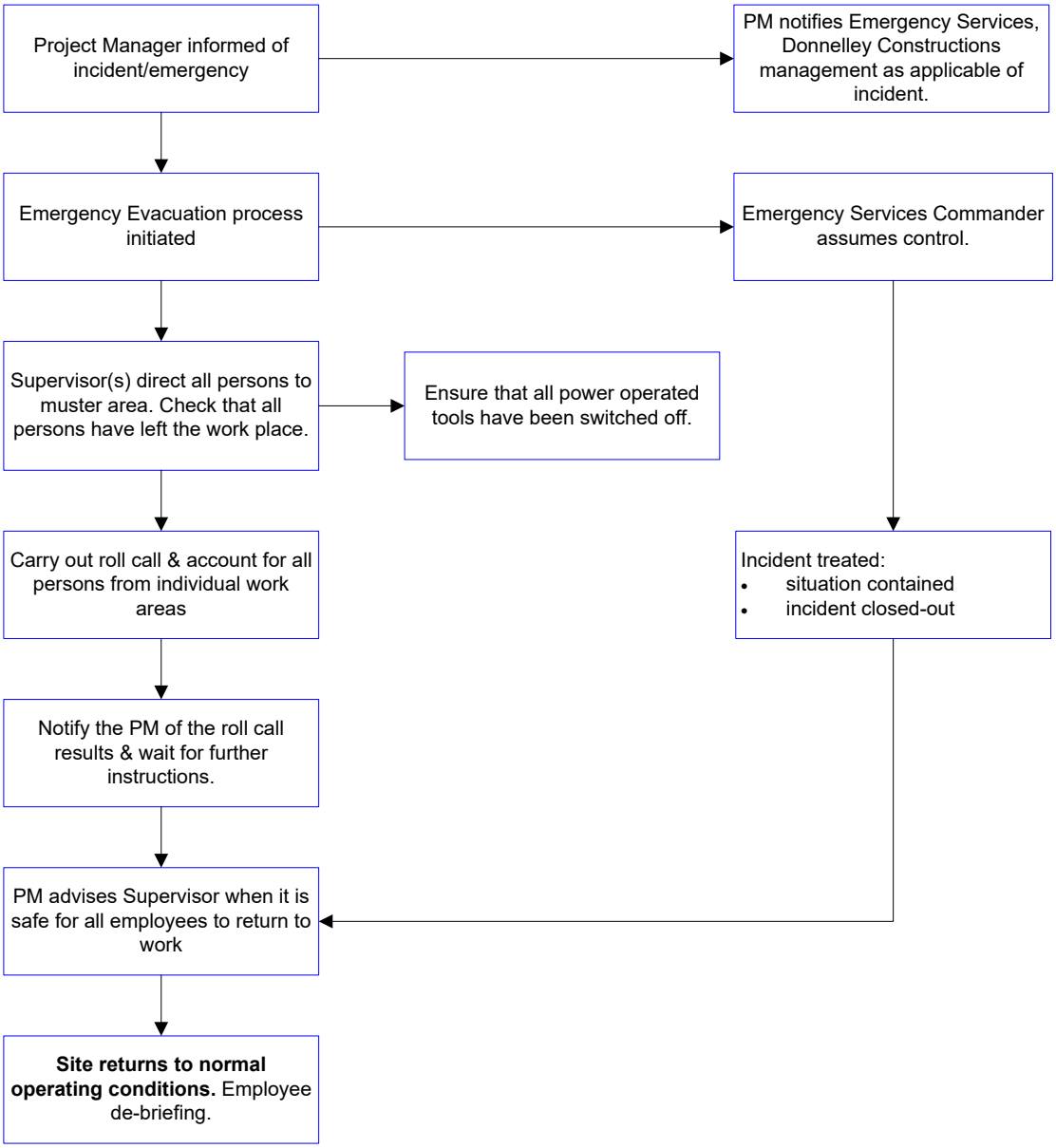
Duration of call:	
Number called:	

RECIPIENT

Name Print:	
Telephone Number:	
Signature:	

ATTACHMENT H:

EMERGENCY EVACUATION FLOWCHART



Appendix A9

Approval Documents

NSW GOVERNMENT

Activity A

ER Approval Document

OptimE PTY LTD ATF Majocaev Trust
ABN 57683487196

24 Grays Point Road,
Grays Point, NSW 2232

[redacted]

www.optimenv.com.au

26 March 2019

Ref: [redacted]

Transport for NSW
Attention: [redacted]

Dear [redacted]

Parramatta Light Rail (PLR) – Early Works, Hawkesbury Road Widening (HRW)
Environmental Representative (ER) - Review of pre-construction documentation (Rev 4)

Pursuant to SSI8285 Condition of Approval A23 (d) i), as the approved Environmental Representative, I confirm that I have reviewed the following documentation to be submitted to the Secretary for approval:

- Construction Environmental Management Plan PLR-HAC-HRW-PE-PLN-000001 **Rev 0** (CoA C1)
- Construction Noise & Vibration Sub-plan PLR-HAC-HRW-NV-PLN-000001 **Rev 0** (CoA C3) incorporating the Land Use Survey (COA E20) and Out of Hours Work Protocol (CoA E28)
- Heritage Sub-plan PLR-HAC-HRW-PE-PLN-000005 **Rev 1** (CoA C3)
- Site Establishment Management Plan PLR-HAC-HRW-PE-PLN-000006 **Rev 0** (CoA C18).

I confirm that I have reviewed the following documentation to be submitted to the Secretary for information:

- Transport Traffic and Access Sub-plan PLR-HAC-HRW-PE-PLN-000002 **Rev 0** (CoA C3)
- Flora and Fauna Biodiversity Sub-plan PLR-HACHRW-PE-PLN-000003 **Rev 0** (CoA C3)
- Flood Management Sub-plan PLR-HAC-HRW-PE-PLN-000007 **Rev 0** (CoA C3)
- Pedestrian and Cyclist Network and Facilities Strategy PLR-HAC-HRW-PE-PLN-000010 **Rev 0** (CoA E14)
- Soil & Water Management Plan PLR-HAC-HRW-PE-PLN-000004 **Rev 0** (REMMM GEN-1)
- Pre-Construction Compliance Report PLR-HAC-HRW-PE-PLN-000009 **Rev 0** (CoA A34).

In my opinion the documents are consistent with the requirements included in or required under the terms of the Conditions of Approval for the Parramatta Light Rail (Stage 1) development as applicable for Package 2 (Westmead Precinct Works), Activity A (Hawkesbury Road Widening Works).

Yours sincerely,

[redacted]

Environmental Representative - PLR Early Works
OptimE Pty Ltd

OptimE PTY LTD ATF Majocaev Trust
ABN 57683487196

24 Grays Point Road,
Grays Point, NSW 2232

[redacted]

www.optimenv.com.au

4 July 2019

Ref: [redacted]

Transport for NSW
Attention: [redacted]

Dear [redacted]

Parramatta Light Rail (PLR) – Early Works, Hawkesbury Road Widening (HRW)
Minor ancillary facilities

The compound areas identified in the EIS were not available for use for Early Works HRW timeframe. To facilitate construction of the Early Works HRW, two minor ancillary facilities were proposed at locations not identified in the EIS or SPIR. The proposed ancillary facilities were to be located outside of the project boundaries on Westmead Hospital (NSW Health) land. This was the extent of the project modification.

An environmental consistency assessment was undertaken to determine whether the proposed project as modified was consistent with the Approved Project SSI8285 and whether the impacts were understood and managed. As the approved Environmental Representative, I reviewed and endorsed the Environmental Consistency Assessment (PLR-TFNSW-HRW-PE-CKL-000001-0-10-1-01).

I confirm that I also reviewed the following documentation:

- Preconstruction Minor Works MW01 (190328 TfNSW Pre-construction Minor Work Application MW01 Final r1) - encompassing Hawkesbury Road Site Compound, Westmead Hospital On-Grade Car Park, Hawkesbury Road, Westmead
- Preconstruction Minor Works MW03 (190521 TFNSW MW003 TFNSW REVIEW REV3) - encompassing Mons Road Laydown and Stockpiling Compound, 1 Dragonfly Drive, Westmead Hospital.

As the approved Environmental Representative and pursuant to SSI8285 Condition of Approval A23(h), I determined impacts of the proposed ancillary facilities to be minor.

Yours sincerely,

[redacted]

[redacted]
HI-Environmental Representative for PLR HRW
OptimE Pty Ltd

Activity A

Secretary Approval Document

Planning, Industry & Environment

Our ref: SSI 8285

[redacted]
Director Planning, Environment and Sustainability
Transport for NSW
130 George Street
Parramatta, NSW, 2150

BY EMAIL ONLY: [redacted]

Dear [redacted]

Approval of Construction Environmental Management Plan: Condition C1: Parramatta Light Rail Stage 1 (SSI 8285)

I refer to your submission dated 6 August 2019 requesting approval of the Construction Environmental Management Plan (CEMP), Noise and Vibration Management Plan (NVMP) and Heritage Management Plan (HMP) in accordance with conditions C1 and C3 of SSI 8285. I also note the inclusion of the Noise and Vibration Monitoring Program required to be submitted for information under condition C13 within the associated Noise and Vibration Management Plan. I acknowledge your response to the Department's review comments and requests for additional information.

I note that the CEMP and sub-plans:

- have been prepared in consultation with the relevant government agency/stakeholders
- have been reviewed by Transport for NSW and no issues have been raised
- have been endorsed by the Environmental Representative
- the NVMP has been endorsed by the Acoustics Advisor
- contain the information required by the conditions of approval.

As delegate of the Planning Secretary, I approve the following documents pursuant to condition C8.

Document	Revision and date
Construction Environmental Management Plan	Revision 2.1, dated July 2019
Noise and Vibration Management Plan	Revision 2.2, date August 2019
Heritage Management Plan	Revision 2.2, dated August 2019

Any updates to the CEMP and/or sub-plans must be assessed by the Environmental Representative in accordance with condition C8. If the Environmental Representative determines that the updated CEMP and/or sub-plans cannot be approved under condition C8, then the updated CEMP and/or sub-plans must be submitted for the approval of the Planning Secretary prior to commencement of activities associated with the update. If the plan/s can be approved under condition C8, please provide a copy to the Planning Secretary for information.

Planning, Industry & Environment

I note that the following sub-plans and construction monitoring programs have been provided to the Department for information pursuant to conditions C3 and C13:

- Traffic, transport and access sub-plan
- Flood Management Plan sub-plan
- Flora and Fauna Management sub-plan
- Water Quality (Turbidity) Program

You are reminded that if there is any inconsistency between the approved plans and the conditions of approval, then the requirements of the conditions of approval will prevail.

Please ensure that you make the approved CEMP and sub-plans publicly available on the project website.

If you have any questions, please contact [redacted] at [redacted]

Yours sincerely

[redacted]

Director
Infrastructure Assessments, Infrastructure Management

As delegate of the Planning Secretary

Copied to: [redacted]

Activity B and C

ER Approval Document

OptimE PTY LTD ATF Majocaev Trust
ABN 57683487196

24 Grays Point Road,
Grays Point, NSW 2232

[redacted]

www.optimenv.com.au

11 November 2019

Ref: [redacted]

Transport for NSW
Attention: [redacted]

Dear [redacted]

Package 2 of the Stage 1 Parramatta Light Rail project
Environmental Representative (ER) - Review of pre-construction documentation (Rev 5)

The pre-construction documentation for Package 2 of the Stage 1 Parramatta Light Rail project (Activity A - Hawkesbury Road Widening), approved by the Planning Secretary of the Department of Planning Industry & Environment on 13 August 2019, has been updated to incorporate:

- Activity B – Cumberland Hospital East Campus Demolition
- Activity C - Cumberland Hospital East Campus Demolition.

As the approved Environmental Representative for pre-construction documentation, I confirm that the updates are not considered minor. Pursuant to SSI8285 Condition of Approval A23 (d) i), I confirm that I have reviewed the following documentation to be re-submitted to the Secretary for approval:

- Construction Environmental Management Plan PLR-HAC-HRW-PE-PLN-000001 **Rev 5** (CoA C1)
- Construction Noise & Vibration Sub-plan PLR-HAC-HRW-NV-PLN-000001 **Rev 5** (CoA C3) incorporating the Land Use Survey (COA E20) and Out of Hours Work Protocol (CoA E28) and Construction Monitoring Program (noise and vibration monitoring), which was incorporated into the CNVMP as permitted by CoA C17
- Heritage Sub-plan PLR-HAC-HRW-PE-PLN-000005 **Rev 5** (CoA C3).

I confirm that I have reviewed the following documentation to be re-submitted to the Secretary for information:

- Transport Traffic and Access Sub-plan PLR-HAC-HRW-PE-PLN-000002 **Rev 5** (CoA C3)
- Flora and Fauna Biodiversity Sub-plan PLR-HACHRW-PE-PLN-000003 **Rev 5** (CoA C3)
- Flood Management Sub-plan PLR-HAC-HRW-PE-PLN-000007 **Rev 5** (CoA C3)
- Soil & Water Management Plan PLR-HAC-HRW-PE-PLN-000004 **Rev 5** (REMMM GEN-1)
- Pre-Construction Compliance Report PLR-HAC-HRW-PE-PLN-000009 **Rev 5** (CoA A34).

I confirm that I have reviewed the following additional documentation to be submitted to the Secretary for information:

- Photographic Archival Recording PLR-ARUP-HRW-HE-RPT-000002 (CoA E70)
- Salvage Strategy PLR-ARUP-HRW-HE-RPT-000003 (CoA E70)
- Historical Archaeological Research Design PLR-ARUP-HRW-HE-RPT-000001 **Rev 6** (CoA E72).

In my opinion the documents are consistent with the requirements included in or required under the terms of the Conditions of Approval for Package 2 of the Stage 1 Parramatta Light Rail project.

In addition, I acknowledge the endorsement of the Construction Noise & Vibration Sub-plan PLR-HAC-HRW-NV-PLN-000001 (Rev 5) by the PLR Acoustic Advisor by letter (PLR-HAC-HRW-NV-PLN-000001_Rev5_AA_Endorsement_08Nov2019).

Yours sincerely,

[redacted]

[redacted]

Environmental Representative for pre-construction documentation - PLR Early Works
OptimE Pty Ltd

OptimE PTY LTD ATF Majocaev Trust
ABN 57683487196

24 Grays Point Road,
Grays Point, NSW 2232

[redacted]

www.optimenv.com.au

11 November 2019

Ref: [redacted]

Transport for NSW
Attention: [redacted]

Dear [redacted]

Package 2 of the Stage 1 Parramatta Light Rail (PLR) project
Minor ancillary facility for Activity C - Cumberland Hospital (west campus) demolition

The site compound area identified in the EIS for Activity C - Cumberland Hospital (west campus) demolition was re-allocated by NSW Health to others, for the construction of the new Boronia Ward (not within the scope of the PLR). Hence the area was not available for use as a compound facility for the purposes of Activity C.

In consultation with NSW Health, an alternate location for the compound facility was identified. The alternate location is on NSW Health land and directly adjacent to Acacia House. The alternate location is not within the PLR Project boundary. This is the extent of the modification.

The alternate location is currently in use as a compound facility by the contractor undertaking the construction of the new Boronia Ward on behalf of NSW Health. The same contractor has been engaged by NSW Health to undertake Activity C - Cumberland Hospital (west campus) demolition.

An environmental consistency assessment was undertaken to determine whether the proposed project as modified was consistent with the Approved Project SSI8285 and whether the impacts were understood and managed. As the approved Environmental Representative, I reviewed and endorsed the Environmental Consistency Assessment (Cumberland West_Consistency Review 2019.11.05_Rev4).

As the approved Environmental Representative and pursuant to SSI8285 Condition of Approval A23(h), I determined impacts of the proposed ancillary facility to be minor.

Yours sincerely,

[redacted]

[redacted]
Environmental Representative for pre-construction documentation - PLR Early Works
OptimE Pty Ltd

Activity B and C

Secretary Approval Document

[redacted]
Director Planning, Environment and Sustainability
Transport for NSW

Locked Bag 5085
PARRAMATTA NSW 2124

07/02/2020

Dear [redacted]

Approval of Package 2 Construction Environmental Management Plan, Heritage Management Plan and Noise and Vibration Management Plan: Condition C8: Parramatta Light Rail (SSI 8285)

I refer to your submission dated 15 January 2020 requesting approval of the Package 2 Construction Environmental Management Plan, Heritage Management Plan and Noise and Vibration Management Plan in accordance with condition C8 of SSI 8285. These plans have been updated to include the Package 2B and 2C works within the Cumberland Hospital Precinct. I also note the inclusion of the Noise and Vibration Monitoring Program (Appendix E) required to be submitted for information under condition C13 within the associated Noise and Vibration Management Plan. I acknowledge your response to the Department's review comments and requests for additional information.

I note that the Package 2 Construction Environmental Management Plan, Heritage Management Plan and Noise and Vibration Management Plan:

- have been prepared in consultation with the relevant government agency/stakeholders
- have been reviewed by Transport for NSW and no issues have been raised
- have been endorsed by the Environmental Representative
- contain the information required by the conditions of approval.

As delegate of the Planning Secretary, I approve the following documents pursuant to condition C8.

Document	**Revision and date**
Construction Environmental Management Plan	Revision 7, dated February 2020
Heritage Management Plan	Revision 7, dated February 2020
Noise and Vibration Management Plan	Revision 7, dated February 2020

You are reminded that if there is any inconsistency between the documents listed above and the conditions of approval, then the requirements of the conditions of approval will prevail.

Please ensure that you make the approved Construction Environmental Management Plan, Heritage Management Plan and Noise and Vibration Management Plan publicly available on the project website, before the commencement of any works to which they relate as required by condition B11.

If you have any questions, please contact [redacted]

Yours sincerely

[redacted]

[redacted]
A/Director
Infrastructure Management

As delegate of the Secretary

Appendix C1

Complaints Sheet

NSW GOVERNMENT

Appendix C1 – Complaints Spreadsheet

This spreadsheet is to be used to record complaints when Consultation Manager is unavailable.
If a complaint is recorded on the spreadsheet an updated copy must be provided to HAC and TfNSW within 24 hours.

Status

- Action Required -incomplete, unresolved, under investigation or update required
- Investigation complete, close out action required - close out letter, advice to stakeholder
- Resolved - investigation, response and close out complete and checked by PLR Community Engagement
- Under mediation/resolved after mediation

		Complaints Received													
Enquiry No.	Status	Date	Time Recorded	Time Read by Contractor	Received by	Referred to	Name of Complaint	Details of complaint	Type	Response to complaint	Time of Verbal or Initial Response	Complies with 2hr response?	Written response (date)	Complies with 24hr update to TfNSW?	Entered into consultation manager

Appendix C2

Sustainability Documents

Note: Only applicable to Activity A

NSW GOVERNMENT

Initiative #	Theme	Description	Threshold	Is threshold triggered ?	Is the requirement within scope ?	Comments
1	***Energy and greenhouse gases***	All projects with a CapEx > $15 million to reduce construction related GHG emissions by a minimum 5% from the project baseline GHG footprint established using the Carbon Estimate and Reporting Tool (CERT).	All projects with a CapEx >$15million	Yes	Yes	
2	***Energy and greenhouse gases***	Buildings are required to be designed and built to reduce energy consumption: • Covered or uncovered areas shall meet pre-requisite requirements for services (Appendix F, Section 3). • Enclosed building spaces shall meet the performance targets of the energy modelling pathway (P2-P5). • Where enclosed building space cost < $10 million the prescriptive pathway may be followed in lieu of energy modelling (P1).	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
2A	***Energy and greenhouse gases***	All new electrical equipment (for the final asset) to be at least market average star rating. In categories where no star ratings are available, equipment purchased should be recognised as high efficiency either by being ENERGY STAR accredited, in a high efficiency band under Australian Standards or being above-average efficiency of Greenhouse and Energy Minimum Standards (GEMS) registered products.	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
3	***Climate resilience***	All projects with a CapEx >$15 million to undertake a climate risk assessment that mitigates all extreme and high residual risks. Refer to I&S Climate Risk Assessment Guide for further guidance.	All projects with a CapEx >$15million	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
4	***Materials and waste***	90% of construction waste and demolition waste (by weight) to be diverted from landfill for all projects with a CapEx > $15million.	All projects with a CapEx >$15million	Yes	Yes	
5	***Materials and waste***	100% of usable spoil (by weight) to be beneficially reused for all projects generating >300m^3 of spoil.	All project generating >300m^3 of spoil	Yes	Yes	
6	***Water***	Treat all new effective impervious area with a continuous area >1000m² to the following treatment levels: • 90% gross pollutants • 85% suspended solids • 65% Total phosphorus • 45% Total nitrogen • Maintain or reduce 1.5 year ARI.	All projects with new effective impervious area with a continuous area >1000m²	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
7	***Water***	All projects with a CapEx > $15 million to monitor and report water consumption during project construction and reduce potable water consumption where practicable.	All projects with a CapEx >$15million	Yes	Yes	
8	***Water***	All projects with a CapEx >$15 million to undertake a water balance study and identify and implement appropriate and proportionate operational water efficiency measures.	All projects with a CapEx >$15million	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
8A	***Water***	All new water-using appliances, shower heads, taps and toilets must be at least the average Water Efficiency Labelling Scheme (WELS) star rating by product type.	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
9	***Pollution control***	All surface coatings to comply with the Australian Paint Approval Scheme (APAS) Volatile Organic Compounds Limits where fit for purpose.	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
10	***Pollution control***	All mobile non-road diesel plant and equipment (with an engine greater than 19kW) to report engine conformity with relevant United States Environmental Protection Agency (US EPA), European Union (EU) or equivalent emissions standards and the fitting of any exhaust after-treatment devices. Reporting should be in accordance with the Air Emission Data Workbook – 9TP-FT-439.	All projects	Yes	Yes	
11	***Biodiversity***	All projects with non-significant biodiversity impacts to comply with the Infrastructure and Services Vegetation Offset Guide as applicable.	All projects with non-significant biodiversity impacts	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)

12		***Community benefit***	All projects must: i. meet steel and timber sustainable procurement requirements; and ii. undertake sustainable procurement training for high impact suppliers.	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
13		***Community benefit***	All projects to address the urban design principles in the TfNSW Interim Urban Design Best Practice Guidelines within their urban design and landscaping plan (UDLP).	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)
14		***Community benefit***	The project is awarded at least 1 point for a single initiative against the ISCA Innovation Credit Inn-1 OR The project makes a contribution to industry and/or the local community in line with the project legacy categories specified (Note: the requirements are determined by CapEx).	All projects	No		Not required as per 'HRW Sustainability Requirements allocation', as issued by HAC on 5 December 2018 (mail number: PWCAU-GCOR-029703; reference number: PWCAU-GCOR-029703)

Compulsory requirement 1 - Energy and greenhouse

All projects with a CapEx > $15 million to reduce construction related GHG emissions by a minimum 5% from the project baseline GHG footprint established using the Carbon Estimate and Reporting Tool (CERT).

Performance levels

P1	P2	P3	P4	P5
≥ 5%	≥ 10%	≥ 15%	≥ 20%	≥ 25%

Importance rating

11.25

Achievement level

	Reference Design	Detailed Design SDR	Detailed Design CDR	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	Completion
Report Period										
Rating Type			Target							
Performance Level			P1							
Weighted Score			0.00							

Comments

Reference Design			
Detailed Design SDR			
Detailed Design CDR			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
Completion			

Supporting initiatives

Supporting initiatives utilised		Comments
Reduce cement - Increasing supplementary cementitious materials (SCM) content in concrete mix designs subject to meeting performance requirements.	Yes	Where allowed under the RMS specification for conrete, FCC will endeavour to use eco concrete. This will be demonstrated by the concrete dockets
Replace sand with recycled glass - Reuse crushed glass to minimise use of raw materials (e.g. sand).	Yes	Where allowed under the RMS specification for drainage materials, FCC will endeavour to use recycled glass. This will be demonstrated by the concrete dockets
Renewable Energy - Purchase a given percentage of site based electricity needs from GreenPower or renewable sources during construction of the asset.	No	Power is preposed to be drawn from Westmead hospital. It is not possible to confirm source of hospital power.
Reuse construction waste - Reuse of ballast and/or other construction waste materials on site e.g. – access tracks.	Yes	Where both practical as feesible re use of material will occur
Synthetic fibre shotcrete - Use bar chip synthetic fibres shotcrete in place of steel fibre shotcrete subject to performance requirements e.g. – in the tunnel lining.	No	NA to works
Other - must specify below		

Evidence

Document	Reference	Comments

Compulsory requirement 4 - Materials and waste

90% of construction waste and demolition waste (by weight) to be diverted from landfill for all projects with a CapEx > $15million.

Performance levels

P1	P2	P3	P4	P5
≥ 90%	≥ 92%	≥ 94%	≥ 96%	≥ 98%

Importance rating

6.00

Achievement level

	Reference Design	Detailed Design SDR	Detailed Design CDR	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	Completion
Report Period										
Rating Type			Target							
Performance Level			P1							
Weighted Score			0.00							

Comments

Reference Design			
Detailed Design SDR			
Detailed Design CDR			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
Completion			

Supporting initiatives

Supporting initiatives utilised		Comments
Mulching - Mulch all appropriate waste vegetation for use on site or send it to an off-site compost facility.	Yes	All vegetaion will be mulched as per the contract by approved tree service and removed
On site waste segregation - Enable on site waste segregation where space permits to maximise reuse opportunities both on and off site.	Yes	All waste will be seperated at Mons Road stockpile site. Recyclable material will be identified and taken to appropriate facility.
Reuse construction waste - Reuse of ballast and/or other construction waste materials on site e.g. – access tracks.	Yes	All waste will be seperated at Mons Road stockpile site. Reusable material will be identified and used appropriately.
Reuse of structures - Retain or refurbish existing structures where possible.	No	Not applicable
Selection of waste contractors - Selecting waste contractors that have proven waste separation and reporting processes.	Yes	Only certified waste facilities will be used.
Other - must specify below		

Evidence

Document	Reference	Comments

Compulsory requirement 5 - Materials and waste

100% of usable spoil (by weight) to be beneficially reused for all projects generating >300m^3 of spoil.

Performance levels

P1	P2	P3	P4	P5
		100%		

Importance rating

4.75

Achievement level

	Reference Design	Detailed Design SDR	Detailed Design CDR	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	Completion
Report Period										
Rating Type			Target							
Performance Level			P3							
Weighted Score			0.00							

Comments

Reference Design			
Detailed Design SDR			
Detailed Design CDR			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
Completion			

Supporting initiatives

Supporting initiatives utilised		Comments
Cut-fill balance - Balance site works to avoid excess or import of spoil.	Yes	On site surevy will be undertaken.
Excavated materials - Investigate future use opportunities for excavated materials (e.g. Yellowbrick sandstone).	Yes	Excavated material will be recycled as much as reasonably practical.
Integrated transport solution - Consider the most efficient integrated transport solution for the removal of spoil (e.g. – use of rail).	Yes	FCC will be transporting material to a staging yard (Mons Road Stockpile) to allow it to be placed in large vehicles for removal from site.
Off-site spoil reuse - Where clean spoil cannot be used on site prioritise off-site uses that have biodiversity or community/development benefit, and require minimum transport distances.	Yes	Where clean spoil is to be transported off site it will be taken to the closest appropriate facility.
On-site spoil reuse - Reuse any excess spoil as backfill, a landform feature, visual screen and/or for noise attenuation.	No	This can only be achieved during temporary works.
Recycled materials in formations - Use recycled materials in formations. Formations are defined as the surface on which track (including ballast) is laid. The material is to be analysed for its ability to meet related standard requirements.	No	Not Applicable
Other - must specify below		

Evidence

Document	Reference	Comments

Compulsory requirement 7 - Water

All projects with a CapEx > $15 million to monitor and report water consumption during project construction and reduce potable water consumption where practicable.

Performance levels

P1	P2	P3	P4	P5
Potable construction water monitored	Potable and non-potable construction water monitored	Potable and non-potable construction water monitored and minimum 5% of all construction water to be from non-potable sources	Potable and non-potable construction water monitored and minimum 20% of all construction water to be from non-potable sources	Potable and non-potable construction water monitored and minimum 50% of all construction water to be from non-potable sources

Importance rating

5.50

Achievement level

	Reference Design	Detailed Design SDR	Detailed Design CDR	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	Completion
Report Period										
Rating Type			Target							
Performance Level			P5							
Weighted Score			22.00							

Comments

Reference Design			
Detailed Design SDR			
Detailed Design CDR			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
Completion			

Supporting initiatives

Supporting initiatives utilised		Comments
Filter press - Using a filter press to separate water from slurry waste from non-destructive digging etc. Water should be treated (where required) for reuse on site.	No	Slurry water will be pumped to sediment drop out hopper for removal as GSW
On site capture and reuse - Maximising non-potable water use during construction e.g. – by collecting rain/stormwater in settle ponds or in water tanks at site compounds and treating (where needed) for reuse (e.g. for dust suppression spraying).	Yes	Reuse of rain water will be achived through the use of recycle tanks to allow the water to be pumped for dust suppression
Water efficiency in site offices - Install rainwater tanks for non-potable water supply to site offices. Install water efficient fittings in site offices.	Yes	Reuse of rain water will be achived through the use of recycle tanks to allow the water to be pumped for dust suppression
Other - must specify below		

Evidence

Document	Reference	Comments

Compulsory requirement 10 - Pollution control

All mobile non-road diesel plant and equipment (with an engine greater than 19kW) to report engine conformity with relevant United States Environmental Protection Agency (US EPA), European Union (EU) or equivalent emissions standards and the fitting of any exhaust after-treatment devices. Reporting should be in accordance with the Air Emission Data Workbook – 9TP-FT-439.

Performance levels

P1	P2	P3	P4	P5
Non-road diesel plant and equipment report conformity with US EPA and EU emissions standards				

Importance rating

3.25

Achievement level

	Reference Design	Detailed Design SDR	Detailed Design CDR	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	Completion
Report Period										
Rating Type			Achieved							
Performance Level			P3							
Weighted Score			0.00							

Comments

Reference Design			
Detailed Design SDR			
Detailed Design CDR			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
6 Month Construction Report			
Completion			

Supporting initiatives

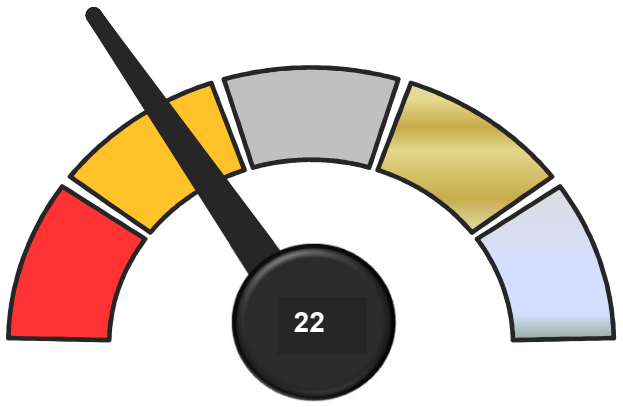
Supporting initiatives utilised		Comments
Other - must specify below		

Evidence

Document	Reference	Comments
Air emissions data collection workbook	Appendix C2 CEMP	

Sustainable Design Guidelines version 4.0 Report

Project Name: Hawkesbury Road Widening Works
Project CapEx ($ M): >15Mil
Expected construction start date:
Expected construction completion date:



	Pass	Bronze	Silver	Gold	Platinum
Available Score	0	23	46	68	91
85% Score	0	19	39	58	77

Detailed Design CDR

Requirement	Reference Design	Detailed Design SDR	Detailed Design CDR	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	6 Month Construction Report	Completion
1			P1							
			0							
2										
2A										
3										
4			P1							
			0							
5			P3							
			0							
6										
7			P5							
			22							
8										
8A										
9										
10			P3							
			0							
11										
12										
13										
14										
Rating type	Target	Target	Target							Target
Total Score			22							
Rating			Bronze							

Return to

Carbon Emissions Reporting Tool

(CERT)

NSW GOVERNMENT

Data input CDR

Carbon Estimate & Reporting Tool

NSW GOVERNMENT Transport for NSW

Legend

Concrete	Click text to go to calculator
250.0	Calculated result
	Cell for user input
	Cell for user commentary

Project	Hawkesbury Road Widening
Reporting period	CDR (or equivalent) design
Date of data entry	22 February 2019

Materials

Concrete & reinforcement	Quantity	Unit	Transport scenario	Evidence / data source / comments
Ready mixed concrete	129.0	m^3	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Reinforcement steel bars - Australian products	175	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Reinforcement steel mesh - Australian products	0	tonnes		NA
Reo steel: low relaxation strand and wire - Australian produc	0	tonnes		NA
Precast concrete	352.8	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings

Steel	Quantity	Unit	Transport scenario	Evidence / data source / comments
Structural steel, beams and columns - Australian products	95	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Structural steel, hot rolled coil - Australian products		tonnes		NA
Structural steel, merchant bar - Australian products		tonnes		NA
Structural steel, plate - Australian products		tonnes		NA
Galvanised steel - Australian products		tonnes		NA
Total steel rails (heavy & light)	-	track m		NA

Asphalt & Aggregates	Quantity	Unit	Transport scenario	Evidence / data source / comments
Asphalt	3,000	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Coarse aggregates	3000	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Recycled (coarse) aggregates	850	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Ballast				NA
Sand	420	tonnes	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Manufactured sand				NA
Recycled crushed glass				NA

Piping	Quantity	Unit	Transport scenario	Evidence / data source / comments
Reinforced concrete pipes	451	m	Default domestic	Bill of Quantities/Detailed Design 100% Drawings
Steel pipe and tube	769	m	Default domestic	Utility Detailed Design 100%
HDPE pipes	167	m	Default domestic	Utility Detailed Design 100%
PVC pipes	2489	m	Default domestic	Utility Detailed Design 100%
Other pipes	If other materials are used for piping, then define these under 'Additional materials' below			

Timber	Quantity	Unit	Transport scenario	Evidence / data source / comments
Timber, Structural (softwood)				*NA: Timber will only be used for formwork (temporary) therefore has been removed from calculations*
Timber, Structural (hardwood)				NA
Timber, MDF / Particleboard				NA
Timber, Plywood				NA
Timber, Cross-Laminated Timber (CLT)				NA

Other materials	Quantity	Unit	Transport scenario	Evidence / data source / comments
Aluminium		tonnes		NA
Glass	0.0	m^2		NA
Ceramics (e.g. tiles)		tonnes		NA
Electrical cables	422.0	m		Utility Detailed Design 100%

Additional materials	Quantity	Unit	Material Emission factor (kg CO_2e/unit)	Evidence / data source / comments
60mm paver [D2]	12.7	tonnes	7.0	Bill of Quantities (BoQ)/Detailed Design 100% Drawings;
50mm paver [P1]	129.9	tonnes	7.0	Bill of Quantities (BoQ)/Detailed Design 100% Drawings;

Transport mode(s) for Additional materials	Quantity (tonnes)	Avg. Distance (km)	Transport task	Unit	Evidence / data source / comments
Rigid truck	141.7	30		tkm	Bill of Quantities (BoQ)/ Online Resource
Articulated truck				tkm	
Shipping				tkm	
Train				tkm	

Materials - Mitigation calculator

Change in material quantities (e.g. through value engineering exercise or a material exchange)	Quantity (tonnes)	Distance to site (km)		Material that is being avoided or replaced (e.g. through value engineering exercise)	Quantity (tonnes)	Distance (km)	Net mitigation (t CO_2e)	Evidence / data source / comments
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	
			replaces				0.0	

Change in material quantities (e.g. through value engineering exercise or a material exchange)	Quantity (tonnes)	Distance to site (km)	Emission factor (kg CO_2e/tonne)		Material that is being avoided or replaced (e.g. through value engineering exercise)	Quantity (tonnes)	Distance (km)	Emission factor (kg CO_2e/tonne)	Net mitigation (t CO_2e)	Evidence / data source / comments
				replaces					0.0	
				replaces					0.0	
				replaces					0.0	
				replaces					0.0	
				replaces					0.0	
				replaces					0.0	

total mitigation 0.0 t CO_2e

Energy use

Energy use	Quantity	Unit	Emission factor (kg CO_2e/unit)	Evidence / data source / comments
Electricity use, on-site total	63.7	MWh	960	Online Resource (http://www.dunlite.com.au/store/faq.asp?CategoryId &FaqId=2: Accessed 21 February 2019)
Diesel consumption for site vehicles	0.0	kL	2849	
Diesel consumption for stationary plant and equipment	0.0	kL	2849	
Diesel consumption for mobile plant and equipment	359.3	kL	2849	Based on site usage for prrevious works
Total of other fuels consumed on-site in site vehicles, stationary and mobile plant	5.0	kL	2442	

Energy use - Mitigation calculator

Energy use related mitigation measures	Quantity	Unit	Emission factor (kg CO_2e/unit)	Net mitigation (t CO_2e)	Evidence / data source / comments
On-site renewable energy generation			0.0	0.0	*On-site generation can only be claimed if the generated electricity is consumed within the project and you are not selling any renewable energy certificates*
Change in electricity use	-18720.0	kWh electricity	1.0	-18.0	Information provided in email from [redacted] to [redacted] on 22 February 2019 12.16pm
Change in diesel consumption for site vehicles			0.0	0.0	
Change in diesel consumption for stationary plant			0.0	0.0	
Change in diesel consumption for mobile plant			0.0	0.0	
Change in other fuels			0.0	0.0	
Change in use of biodiesel			0.0	0.0	
			0.0	0.0	
			0.0	0.0	
			0.0	0.0	
			0.0	0.0	
			0.0	0.0	

Total net mitigation -18.0 t CO_2e / year

Construction energy use related offset measures	Quantity	Unit	Offset Emission factor (kg CO_2e/unit)	Offsets mitigation (t CO_2e)	Evidence / data source / comments
Green Power / renewable electricity purchased			0.0	0.0	
Green energy certificates			0.0	0.0	
Carbon offsets		t CO_2e	1000.0	0.0	

Total offsets mitigation 0.0 t CO_2e / year

Waste generated

Waste related emissions	Quantity	Unit		Evidence / data source / comments
Transport of waste to landfill	15050.0	tonnes	assumes 50 km to landfill site	
Construction and demolition waste to landfill: inert waste (concrete, masonry, glass, metals)				
Construction and demolition waste to landfill: timber, vegetation waste	50.0	tonnes		Bill of Quantities
Construction and demolition waste to landfill: mixed waste	15000.0	tonnes		Assumed earth cuttings

Waste - Mitigation calculator

Waste related mitigation measures	Quantity	Unit	Emission reduction factor (kg CO_2e/unit)	Net mitigation (t CO_2e)	Evidence / data source / comments
Transport of waste to recycling centre	770.0	tonnes	assumes 22 km to recycling centre		
Waste to off-site recycling centre	770	tonnes			
"Waste" re-used on-site					
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	

Land use / Vegetation clearing

Land use / Vegetation clearing related emissions	Quantity	Unit		Evidence / data source / comments
Total area of vegetation cleared	-	ha		
Total emissions due to carbon sequestration loss			- t CO_2e	
Extra emissions from fuels used for clearing and grubbing (Australian methodology)			- t CO_2e	
Total street trees cleared	70	trees		Tree Register
Total emissions due to carbon sequestration loss			108 t CO_2e	Tree Register

Revegetation - Land use Mitigation calculator

Carbon sequestration related mitigation measures
Sequestration from revegetation of the project site is not included in line with the Australian method outlined in the TAGG 2013 Workbook. Link to TAGG 2013 Workbook

Revegetation related sequestration	Quantity	Unit		Evidence / data source / comments
Total area of revegetation	-	ha		Re vegetaion not included in package of works
Net sequestration due to revegetation			- t CO_2e	
Total street trees planted	797	trees		
Net sequestration from additional street tree planting			- 192 t CO_2e	Detailed Design 100% Drawings

End of Main data entry Go back to the top

Ready mixed concrete	Select strength grade	Quantity	Unit	Portland cement content (kg/m3)	Evidence / data source / comments
Ready mixed concrete (I)	25MPa	114	m3		Bill of Quantities/Detailed Design 100% Drawings
Ready mixed concrete (II)	32MPa	15	m3		Bill of Quantities/Detailed Design 100% Drawings
Ready mixed concrete (III)					
Ready mixed concrete (IV)					
Ready mixed concrete (V)					
Ready mixed concrete (VI)					
Ready mixed concrete (VII)					
Ready mixed concrete (VIII)					
Ready mixed concrete (IX)					
Ready mixed concrete (X)					
Ready mixed concrete (XI)					
Ready mixed concrete (XII)					
Ready mixed concrete (XIII)					
Ready mixed concrete (XIV)					
Ready mixed concrete (XV)					

If cement content unknown, leave empty or at 0 kg/m3

Total quantity of ready mixed concrete 129 m^3

Go back to Main data entry section

Precast concrete	Select strength grade	Quantity	Unit	Reinforcement steel quantity (kg/m3)	Evidence / data source / comments
Precast concrete (I)	32MPa	71	m3		Retaining Blockwork 200mm
Precast concrete (II)	32MPa	76	m3		Retaining Blockwork 300 series
Precast concrete (III)					
Precast concrete (IV)					
Precast concrete (V)					
Precast concrete (VI)					
Precast concrete (VII)					
Precast concrete (VIII)					
Precast concrete (IX)					
Precast concrete (X)					
Precast concrete (XI)					
Precast concrete (XII)					
Precast concrete (XIII)					
Precast concrete (XIV)					
Precast concrete (XV)					

If unknown, select 40MPa for building applications or 65MPa for infrastructure applications

Total quantity of precast concrete 353 tonnes

Go back to Main data entry section

Piping		Quantity	Unit
Reinforced concrete pipes		451	m
Steel pipe and tube		769	m
HDPE pipes		167	m
PVC pipes		2,489	m
Pipes, other	If other materials are used for piping, then define these under 'Additional materials' on the Main data input section		
Total quantity of piping	*(excludes "other")*	3,876	m

Go back to Main data entry section

Calculate here the quantity of reinforced concrete pipes used in the project

Size class (DN)	Nominal pipe length (m)	Mass of one pipe (kg)	Length used in project (m)	Total mass (tonnes)	Evidence / data source / comments
DN675	2.4	860	121	43.36	Bill of Quantities (BoQ)/Detailed Design 100% Drawings
DN375	2.4	315	163	21.39	Bill of Quantities (BoQ)/Detailed Design 100% Drawings
DN600	2.4	650	167	45.23	Bill of Quantities (BoQ)/Detailed Design 100% Drawings
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
TOTAL Reinforced concrete piping			451 m	109.98 t	

Go back to Main data entry section

Calculate here the quantity of steel pipe and tube used in the project

Size class (DN)	Nominal pipe length (m)	Mass of one pipe (kg)	Length used in project (m)	Total mass (tonnes)	Evidence / data source / comments
250mm S.C.L 5PL	6	48.5	19	0.15	Utility Detailed Design 100%
250mm D.I.C.L PN35	6	45	691	5.18	Utility Detailed Design 100%
250mm D.I.C.L FL	6	45	33	0.25	Utility Detailed Design 100%
150mm D.I.C.L PN35	6	25	22	0.09	Utility Detailed Design 100%
100mm D.I.C.L PN35	6	17	4	0.01	Utility Detailed Design 100%
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
TOTAL Steel pipe and tube piping	**Source of steel pipes:**		769 m	5.69 t	

Go back to Main data entry section

Calculate here the quantity of HDPE pipes used in the project

Size class (DN)	Nominal pipe length (m)	Mass of one pipe (kg)	Length used in project (m)	Total mass (tonnes)	Evidence / data source / comments
63mm PE Gas Pipe	6	0.33	22	0.00	Utility Detailed Design 100%
75mm Nylon Gas Pipe	6	0.33	145	0.01	Utility Detailed Design 100%
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
TOTAL HDPE piping			167 m	0.01 t	

Go back to Main data entry section

Calculate here the quantity of PVC pipes used in the project

Size class (DN)	Nominal pipe length (m)	Mass of one pipe (kg)	Length used in project (m)	Total mass (tonnes)	Evidence / data source / comments
150mm UPVC SN8	6	3.84	13.5	0.01	Utility Detailed Design 100%
225mm UPVC SN8	6	9	2.5	0.00	Utility Detailed Design 100%
300mm UPVC SN8	6	14.5	10.5	0.03	Utility Detailed Design 100%
150mm PVC PN16	6	39	104	0.68	Utility Detailed Design 100%
125mm UPVC Ducts	6	2	2358	0.79	Utility Detailed Design 100%
				0.00	
				0.00	
				0.00	
				0.00	
				0.00	
TOTAL PVC piping			2,489 m	1.50 t	

Electric cabling	Quantity	Unit
Power cables, Copper conductors	422	m
Power cables, Aluminium conductors	-	m
Power cables, Other conductors	-	m
Total quantity of electric cabling	422	m

Go back to Main data entry section

Calculate here the quantity of copper power cables used in the project

Type of cable	Nominal conductor area, copper (mm^2)	Approx. mass (kg/100m)	Length used in project (m)	Total mass (kg)	Evidence / data source / comments
Council Street Lighting	16	21	372	78	Utility Detailed Design 100%
Council Street Lighting	50	13	50	7	Utility Detailed Design 100%
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
TOTAL copper power cables			422 m	85 kg	

Go back to Main data entry section

Calculate here the quantity of aluminium power cables used in the project

Type of cable	Nominal conductor area, aluminium (mm^2)	Approx. mass (kg/100m)	Length used in project (m)	Total mass (kg)	Evidence / data source / comments
				0	NA
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
TOTAL aluminium power cables			0 m	0 kg	

Go back to Main data entry section

Calculate here the quantity of other power cables used in the project

Type of cable	Nominal conductor area, other (mm^2)	Approx. mass (kg/100m)	Length used in project (m)	Total mass (kg)	Evidence / data source / comments
				0	NA
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
TOTAL other power cables			0 m	0 kg	

Glass
Total glass used

Quantity	Unit
-	m^2
-	tonnes

Go back to Main data entry section

Calculate here the quantity of glass used in the project

Type of glass / application	Glass thickness (mm)	Quantity used in project (m^2)	Total mass (kg)	Evidence / data source / comments
			0	
			0	
			0	
			0	
			0	
			0	
			0	
			0	
			0	
			0	
TOTAL glass		0 m2	0 kg	

Rail
Total rail used
Source of the rail products

Quantity	Unit
-	track m
-	tonnes

Go back to Main data entry section

Calculate here the quantity of rail used in the project

Type of rail unknown	Rail mass (kg/m)	Quantity used in project (track m)	Total mass (tonnes)	Evidence / data source / comments
Heavy rail, type unknown	60.60		0.0	
Light rail, ballasted section, type unknown	49.39		0.0	
Light rail, roadway section, type unknown	58.97		0.0	
Specific type of rail is known	**Rail type**			
Common type of rail, please select			0.0	
Common type of rail, please select			0.0	
Other rail, please specify			0.0	
Other rail, please specify			0.0	
TOTAL rail		0 m	0.0 t	

Asphalt
Total asphalt used

Quantity	Unit
3,000	tonnes

Go back to Main data entry section

Calculate here the quantity of asphalt used in the project

Type of asphalt	Quantity used in project	Unit	Evidence / data source / comments
Hot mix asphalt, 0% RAP (5.5% bitumen)			*If unknown, select: Hot mix asphalt, 0% RAP*
Hot mix asphalt, 0-20% RAP			
Hot mix asphalt, 20-40% RAP			
Hot mix asphalt, 40-60% RAP	3000	tonnes	Bill of Quantities/Detailed Design 100% Drawings
Hot mix asphalt, >60% RAP			
Warm mix asphalt, 0% RAP (5.5% bitumen)			
Warm mix asphalt, 0-20% RAP			
Warm mix asphalt, 20-40% RAP			
Warm mix asphalt, 40-60% RAP			
Warm mix asphalt, >60% RAP			
TOTAL asphalt	3,000 t		

Vegetation clearing / land use	Quantity	Unit
Total area of vegetation cleared	-	ha
Total carbon sequestration loss emissions	-	t CO_2e
Extra emissions from fuels used for clearing and grubbing (Australian methodology)	-	t CO_2e

Go back to Main data entry section

Use the Australian land use methodology specified in the 2013 TAGG Workbook to calculate emissions related to vegetation clearing

Determine the vegetation types	Look up the project location and determine the 'Maxbio' class	Area cleared (ha)	Emission factor (t CO_2e/ha)	Total emissions (t CO_2e)	Evidence / data source / comments
TOTAL Vegetation clearing emissions		0.00 ha		0 t CO2	

Street trees clearing	Quantity	Unit
Total number of street trees cleared	70	trees
Total carbon emissions associated with street tree clearing	108	t CO_2e

Go back to Main data entry section

Tree size (using default DBH and tree height)	# of trees removed	Assumed DBH	Assumed tree height (m)	Tree volume	Assumed average oven-dry density	Tree dry mass	CO_2 sequestered per tree (kg)	Total emissions (t CO_2)
Large tree (DBH greater than 60 cm)	0	80 cm	10 m	5.0 m3	700 kg/m3	3519 kg	7748 kg	0.0
Medium tree (DBH greater than 15 cm, but less than 60 cm)	70	40 cm	8 m	1.0 m3	700 kg/m3	704 kg	1550 kg	108.5
Small young tree (DBH less than 15 cm)		15 cm	5 m	0.1 m3	700 kg/m3	62 kg	136 kg	0.0

Revegetation - Mitigation measures	Quantity	Unit
Total area of revegetation plantings	-	ha
Total carbon sequestration emissions mitigation	-	t CO_2e
Extra emissions from fuels used for planting are assumed immaterial	-	t CO_2e

Go back to Main data entry section

Use the Australian land use methodology specified in the 2013 TAGG Workbook to calculate carbon credits related to revegetation

Determine the vegetation types	Look up the project location and determine the 'Maxbio' class	Area planted (ha)	Mitigation factor (t CO_2e/ha)	Total mitigation (t CO_2e)	Evidence / data source / comments
TOTAL Revegetation mitigation		0.00 ha		0 t CO2	

Revegetation and biodiversity: Planting of street trees

	Quantity	Unit
Total number of trees planted	797	trees
Total carbon sequestration credit	192	t CO_2e

Go back to Main data entry section

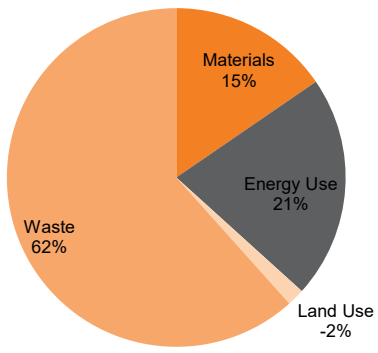
Planting of trees to offsett individual tree removal	# of trees planted	Assumed DBH	Assumed tree height (m)	Tree volume	Assumed average oven-dry density	Tree dry mass	CO_2 sequestered per tree (kg)	Total sequestered (t CO_2)
Large tree (DBH greater than 60 cm)	11	80 cm	10 m	5.0 m3	700 kg/m3	3519 kg	7748 kg	85.2
Medium tree (DBH greater than 15 cm, but less than 60 cm)		40 cm	8 m	1.0 m3	700 kg/m3	704 kg	1550 kg	0.0
Small young tree (DBH less than 15 cm)	786	15 cm	5 m	0.1 m3	700 kg/m3	62 kg	136 kg	107.0

Detailed Results: Hawkesbury Road Widening

Breakdown per emission source

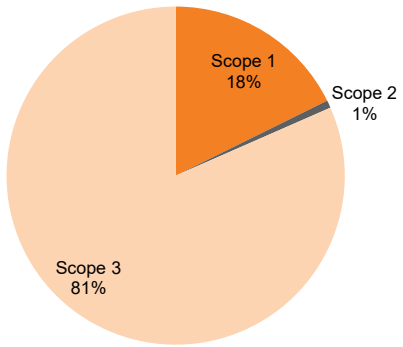
Period to show: CDR

Breakdown per key emitting activity: CDR



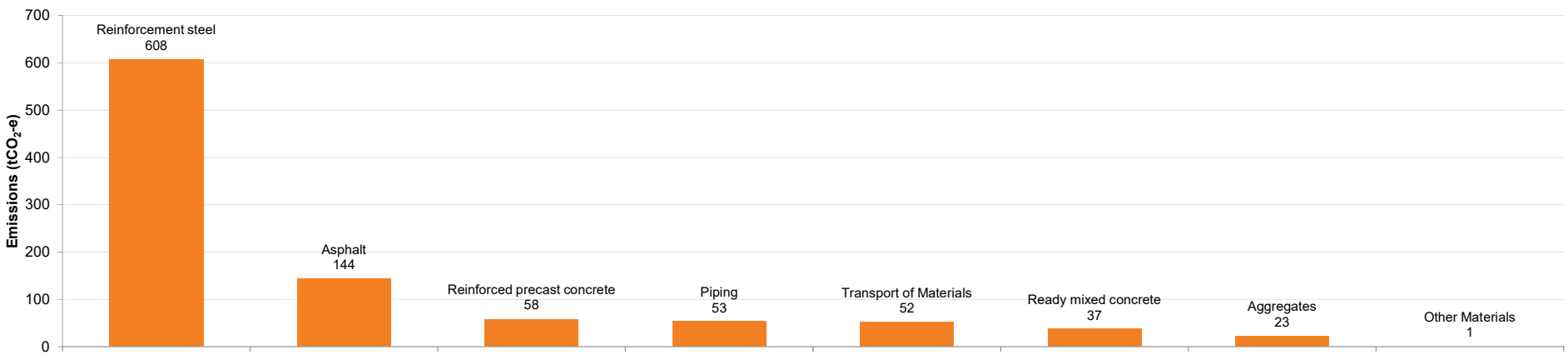
Period to show: CDR

Breakdown by scope: CDR



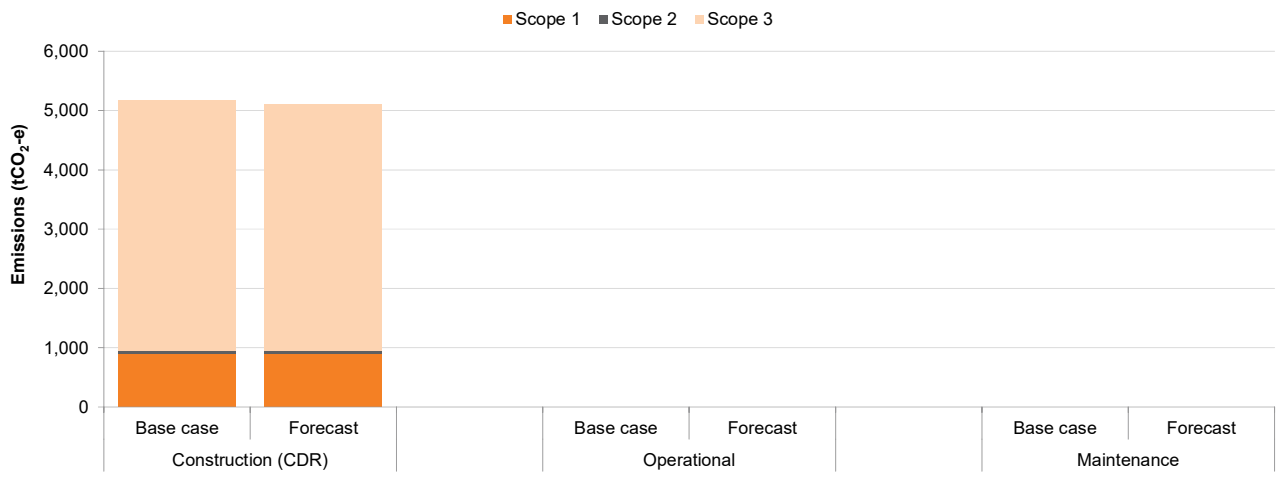
Period to show: CDR

Breakdown by material: CDR



Breakdown per project life cycle stage

Breakdown by stage and scope

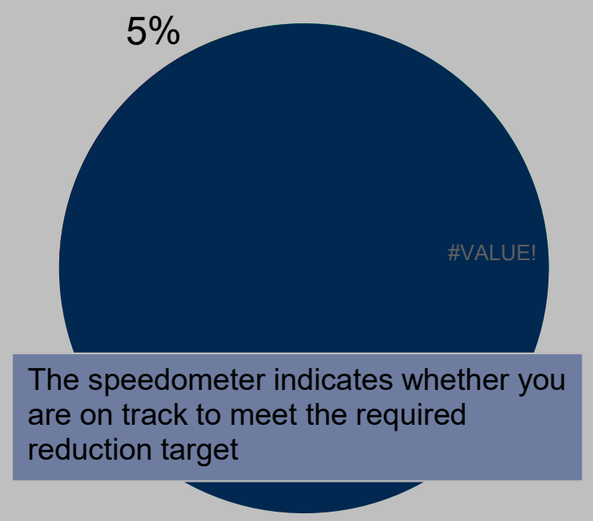


Breakdown of scope 1 and scope 2 emissions for use towards ISCA Ene-1 Credit

Emission source	Design / Construction stage	SDR ($t CO_2e$)	CDR ($t CO_2e$)	Final (End of Construction) ($t CO_2e$)
Diesel consumption for site vehicles, scope 1		0	0	0
Diesel consumption for stationary plant and equipment, scope 1		0	0	0
Diesel consumption for mobile plant and equipment, scope 1		0	974	0
Total of other fuels consumed on-site in site vehicles, stationary and mobile plant, scope 1		0	12	0
Land use / vegetation clearing		0	0	0
Total Scope 1 Emissions ($t CO_2e$)		***0***	***985***	***0***
Electricity use, on-site total, scope 2		0	54	0
Total Scope 2 Emissions ($t CO_2e$)		***0***	***54***	***0***
Total scope 1 and scope 2 emissions construction stage only ($t CO_2e$)*		**0**	**1,039**	**0**
Mitigation measures				
On-site renewable energy generation		0	0	0
Change in electricity use		0	-16	0
Change in diesel consumption for site vehicles		0	0	0
Change in diesel consumption for stationary plant		0	0	0
Change in diesel consumption for mobile plant		0	0	0
Change in other fuels		0	0	0
Change in use of biodiesel		0	0	0
User defined A		0	0	0
User defined B		0	0	0
User defined C		0	0	0
User defined D		0	0	0
User defined E		0	0	0
Total scope 1 and scope 2 emissions mitigation - construction stage only ($t CO_2e$)		**0**	**-16**	**0**
Net total scope 1 and scope 2 emissions construction stage only ($t CO_2e$)**		**0**	**1,023**	**0**
Emission source				
Scope 3 emissions related to electricity consumption (after mitigation)		0	5	0
Scope 3 emissions related to fuel consumption (after mitigation)		0	51	0
Total energy related scope 3 emissions construction stage only ($t CO_2e$)***		**0**	**56**	**0**

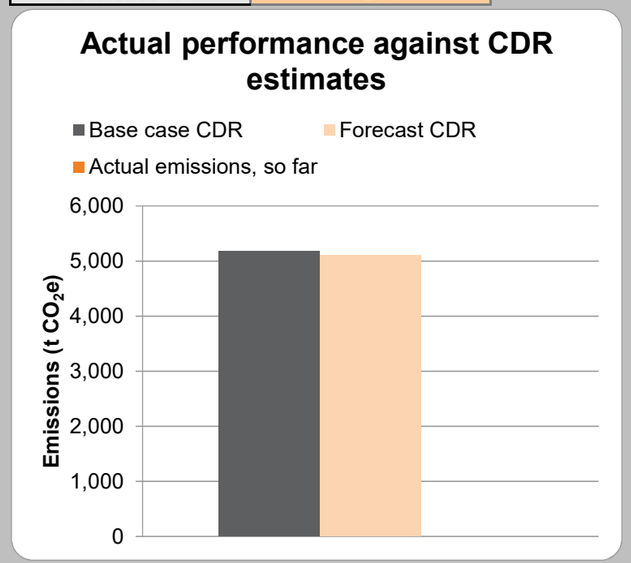
Results Dashboard: Hawkesbury Road Widening

Project Stage	Forecast or Actual Emissions	Base Case emissions	Reduction against the Base Case	
SDR	0 t CO2e	0 t CO2e	0 t CO2e	
CDR	5,101 t CO2e	5,364 t CO2e	263 t CO2e	5%
Actual	0 t CO2e	0 t CO2e	0 t CO2e	

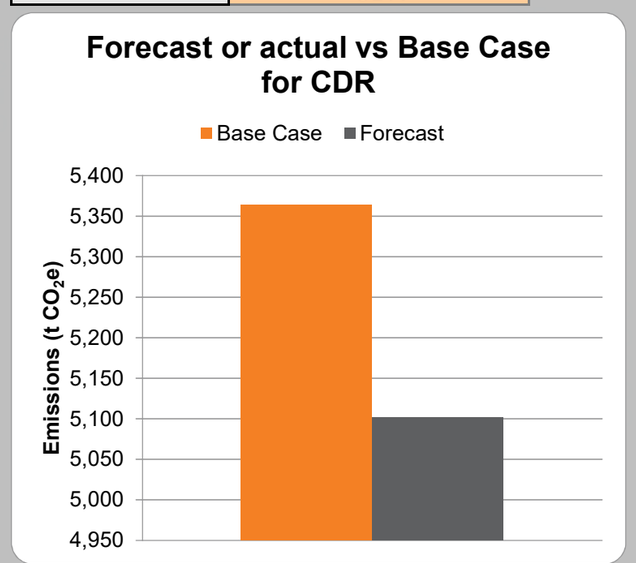


The speedometer indicates whether you are on track to meet the required reduction target

Reference to show: CDR



Show emissions for: CDR



Show equivalences for: CDR

263 t CO2e reduction is equal to…

1684 return flights Sydney - Melbourne, or
11 average Australians (per capita emissions for one year), or
117 return car trips from Sydney - Perth, or
30 average NSW households (residential emissions only).

KPI: Greenhouse gas emissions per million dollars (t CO_2e/$m)	
Project value:	*$15,000,000*
Forecast SDR emissions:	0 t CO_2e
Forecast SDR emissions intensity:	0 t CO_2e/$m
Forecast CDR emissions:	5,101 t CO_2e
Forecast CDR emissions intensity:	340 t CO_2e/$m
CDR vs. SDR reduction forecasted:	#DIV/0!
Actual emissions:	0 t CO_2e
Actual emissions intensity:	0 t CO_2e/$m

Air Emissions Data Collection Workbook

The following tables are completion of Air Emission Data Workbook – 9TP-FT-439.

Project Name	Project Location	Contract ID	Contract Start Date	Site Name	Site Type	LGA
Hawkesbury Road Widening	Hawkesbury Road, Paramatta	HI18356	Q2 2019	Hawkesbury Road Widening	Roadworks	Parramatta City Council

Equipment Ownership	Equipment ID	Non road equipment Type	Non road equipment Type Other	Engine Power (kW/HP)	Non road equipment Make	Non road equipment Model	Year of Manufacture	Year of Purchase	Emission Certificate	Emission Certificate Other	Certificate Number
Contractor Supplied	211 - 5t	Excavators	2017 model	kW 19 to <37 (HP 25 to <50)	CATERPILLAR	305.5E 2			USEPA Tier 4 final		
constructor Supplied	212 - 5t	Excavators	2017 model	kW 19 to <37 (HP 25 to <50)	CATERPILLAR	305.5E 3			USEPA Tier 4 final		
contractor Supplied	230 - 8t	Excavators	2017 model	kW 19 to <37 (HP 25 to <50)	KOMATSU	PC88MR-8			USEPA Tier 4 final		
constructor Supplied	226 - 8t	Excavators	2017 model	kW 19 to <37 (HP 25 to <50)	KOMATSU	PC88MR-8			USEPA Tier 4 final		
contractor Supplied	130 - 14t	Excavators	2017 purchase	kW 37 to <56 (HP 50 to <75)	CATERPILLAR	314DLCR	2012		USEPA Tier 4 final		
constructor Supplied	245 - 1.5t	Excavators	2018 purchase	kW 19 to <37 (HP 25 to <50)	CASE	CX17C			USEPA Tier 4 final		

Equipment Ownership	Equipment ID	Non road equipment Type	Non road equipment Type Other	Engine Power (kW/HP)	Non road equipment Make	Non road equipment Model	Year of Manufacture	Year of Purchase	Emission Certificate	Emission Certificate Other	Certificate Number
contractor Supplied	143 - 3t	Excavators		kW 19 to <37 (HP 25 to <50)	CASE	CX31B	2016	2016	USEPA Tier 4 final		
contractor Supplied	123 - 2t	Rollers		kW 19 to <37 (HP 25 to <50)	CATERPILLAR	CB24B	2014	2014	USEPA Tier 2		
contractor Supplied	116 - 2t	Rollers		kW 19 to <37 (HP 25 to <50)	CATERPILLAR	CB24B	2014	2014	USEPA Tier 2		
contractor Supplied	073 - 7t	Rollers		kW 56 to <75 (HP 75 to <100)	CATERPILLAR	CS433E	2011	2011	USEPA Tier 2		
contractor Supplied	228 - 2t	Rollers	2017 purchase	kW 19 to <37 (HP 25 to <50)	OTHER (Wacker Neuson)	RTLx-SC3			USEPA Tier 4 final		
contractor Supplied	229 - 2t	Rollers	2017 purchase	kW 19 to <37 (HP 25 to <50)	OTHER (Wacker Neuson)	RTLx-SC3			USEPA Tier 4 final		
contractor Supplied	111 - 3.5t	Forklifts		kW 19 to <37 (HP 25 to <50)	OTHER (Ozdemir)	FD35-CT	2014	2014	EU Stage II		
contractor Supplied	142	Other - enter to right	Light tower	kW 19 to <37 (HP 25 to <50)	OTHER (Worklite)	KT10000	2016	2016	Other - enter to right	US Clear act 40 CFR	GXBXLO1.BCB-019
contractor Supplied	141	Other - enter to right	Light tower	kW 19 to <37 (HP 25 to <50)	OTHER (Worklite)	KT10000	2016	2016	Other - enter to right	US Clear act 40 CFR	GXBXLO1.BCB-019
contractor Supplied	128	Skid Steer Loaders		kW 37 to <56 (HP 50 to <75)	CATERPILLAR	C299D	2015	2016	USEPA Tier 2		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