

# **Construction Environmental Management Plan**

**Western Harbour Tunnel and Warringah  
Freeway Upgrade**

**Stage 1C Early and Enabling Works – Massey to  
Amherst Street (M2A)**

**Transport for New South Wales**

THIS PAGE LEFT BLANK INTENTIONALLY

# Construction Environmental Management Plan

## Western Harbour Tunnel and Warringah Freeway Upgrade

### Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

December 2021

## List of emergency and key contacts

Position	Name	Phone
EPA pollution hotline		131 555
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		(02) 9391 9000
SafeWork NSW		131 050
North Sydney Council		(02) 9936 8100
24-hour community information line		1800 931 189
SPA Environmental Manager	Daniel Lidbetter	0427 768 613
SPA Community Manager	Amanda Muir	0499 542 816
SPA Project Manager	Jason Nisbet	0418 693 964
SPA Superintendent	John Cosgrave	0419 717 529
Environmental Representative	Maurice Pignatelli	0407 493 176
Acoustic Advisor	Larry Clark	0417 133 871
Sydney Program Alliance Environmental Interface Manager	Richard Peterson	0429 227 775
Transport for NSW Environmental Representative (Motorways)	Sam Schubert	0435 578 294

# Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Background .....	1
1.2	Project description .....	5
1.3	Minor ancillary facility.....	9
1.3.1	Minor ancillary facility approval, review and improvement.....	9
1.3.2	Visual Impacts .....	9
1.4	Working hours .....	10
1.4.1	Standard construction hours.....	10
1.4.2	Highly noise intensive work .....	10
1.4.3	Variation to work hours .....	10
1.5	Purpose of this CEMP.....	11
1.6	Environmental objectives and targets .....	12
1.7	Environmental Management System overview .....	14
<b>2</b>	<b>Consultation, endorsement and approval.....</b>	<b>17</b>
<b>3</b>	<b>Environmental Management Plan .....</b>	<b>19</b>
3.1	Planning .....	19
3.1.1	Environmental Risk Assessment Workshop.....	19
3.1.2	Regulatory requirements and compliance.....	19
3.1.3	Environmental Work Method Statement .....	19
3.1.4	Sensitive Area Plans .....	20
3.2	Preparation and availability of the CEMP .....	20
3.3	Resources, responsibilities and authority .....	20
3.4	Selection and management of subcontractors .....	27
3.5	Competence, training and awareness.....	27
3.5.1	Environmental induction .....	28
3.5.2	Toolbox talks, training and awareness.....	28
3.5.3	Daily Pre-Start Meetings.....	28
3.6	Communication.....	29
3.6.1	Internal Communication.....	29
3.6.2	Liaison with EPA, government authorities or other relevant stakeholders .....	29
3.6.3	Community liaison and/or notification .....	29
3.6.4	Complaints management.....	29
3.7	Emergency and incident planning .....	29
3.8	Environmental non-conformance .....	31
3.8.1	Non-compliance .....	31

3.8.2 Non-conformance .....	31
3.9 Monitoring, inspections and auditing .....	32
3.9.1 Environmental inspections .....	32
3.9.2 Environmental monitoring .....	32
3.9.3 Auditing .....	33
3.9.4 Other reporting .....	34
3.10 Records of environmental activities .....	35
3.10.1 Environmental records .....	35
3.10.2 Document control .....	35
3.11 Management review .....	36
3.12 CEMP Revision and changes to the project .....	36
3.12.1 CEMP revision .....	36
3.12.2 Changes to the project .....	37
3.13 Directions from DPIE .....	37

## Tables

Table 1-1 Summary of noise barrier works .....	5
Table 1-2 Description of activities for the noise barrier works .....	6
Table 1-3 Environmental objectives and targets .....	13
Table 2-1 Environmental Management Sub-plans and procedure .....	17
Table 2-2 Stakeholder consultation requirements .....	17
Table 3-1 Environmental monitoring programs .....	32
Table 3-2 SPA and Independent Audit requirements .....	33
Table 3-3 Reporting requirements .....	34



## Appendices

Appendix A1 Environmental Performance Outcomes
Appendix A2 Conditions of Approval compliance tracking
Appendix A3 Legal requirements and compliance tracking
Appendix A4 Environmental Aspects and Impacts
Appendix A5 Environment and Sustainability Policy
Appendix A6 Sensitive Area Plans
Appendix A7 Environmental Incident Classification and Reporting
Appendix A8 Environmental Inspection Checklist
Appendix A9 Stockpile Management Protocol
Appendix B1 Construction Traffic, Transport and Access Management Sub-Plan

Appendix B2	Construction Noise and Vibration Management Sub-Plan
Appendix B3	Construction Flora and Fauna Management Procedure
Appendix B4	Construction Soil and Water Quality Management Procedure
Appendix B5	Construction Heritage Management Procedure
Appendix B6	Construction Air Quality and Odour Management Procedure
Appendix B7	Construction Waste and Resource Management Procedure

## Document control

### Approval

<b>Title</b>	Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A), Construction Environmental Management Plan
<b>Document No./Ref</b>	WFUEW- JHG-PLN-MAN-WP14-0001
<b>Endorsed on behalf of SPA Environment Manager by</b>	Daniel Lidbetter
<b>Signed</b>	
<b>Dated</b>	15.12.2021
<b>Approved by SPA Project Manager</b>	Jason Nisbet
<b>Signed</b>	
<b>Dated</b>	15.12.2021



## Version control

The below document status table is for tracking the revisions of the CEMP, while the project is in construction. The version control table is to be used to track CEMP revisions, including those incorporating changes following agency comments.

It may be modified where necessary to fit with requirements of the individual project.

Revision	Date	Description	Approval
0	13/09/2021	Draft for Internal Review	DL
1	20/09/2021	For TfNSW Review	DL
2	20/10/2021	For ER Review	DL
3	13/10/2021	For Consultation Review	DL
4	28/10/2021	For ER Endorsement and Submission to DPIE	DL
5	30/11/2021	Update and submission to DPIE	DL
6	13/12/2021	Update and submission to DPIE	DL
7	15/12/2021	Update and submission to DPIE	DL

## Glossary/Abbreviations

Abbreviation	Expanded text
AA	Acoustics Advisor
Ancillary facility	A temporary facility for construction of the CSSI including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory and material stockpile area
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CGC	Cammeray Golf Course adjustment works
Compliance audit	Verification of how implementation is proceeding with respect to a CEMP (which incorporates the relevant approval conditions).
CoA	NSW Minister for Planning and Public Space's Conditions of Approval
Construction ancillary facility	A construction ancillary facility not being a minor construction ancillary facility.
CSSI	Critical State Significant Infrastructure
CUT	Critical utility installation, relocation and protection
DPIE	NSW Department of Planning, Industry and Environment
EES	NSW Environment, Energy and Science group (a group within DPIE)
EIS	Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (January 2020)
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992)
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 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 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.
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises

Abbreviation	Expanded text
	from the environmental objectives and that needs to be set and met in order to achieve those objectives.
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The role of the ER is defined in the CoA A27.
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPL	Environment Protection Licence
ER	Environmental Representative
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental work method statement
Hold point	Is a verification point that prevents work from commencing prior to approval from Roads and Maritime Services
INX	InControl Incident Management
ISO	International Organisation for Standardisation
M2A	Stage 1C Noise Barrier Works, Massey to Amherst Street.
MAF	Minor ancillary facility consisting of lunch sheds, office sheds, portable toilet facilities, car parking, material storage, and the like that meet the requirements of CoA A19.
MAFA	Minor Ancillary Facilities Assessment
Minister, the	Minister for Planning and Public Space (or delegate)
Non-compliance	A breach of 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.
NSW	New South Wales
NVMP	Noise and Vibration Management Sub-plan
NVMoP	Noise and Vibration Monitoring Program
PIRMP	Pollution Incident Response Management Plan
Principal, the	Transport for NSW
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Project, the	Western Harbour Tunnel and Warringah Freeway Upgrade
REMMs	Revised Environmental Management Measures
ROL	Road occupancy licence
RtS	Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions (September 2020)
SAP	Sensitive Area Plans
SPA	Sydney Program Alliance
TTAMP	Traffic, Transport and Access Management Sub-plan

Abbreviation	Expanded text
WFU	Warringah Freeway Upgrade
WFUEW	Warringah Freeway Upgrade Early Works
WFUMW	Warringah Freeway Upgrade Main Works
WHT	Western Harbour Tunnel
WHTBL	Western Harbour Tunnel Beaches Link
WHTWFU	Western Harbour Tunnel and Warringah Freeway Upgrade

# 1 Introduction

## 1.1 Background

The Western Harbour Tunnel and Warringah Freeway Upgrade (WHTWUFU) (the project) forms a core component of the broader Western Harbour Tunnel and Beaches Link (WHTBL) program of works (refer to Figure 1-1, Figure 1-2 and Figure 1-3). The project consists of two main components:

- A new crossing of Sydney Harbour involving twin tolled motorway tunnels connecting the M4-M5 Link at Rozelle and the Warringah Freeway at North Sydney (the Western Harbour Tunnel)
- Upgrade and integration works along the existing Warringah Freeway, including infrastructure required for connections to the Beaches Link and Gore Hill Freeway Connection project. Reconfiguration works as part of the Warringah Freeway Upgrade would optimise the road corridor and improve the performance of the Sydney Harbour Tunnel, the Sydney Harbour Bridge and the Western Harbour Tunnel.

Due to its importance, the WHTWUFU project was declared to be Critical State Significant Infrastructure (CSSI) by the Minister for Planning and Public Space on 9 November 2020.

On 21 January 2021, the Department of Planning, Industry and Environment (DPIE) approved the construction and operation of the WHTWUFU project (SSI 8863).

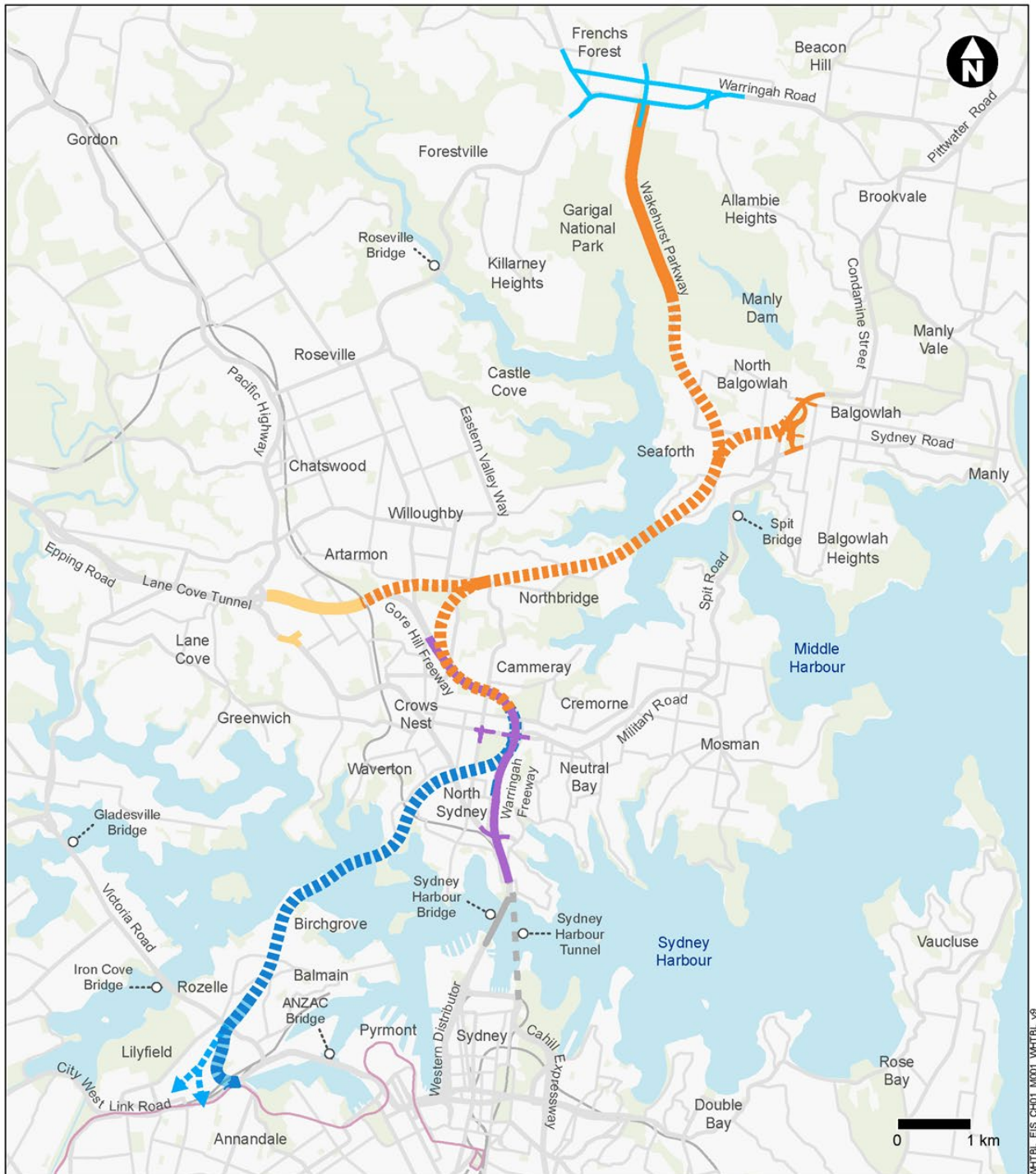
A detailed description of the project is provided in Chapter 5 of the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (EIS).

The WHTWUFU project will be delivered in numerous stages:

- **Stage 1 - Early and enabling works:**
  - Stage 1A - Critical utility installation, relocation and protection (CUT)
  - Stage 1B - Cammeray Golf Course adjustment works (CGC)
  - Stage 1C – Massey to Amherst Street noise barrier wall (M2A) (the subject of this Construction Environmental Management Plan (CEMP))
  - Stage 1D – WHT construction power and utilities (WHTCP)
  - Stage 1E – Maritime Heritage - relocation of historic vessels *M.V. Cape Don and Baragoola* (MH)
- **Stage 2 - Warringah Freeway Upgrade project:**
  - Stage 2 – Warringah Freeway Upgrade (WUFU)
- **Stage 3 - Western Harbour Tunnel project (WHT):**
  - Supplementary stages to be confirmed at a later stage (upon procurement of the WHT Contractor/s)

Further detail on each stage is provided in the WHTWUFU project Staging Report SSI 8863, Revision No 1 (06 October 2021).

This CEMP applies only to Stage 1C, identified as the noise barrier works, which forms part of Stage 1 Early and Enabling Works of the Project. The noise barrier works will support the delivery program of the Main Works of the project by being undertaken prior to their commencement. Sydney Program Alliance (SPA) has been appointed by Transport for New South Wales (TfNSW) to deliver the noise barrier works.



#### Legend

##### Operational features

- Beaches Link
- Gore Hill Freeway Connection
- Western Harbour Tunnel
- Warringah Freeway Upgrade
- M4-M5 Link tunnel fitout and commissioned as part of Western Harbour Tunnel

##### Connecting projects

- M4-M5 Link connections (indicative)
- Northern Beaches Hospital road upgrade

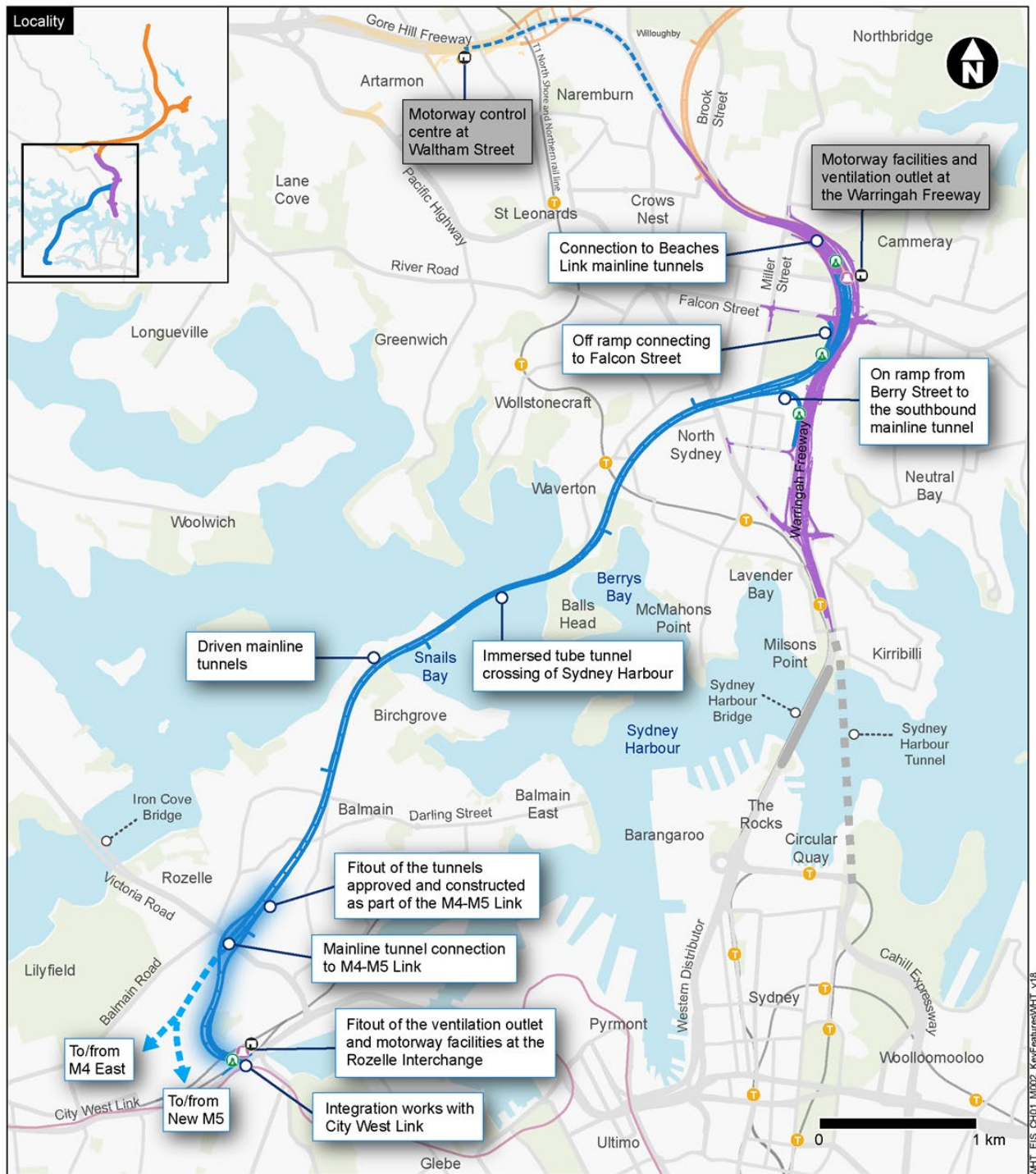
##### Existing rail network

- Heavy rail
- Light rail

(Reference: Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement, Figure 1-1)

**Figure 1-1 Overview of the Western Harbour Tunnel and Beaches Link Program of Works**





### Legend

#### Operational features

- Western Harbour Tunnel
- Warringah Freeway Upgrade
- Communications cable for motorway control centre
- M4-M5 Link tunnel fitout and commissioned as part of Western Harbour Tunnel

- ⬆ Surface connection
- ⬆ Permanent operational facility
- ⬆ Ventilation outlet

#### Connecting projects

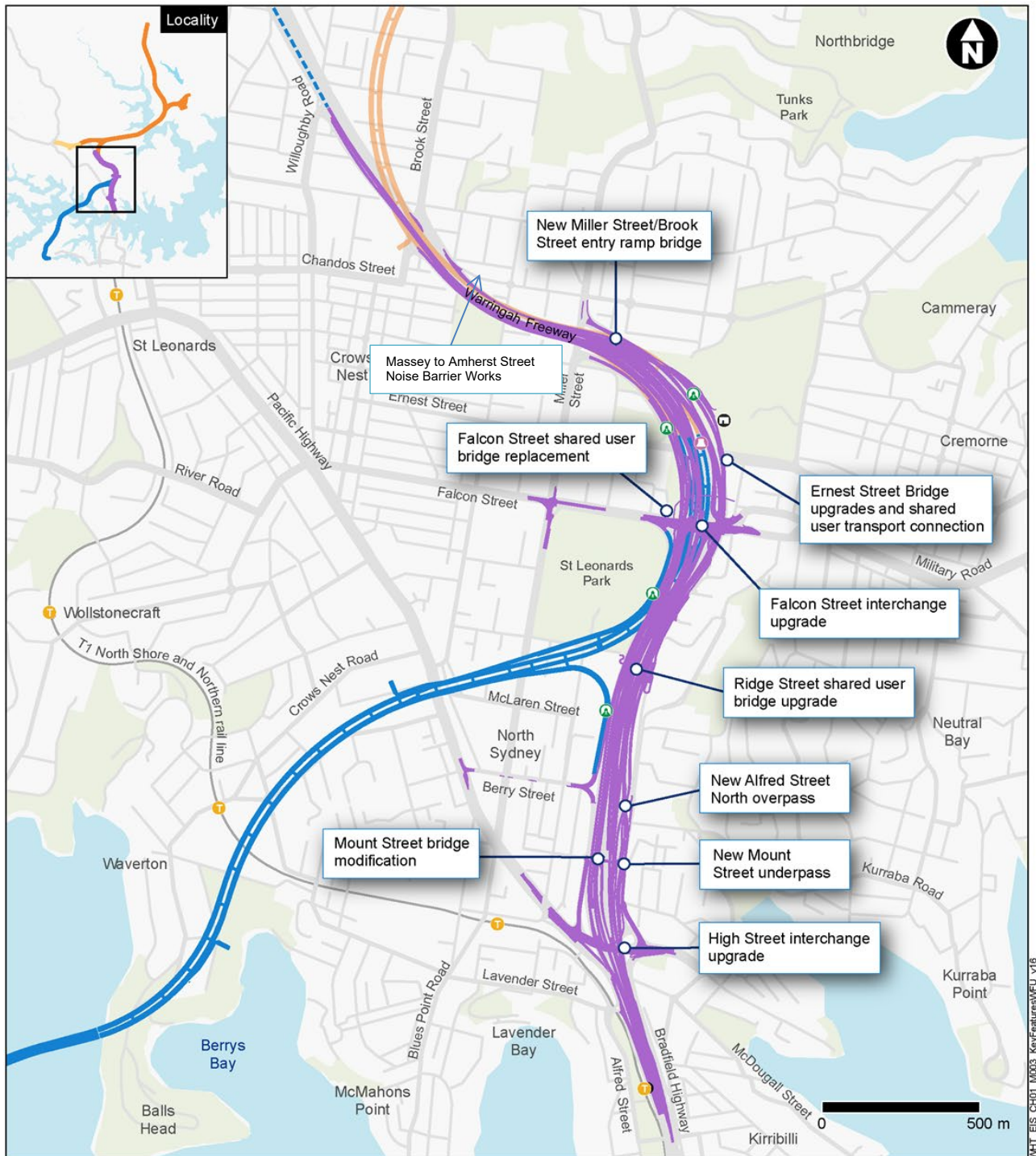
- Beaches Link
- Gore Hill Freeway Connection
- M4-M5 Link connections (indicative)

#### Existing rail network

- Heavy rail
- Light rail
- T Train station

(Reference: Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement, Figure 1-2)

**Figure 1-2 Key features of the Western Harbour Tunnel component of the project**



## Legend

### Operational features

- Warringah Freeway Upgrade
- Western Harbour Tunnel
- Communications cable for motorway control centre
- Surface connection
- Permanent operational facility
- Ventilation outlet

### Connecting projects

- Beaches Link

### Existing rail network

- Heavy rail
- Train station

(Reference: Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement, Figure 1-3)

**Figure 1-3 Key features of the Warringah Freeway Upgrade component of the project**



## 1.2 Project description

This CEMP applies only to the M2A noise barrier works package of the project (Stage 1C). The noise barrier works are critical to an earlier start on site and will be undertaken as part of early and enabling works of the project.

The new noise barrier is approximately 175 m in length and is located on the eastern side of the Warringah Freeway and immediately adjacent to the residences located on Massey Street, Amherst Street, Jenkins Street and Armstrong Street. Refer to Figure 1-4 below for the site layout.



Figure 1-4 Location of noise barrier works scope

A summary of the noise barrier works are described in Table 1-1 , with further details provided in Table 1-2.

Table 1-1 Summary of noise barrier works

Areas	Key activities	Planned schedule for construction
Massey Street to Amherst Street, Cammeray	<p>Site Establishment and Preparatory Works</p> <ul style="list-style-type: none"><li>• Traffic switch</li><li>• Site mobilisation</li><li>• Demolition of existing block wall</li><li>• Tree trimming and clearing</li><li>• Establishment of work zone and traffic control</li></ul> <p>Noise Barrier Installation Works</p> <ul style="list-style-type: none"><li>• Rock face preparation</li><li>• Piling and standing columns</li><li>• Concreting and post installation</li></ul>	<ul style="list-style-type: none"><li>• Start: Q4 2021</li><li>• End: Q3 2022</li></ul>

Areas	Key activities	Planned schedule for construction
	<ul style="list-style-type: none"> <li>Panel installation</li> <li>Finishing works</li> <li>Landscaping</li> <li>Paving</li> </ul>	

*Table 1-2 Description of activities for the noise barrier works*

Activity	Description	Timing
Site Establishment and Preparatory Works		
Traffic switch	<ul style="list-style-type: none"> <li>Removal of existing and painting of new line markings, installation of safety barriers and signage. Works to be undertaken at night under ROL</li> </ul>	<ul style="list-style-type: none"> <li>Q4 2021</li> </ul>
Demolition of existing block wall	<ul style="list-style-type: none"> <li>Removal of block wall segments (adjacent to Massey Street) to create tie into new noise wall</li> <li>Off-site waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>Q4 2021</li> </ul>
Tree clearing and trimming	<ul style="list-style-type: none"> <li>Tree clearing/trimming along the alignment of the new noise wall</li> <li>Majority of the trees will be trimmed from the highway side (Amherst Street) using a truck mounted elevated work platform and hand-held chainsaw or pneumatic tools</li> <li>Tree branches will be mulched, and mulch taken off site for disposal as waste or for re-use if there is the opportunity to do so</li> <li>Tree trimming and clearing is planned to be undertaken during day- time working hours either under a temporary traffic control set up or behind the barriers once the traffic switch has been implemented. However, night works may be required if it is not possible to undertake the works safely within the proposed work zone</li> <li>Method of cutting the limbs will be established through site-based assessments and risk workshops</li> </ul>	<ul style="list-style-type: none"> <li>Q4 2021</li> </ul>
Establishment of Work Zone and traffic control	<ul style="list-style-type: none"> <li>Establishment of traffic control and safety barriers</li> <li>Establishment of toilet and washroom within the existing site work area</li> <li>Sheds will be a caravan or trailer arrangement and delivered to site via rigid trucks</li> <li>Potential utility relocation and/or protection (subject to further investigation)</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Q4 2021</li> </ul>

Activity	Description	Timing
Noise barrier Installation works		
Rock face preparation	<ul style="list-style-type: none"> <li>• Installation of environmental controls (pit protection and sediment controls)</li> <li>• Existing rock face will be cut to allow for piling and noise wall installation</li> <li>• Rock cuttings will be loaded and taken off site to a licensed facility</li> </ul>	<ul style="list-style-type: none"> <li>• Q1 2022</li> </ul>
Piling and standing columns	<ul style="list-style-type: none"> <li>• Piling works along the alignment of the wall will be completed using a piling rig or a suitably sized excavator with the required attachments (machinery to be confirmed once design and sub-contractor is finalised)</li> <li>• Piles will be aimed to be completed in daytime hours, however where required (due to limits on available working space) out of hours works may occur.</li> <li>• Rock cuttings/spoil will be loaded and carted off site or stored in bins where required</li> </ul>	<ul style="list-style-type: none"> <li>• Q1 2022 – Q2 2022</li> </ul>
Concreting and post installation	<ul style="list-style-type: none"> <li>• Delivery of posts will come in on either rigid or semi-trailer flatbeds and offloaded and lifted into place using various craneage (e.g., Hi-ab truck, small crawler crane, mobile crane etc)</li> <li>• Once a set number of posts are set up, the hole will be concreted. The concrete will be placed off-chute or where required, a concrete pump or kibble will be utilised</li> </ul>	<ul style="list-style-type: none"> <li>• Q1 2022 – Q2 2022</li> </ul>
Panel installation	<ul style="list-style-type: none"> <li>• Noise wall panels will consist of pre-cast concrete panels</li> <li>• Panels will be delivered on rigids trucks in a "just in time" method due to limited on-site space and to minimise impacts on site. A small number of panels may be stored within the compound site</li> <li>• Panels will be installed by lifting the panels straight off the truck and into position using various craneage (e.g. Hi-ab truck, small crawler crane, mobile crane etc)</li> <li>• EWPs will be required when installing the panels to fasten the panel to the post</li> </ul>	<ul style="list-style-type: none"> <li>• Q2 2022</li> </ul>
Finishing works and reinstatement	<ul style="list-style-type: none"> <li>• Includes painting the wall, reinstating the rock face and installation of access gate</li> <li>• Further utility adjustments and /or re-instatement works may be required depending on further site investigations conducted prior to and during the work</li> </ul>	<ul style="list-style-type: none"> <li>• Q3 2022</li> </ul>
Landscaping	<ul style="list-style-type: none"> <li>• Landscaping will be required at the corner of Armstrong Street/Jenkins Street</li> <li>• Works will be completed during daytime hours</li> </ul>	<ul style="list-style-type: none"> <li>• Q3 2022</li> </ul>

Activity	Description	Timing
Paving	<ul style="list-style-type: none"> <li>• Paving work will include a mill and re-sheet the road from Brook Street to the end of the traffic staging set up</li> <li>• The crew will use a milling machine to remove the existing surface and load the millings into rigid body trucks or semi-trucks and sent off site</li> <li>• The asphalt will be delivered to site using rigid body trucks or semi-trucks and tipped into a shuttle buggy which will feed the paving machine</li> <li>• A roller will follow the paving machine to ensure there is adequate compaction</li> <li>• These works will be performed on night shift under traffic control and ROL</li> <li>• Line marking crews will install all permanent lines during a night shift</li> </ul>	<ul style="list-style-type: none"> <li>• Q3 2022</li> </ul>

### 1.3 Minor ancillary facility

A minor construction ancillary facility will not be required to be established under Condition of Approval (CoA) A19 and established and operated under this CEMP, outside the construction work zone. During the early stages of the noise barrier works, the existing ancillary facility at Ridge Street Site Compound (or other compounds as required), will be utilised for the site establishment and early works, as there will be minimal activities at site and a fully established minor ancillary facility will not be required.

Within the construction work zone, a mobile toilet and washroom will be provided for the construction workforce in early 2022 as construction work activities approach peak production.

#### 1.3.1 Minor ancillary facility approval, review and improvement

The Infrastructure Approval identifies two approval pathways for the establishment of minor ancillary facilities. Minor ancillary facilities are defined under the Planning Approval CoA A19 as lunch sheds, office sheds, portable toilet facilities, car parking, material storage, and the like.

In accordance with CoA A19, minor ancillary facilities can be established and used if they have been assessed in the EIS and Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions (September 2020)(RtS), or if they satisfy the following criteria:

- a. Are located within or adjacent to the construction boundary, and
- b. Have been assessed by the ER to have:
  - i. Minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and
  - ii. Minimal environmental impact with respect to waste management and flooding, and
  - iii. No impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.

Establishment and operation for this minor ancillary facility will be subject to endorsement by the ER that the environmental impacts are minor in nature as noted in CoA A 19 above.

#### 1.3.2 Visual Impacts

As per CoA E155, the noise barrier will be constructed in a manner that will minimise visual impacts of construction sites.

Due to the need to undertake some noise wall construction activities at night, lighting will need to be provided to ensure safe access to the ancillary facility. In accordance with CoA E163, the ancillary facility will be operated with the objective of minimising light spill by directing lighting away from residential receivers wherever possible. This lighting will be operated at the site consistent with the requirements of AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting.

In order to ensure site lighting does not impact on sensitive receivers, the following will be implemented:

- Lights will be located as far away as possible and pointed away from neighbours and away from sensitive areas, such as bedroom windows
- Existing features will be used to hide the light source from view. For instance, retained vegetation will be used to shield lighting existing structures
- Lights will be directed to illuminate the target area. If there is no alternative to up-lighting, shields and baffles will be fitted to help keep spill light to a minimum.
- Where practicable, visual screens will be installed between the light source and the residents to prevent light spillage.

There is an existing solid brick wall between the sensitive residential areas and the minor ancillary facility which will provide visual screening and noise attenuation for those residents. As such an additional noise wall or boundary fence is not proposed. A sign will be installed with the information requirements including CCSI name, application number, telephone number, postal address and email address as required under CoA A48 and B8 of this approval.

## **1.4 Working hours**

Standard construction hours for the Project are defined by CoA E66 and E67. CoA E68 and E69 define where work may be undertaken outside of these standard hours. Refer to the NVMP for further detail on working hours and variations to working hours.

### **1.4.1 Standard construction hours**

In accordance with CoA E66, work must only be undertaken during the following hours:

- 7:00am to 6:00pm Mondays to Fridays, inclusive;
- 8:00am to 6:00pm Saturdays; and
- at no time on Sundays or public holidays.

### **1.4.2 Highly noise intensive work**

In accordance with CoA E67, except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable NML at the same receiver must only be undertaken:

- between the hours of 8:00 am to 6:00 pm Monday to Friday;
- between the hours of 8:00 am to 1:00 pm Saturday; and
- if continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.

For the purposes of this condition, 'continuously' includes any period during which there is less than one hour between ceasing and recommencing any of the work.

### **1.4.3 Variation to work hours**

In accordance with CoA E68, works may be undertaken outside the standard construction hours. It is noted that CoA E68(d) is not relevant for the noise barrier works.

Notwithstanding CoA E66 and E67, work may be undertaken outside the hours specified in any of the following circumstances:

(a) Safety and Emergencies, including:

- (i) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or
- (ii) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm.

On becoming aware of the need for emergency work in accordance with CoA E68(a)(ii), the Proponent must notify the Acoustic Advisor, the ER, the Planning Secretary and the EPA of the reasons for such work. The Proponent must use best endeavours to notify all noise and/or vibration affected sensitive land user(s) of the likely impact and duration of those work.

(b) Low impact, including:

- (i) construction that causes LAeq(15 minute) noise levels:
  - no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, or

- no more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); or
- (ii) construction that causes LAF<sub>max</sub>(15 minute) noise levels no more than 15 dB(A) above the rating background level at any residence; or
- (iii) construction that causes:
  - continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or
  - intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006).
- (c) By Approval, including:
  - (i) where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or
  - (ii) works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by CoA E69; or
  - (iii) negotiated agreements with directly affected residents and sensitive land user(s).
- (d) By Prescribed Activity, including:
  - (i) tunnelling (excluding cut and cover tunnelling and surface works) and tunnel fit out works (excluding surface works) are permitted 24 hours a day, seven days a week; or
  - (ii) delivery of material that is required to occur outside of standard construction hours in CoA E66 to directly support tunnelling activities, except between the hours 10:00 pm and 7:00 am to/from WHT7 at Berrys Bay which could result in a sleep disturbance event for receivers in the proximity of Bay Road and Balls Head Road, Waverton; or
  - (iii) works within an acoustic shed where there is no exceedance of the NMLs; or
  - (iv) trailer suction hopper dredging; or
  - (v) along the Warringah Freeway corridor in accordance with CoA E88.

## 1.5 Purpose of this CEMP

This CEMP is the overarching document in the environmental management system for the noise barrier works component of the Western Harbour Tunnel and Warringah Freeway Upgrade project that includes a number of management documents. It is applicable to all staff and subcontractors associated with the construction of the noise barrier works.

This CEMP, the Sub-plans and procedures have been prepared to outline and describe how SPA, during the noise barrier works, will comply with the Conditions C1 to C3 of the NSW Minister for Planning and Public Spaces Planning Approval'. Additionally, this CEMP outlines how SPA will minimise the environmental risks and achieve environmental outcomes on the project by providing a structured approach to ensure those applicable Revised Environmental Mitigation Measures (REMMs) and controls are implemented. Implementing this CEMP and Sub-plans effectively will ensure that the project meets the requirements of the CoA and REMMs.

This CEMP has been prepared in accordance with:

- The Infrastructure Approval (SSI #8863)
- The EIS
- The RtS
- *Environmental Management Plan Guideline for Infrastructure Projects* (Department of Planning, Industry and Environment, 2020).



- AS/NZS International Organization for Standardization (ISO) 14001.

This CEMP will:

- Describe the project, including the noise barrier activities to be undertaken and their scheduling during the project program
- Identify the environmental obligations applicable to the project and the hazards and risks associated with the works
- Outline the environmental management policies, guidelines and principles to be followed during the works
- Describe the roles and responsibilities of personnel in relation to environmental management during the works
- Outline specific mitigation measures and controls to be applied on site to avoid or minimise negative environmental impacts and prevent unauthorised environmental harm
- Provide specific mechanisms for compliance with the applicable policies, approvals, licences, permits, consultation agreements and legislation
- Outline a monitoring and review regime to check the adequacy of controls as they are implemented during construction.

The requirements of the Infrastructure Approval and where they are met in this CEMP are shown in Appendix A2.

Details of agency consultation requirements required by CoA A5 will be provided in a consultation summary memorandum. The consultation summary memorandum will be reviewed by the ER prior to ER endorsement of the CEMP. The consultation summary memorandum will also be provided to DPIE with the lodgement of each CEMP Sub-plan. Copies of all correspondence, including emails and meeting minutes, undertaken as part of this consultation process will be included as part of the consultation summary memorandum.

This CEMP and associated Sub-plans will be submitted to DPIE at least one month prior to the commencement of construction of the noise barrier works. In accordance with CoA C10, construction must not commence until the CEMP and all Sub-plans and Procedures have been approved, unless otherwise agreed by DPIE. The CEMP, Sub-plans and Procedures, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction.

## **1.6 Environmental objectives and targets**

As a means of assessing environmental performance during construction of the project, environmental objectives and targets have been developed (refer to Table 1-3) that are consistent with the TfNSW environmental policy (refer to Appendix A5) and will assist in monitoring whether the commitments of the policy are being met. The project specific objectives and targets in Table 1-3 have been developed by SPA to meet the performance outcomes. Chapter 28.6 of the EIS provides the environmental performance outcomes. Appendix A1 outlines the CEMP specific environmental performance outcomes.

These objectives and targets outline how the project will meet the key performance outcomes for key issues, as specified in the project's CoA, REMMs and as required by CoA C2 (refer to Appendix A1). Further detail on the implementation of the performance outcomes has been included within the CEMP Sub-plans.

Project performance monitoring will be documented in the project construction compliance reports and at least on an annual basis as part of the management review.



Table 1-3 Environmental objectives and targets

Objective	Target	Measurement tool
Compliance and construction of the project in accordance with environmental approvals and Principal requirements	<ul style="list-style-type: none"> <li>• All applicable conditions of approval and Principle requirements implemented throughout the project and within designated timeframes</li> <li>• No non-conformances identified during self-regulation</li> <li>• Close out the findings of ER inspections and reports within the timeframes determined based on risk assessment</li> <li>• Weekly inspections are undertaken</li> </ul>	<ul style="list-style-type: none"> <li>• Construction compliance reporting</li> <li>• Weekly environmental inspections and reports</li> <li>• Monthly environmental reports</li> <li>• Management review</li> </ul>
Compliance with all legal requirements	<ul style="list-style-type: none"> <li>• No regulatory infringements (PINs or prosecutions)</li> <li>• No formal regulatory warnings</li> <li>• No major environmental incidents</li> </ul>	<ul style="list-style-type: none"> <li>• No formal regulatory warning</li> <li>• Construction compliance reporting</li> <li>• Management review</li> </ul>
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001	<ul style="list-style-type: none"> <li>• Address non-conformances and corrective actions within specific timeframes</li> </ul>	<ul style="list-style-type: none"> <li>• Construction compliance reporting</li> <li>• Management reviews</li> </ul>
Engage with the affected and broader community, minimise avoidable complaints and respond to any complaints within a suitable timeframe	<ul style="list-style-type: none"> <li>• Disseminate regular project updates and other information through the project website and other tools in accordance with the Community Communication Strategy (CCS)</li> <li>• Record and respond to complaints within the timeframe specified in the CCS</li> <li>• No avoidable complaints</li> </ul>	<ul style="list-style-type: none"> <li>• Complaints register</li> <li>• Construction compliance report</li> <li>• Management review</li> </ul>
Continuously improve environmental performance	<ul style="list-style-type: none"> <li>• Develop and maintain a program of ongoing environmental training</li> <li>• Capture lessons learnt from environmental incidents to minimise repeat issues</li> </ul>	<ul style="list-style-type: none"> <li>• Construction compliance report</li> <li>• Management review</li> </ul>

## 1.7 Environmental Management System overview

The Environmental Management System (EMS) is an integrated set of tools and resources that define how the project will manage environmental risks at all levels of the business. SPA will operate an environmental system compliant with AS/NZS ISO 14001.

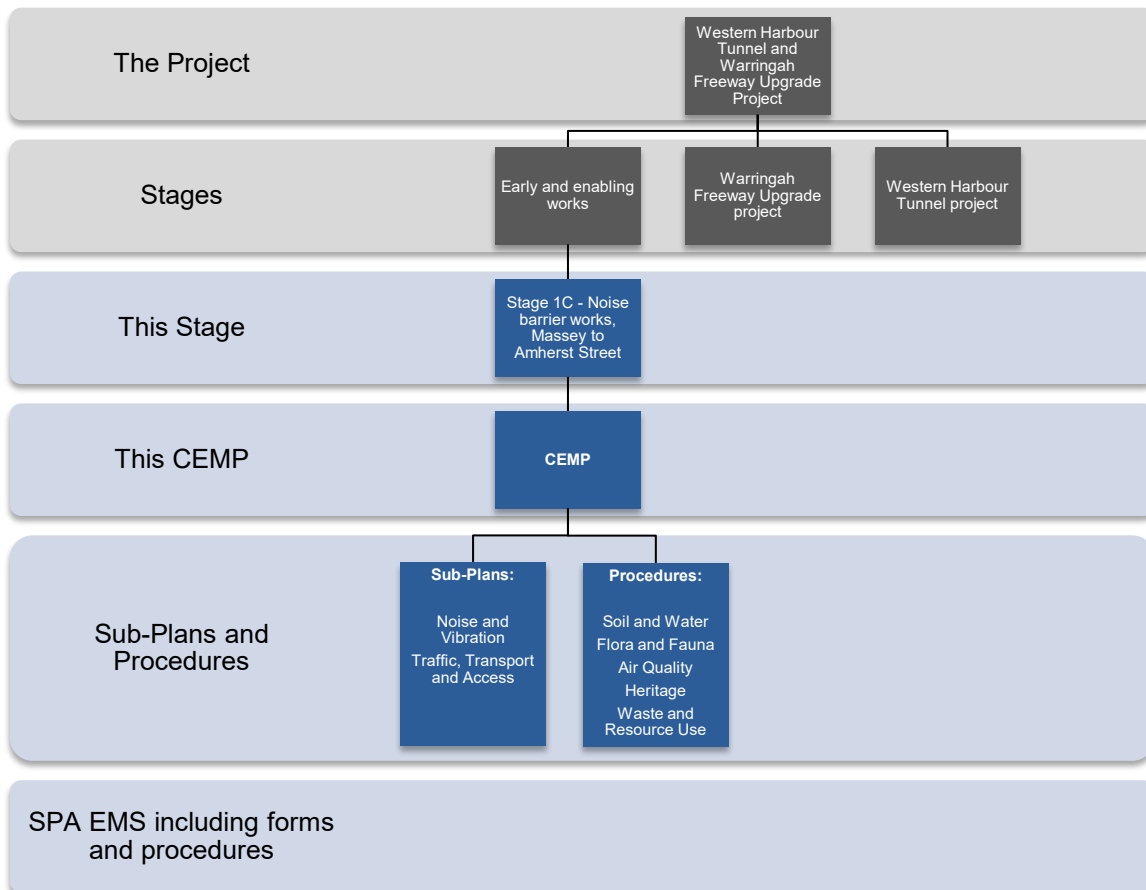
This CEMP is part of the EMS and describes how SPA will manage environmental issues during the noise barrier works of the project. The structure of the CEMP and the related sub-plans and procedures are summarised in Figure 1-.

This CEMP shall be updated as necessary to ensure all components of the works construction are covered. All site establishment works that are for the purpose of establishing the construction ancillary facilities that are required prior to approval of this CEMP, will be managed in accordance with this CEMP.

All works carried out on the site will be in accordance with this CEMP and the following requirements incorporated within this document:

- Relevant legislation (refer to Appendix A3)
- EIS and CoA for the site (refer to Appendix A2)
- SPA's Safety, Health, Environment and Quality Standards and Processes
- TfNSW Environment & Sustainability Policy (refer to Appendix A5)
- Principal and Contractual Requirements
- ISO 14001 Environmental Management System
- TfNSW Environmental Guidelines
- TfNSW Environmental Specifications G36, G38 and G40 (where applicable)
- SPA's Environmental Policy.

This CEMP (as above), as part of the SPA EMS, will be implemented with compliance and performance monitored and reviewed through the broader context. A complete list of guidelines, legislations and other relevant documents can be found in Appendix A3.



*Figure 1-5 Environmental Management System - CEMP Structure*

This CEMP is supported by a series sub-plans, procedures and monitoring programs as detailed in:

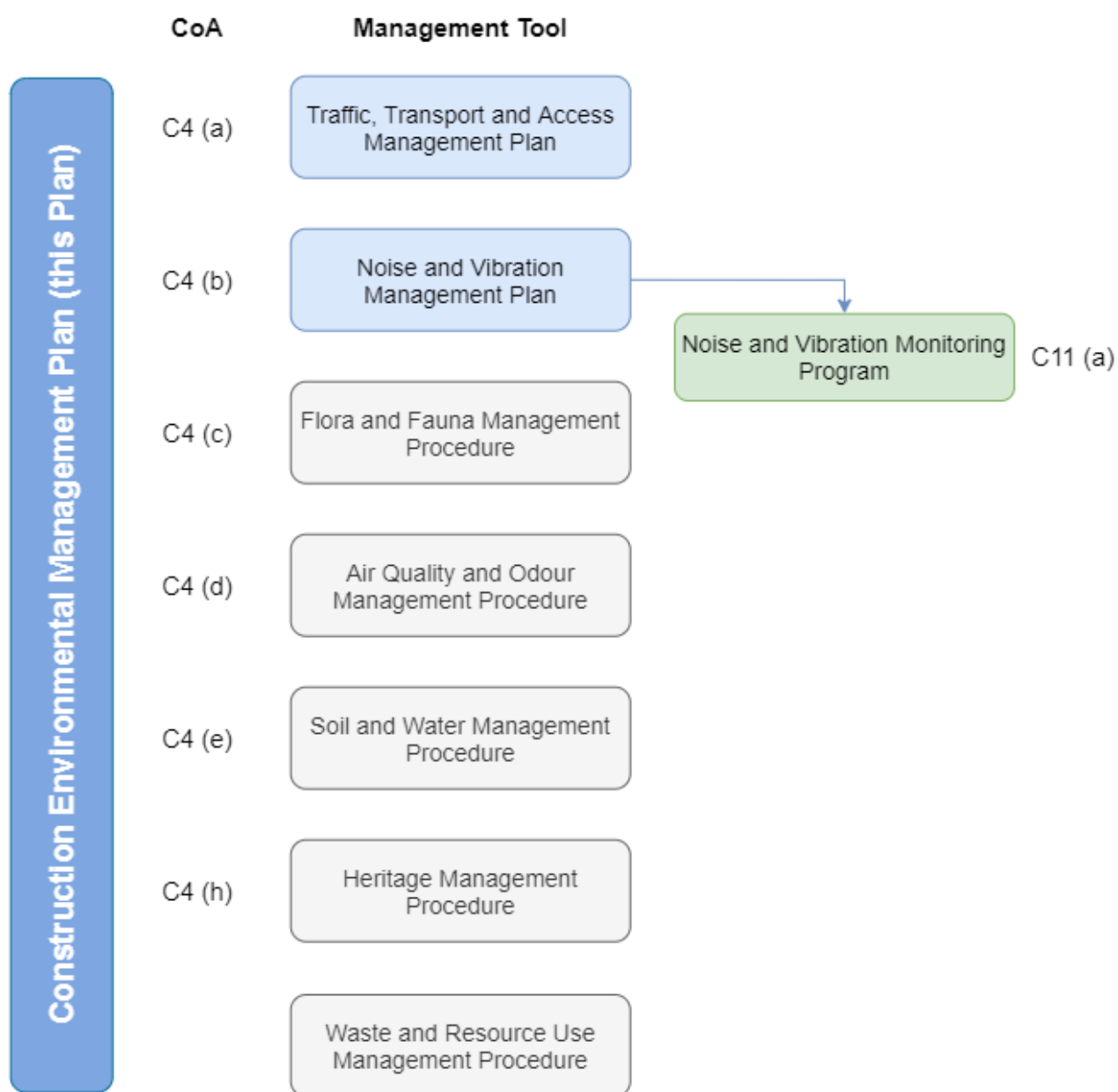
- Condition C4 - Environmental management sub-plans
- Condition C11 - Monitoring programs
- Western Harbour Tunnel and Warringah Freeway Upgrade Staging Report

The Staging Report established an environmental management approach to manage environmental issues, commensurate to their impacts at each project stage. The RtS and the Environmental Risk Assessment Workshop, as detailed Section 3.1.1, were used to inform the Staging Report assessment.

For each environmental management category at each stage, the Staging Report specified whether:

- A stand-alone Sub-plan would be prepared or whether the category risks would be addressed in the form of a Procedure.
- A stand-alone monitoring program would be prepared or whether monitoring would be addressed within a Sub-plan or Procedure.
- The risk was not relevant to the scope of work and would not be addressed within the CEMP.

The Staging Report specified the CEMP structure for the noise barrier works, as outlined in Figure 1-6 .



*Figure 1-6 Structure of Construction Environmental Management Plan, Sub-plans and Procedures for WP14*

Note that this CEMP and associated sub-plans apply only to the Massey to Amherst Noise Barrier of the project.

## 2 Consultation, endorsement and approval

SPA in collaboration with TfNSW have undertaken a risk based approach to the development of the CEMP and associated Sub-plans for the delivery of the noise barrier works. This CEMP and associated Sub-plans and procedures have been approved by the SPA Construction Manager, SPA Environmental Manager and TfNSW and endorsed by the ER.(as noted in Table 2-1). The CEMP Sub-plans will be submitted to DPIE along with or subsequent to this CEMP

The CEMP Sub-plans are required to be prepared in consultation with the relevant government agencies, as listed in CoA C4 and the WHTWUFU Staging Report. The CEMP Sub-plans and procedures relevant to noise barrier works and associated stakeholder consultation is listed below in Table 2-2.

Details of agency consultation requirements required by CoA A5 will be provided in a consultation summary memorandum. The consultation summary memorandum will be provided to the ER. The consultation summary memorandum will also be provided to DPIE with the lodgement of each CEMP Sub-plan. Copies of all correspondence, including emails and meeting minutes, undertaken as part of this consultation process will be included as part of the consultation summary memorandum.

The CEMP Sub-plans have only been prepared for environmental aspects with moderate or higher residual risks (as identified in the Environmental Risk Assessment Workshop). The Environmental Management Procedures have been prepared for their appropriate management in lieu of Sub-plans due to the low risks associated with these environmental aspects and to address the relevant CoA, REMMs and environmental performance outcomes for the noise barrier works.

Following this process, only CEMP Sub-plans have been prepared in consultation with required stakeholders and government agencies, as detailed in Table 2-2.

Table 2-1 Environmental Management Sub-plans and procedure

Document name	Approval pathway
Traffic, Transport and Access Management Sub-plan	Requires DPIE approval
Noise and Vibration Management Sub-plan	Requires DPIE approval
Flora and Fauna Management Procedure	Requires DPIE approval
Air Quality and Odour Management Procedure	Requires DPIE approval
Soil and Water Management Procedure	Requires DPIE approval
Heritage Management Procedure	Requires DPIE approval
Waste and Resource Use Management Procedure	Requires DPIE approval

Table 2-2 Stakeholder consultation requirements

Required CEMP Sub-plans and procedures	Consultation
Noise and Vibration Management Plan	NSW Health, North Sydney Council and Willoughby Council
Traffic, Transport and Access Management Plan	North Sydney Council and Willoughby Council

Required CEMP Sub-plans and procedures	Consultation
Soil and Water Management Procedure	Due to the low-risk nature of this environmental aspect, consultation not required for this Procedure
Flora and Fauna Management Procedure	Due to the low-risk nature of this environmental aspect, consultation not required for this Procedure
Air Quality and Odour Management Procedure	Due to the low-risk nature of this environmental aspect, consultation is not required for this Procedure
Heritage Management Procedure	Due to the low-risk nature of this environmental aspect, consultation is not required for this Procedure
Waste and Resource Use Management Procedure	Due to the low-risk nature of this environmental aspect, consultation is not required for this Procedure
Noise and Vibration Monitoring Program	EPA

(Note: Air quality, surface water and groundwater monitoring programs will not be required for the noise barrier works as these environmental aspects have been identified as being low risk. As such there is no consultation requirement for the programs detailed in Table 2-2).

Prior to lodgement, any document requiring DPIE approval must first be endorsed by the ER in accordance with CoA A27(d), CoA C3 and CoA C18.

In accordance with CoA A34(e), the Acoustics Advisor (AA) must also endorse the Noise and Vibration Management Plan (NVMP) and the Noise and Vibration Monitoring Program (NVMoP) prior to lodgement to DPIE for approval.

Ongoing consultation with stakeholders, including the surrounding community, will be conducted throughout construction in accordance with the CCS. For details regarding revisions of this document post-approval of the CEMP, refer to Sections 3.12 of this CEMP.

At least one month prior to the commencement of construction of the noise wall the Department will be notified in writing of the dates of the commencement of construction in accordance with CoA A35 and that the commencement of construction of the Noise Wall is also a new stage in accordance with CoA A36.

## 3 Environmental Management Plan

### 3.1 Planning

#### 3.1.1 Environmental Risk Assessment Workshop

An environmental risk assessment workshop was held on 26 August 2021 for the noise barrier works.

Each activity was assessed to identify the relevant steps in the activity and the associated environmental hazards, initial risk levels, mitigation measures to avoid, manage and/or minimise the risks and residual risks. Each of these items were documented in an environmental risk register (refer to Appendix A4). Where residual risk is assessed as high, or if required under the TfNSW Specification, an environmental work method statement (EWMS) will be developed for that activity.

Where relevant, the requirements from the TfNSW Environmental Specifications, CoA and REMMs will be incorporated into the environmental risk assessment, particularly in developing the agreed activity specific site controls.

Appendix A4 contains a list of environmental aspects and impacts including those identified in the risk assessment workshop.

Following the workshop, the environmental risk assessment will be regularly reviewed and an ongoing risk analysis for the noise barrier works will be conducted during management reviews as detailed in Section 3.11.

#### 3.1.2 Regulatory requirements and compliance

##### Legislation

A register of legal and other requirements for the project is contained in Appendix A3. This register will be reviewed as part of the review of this CEMP (refer to Section 3.11) during management reviews and updated with any applicable changes.

Any changes made to the Legal Requirements Register will be communicated to the wider project team, including sub-contractors where necessary through toolbox talks, specific training and other methods detailed in Section 3.5 of this CEMP.

##### Approvals, permits and licences

A number of approvals, permits and licenses have and/or will be obtained for the project. Appendix A3 contains a register of all relevant environmental approvals, permits and licenses. The register will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least annually as part of the management review.

The following approvals and licences are required for the project:

- Amendment to the Environment Protection Licence (EPL) (#21528) in the form of a premise map adjustment; and
- Road Occupancy Licences.

#### 3.1.3 Environmental Work Method Statement

EWMS will be prepared to manage and control all high risk activities that have the potential to negatively impact on the environment. EWMS will be prepared prior to the commencement of the relevant construction activities and will incorporate mitigation measures and controls, including those from the CEMP Sub-plans and procedures. EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

EWMS will be prepared for high-risk activities identified through the Environmental Risk Assessment Workshop (see Section 3.1.1).

All construction personnel and subcontractors undertaking a task governed by an EWMS must participate in training on the EWMS and acknowledge that they have read and understood their obligations by signing an attendance record prior to commencing work.

Regular monitoring, inspections and auditing of compliance with the EWMS will be undertaken by project management and environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded, and corrective actions implemented.

#### **3.1.4 Sensitive Area Plans**

The noise barrier works traverses a range of environmental and socially sensitive areas/sites. To assist with construction planning and management, these site constraints are consolidated on a series of map-based sheets called Sensitive Area Plans (SAP). The SAP include information pertaining, but not limited to:

- Noise sensitive receivers (e.g., residential dwellings, day-care centre, etc.)
- Flora features, including threatened species and endangered ecological communities
- Aboriginal and non-Aboriginal heritage sites
- Contamination, including contaminated sites identified in the EIS or other investigations as applicable.

SAP will be used in conjunction with EWMS to help identify key risk areas and to promote ongoing communication to construction personnel during the Project. As part of this CEMP, SAP have been developed for the proposed ancillary facility.

As SAP are a working element of the CEMP, they will be regularly reviewed throughout construction to reflect true ground conditions and identify new environmentally sensitive areas. As part of the environmental induction, all staff and subcontractors working on site will be provided with an understanding of the risks associated with working in or near environmentally sensitive areas. The current SAP is presented in Appendix A6.

### **3.2 Preparation and availability of the CEMP**

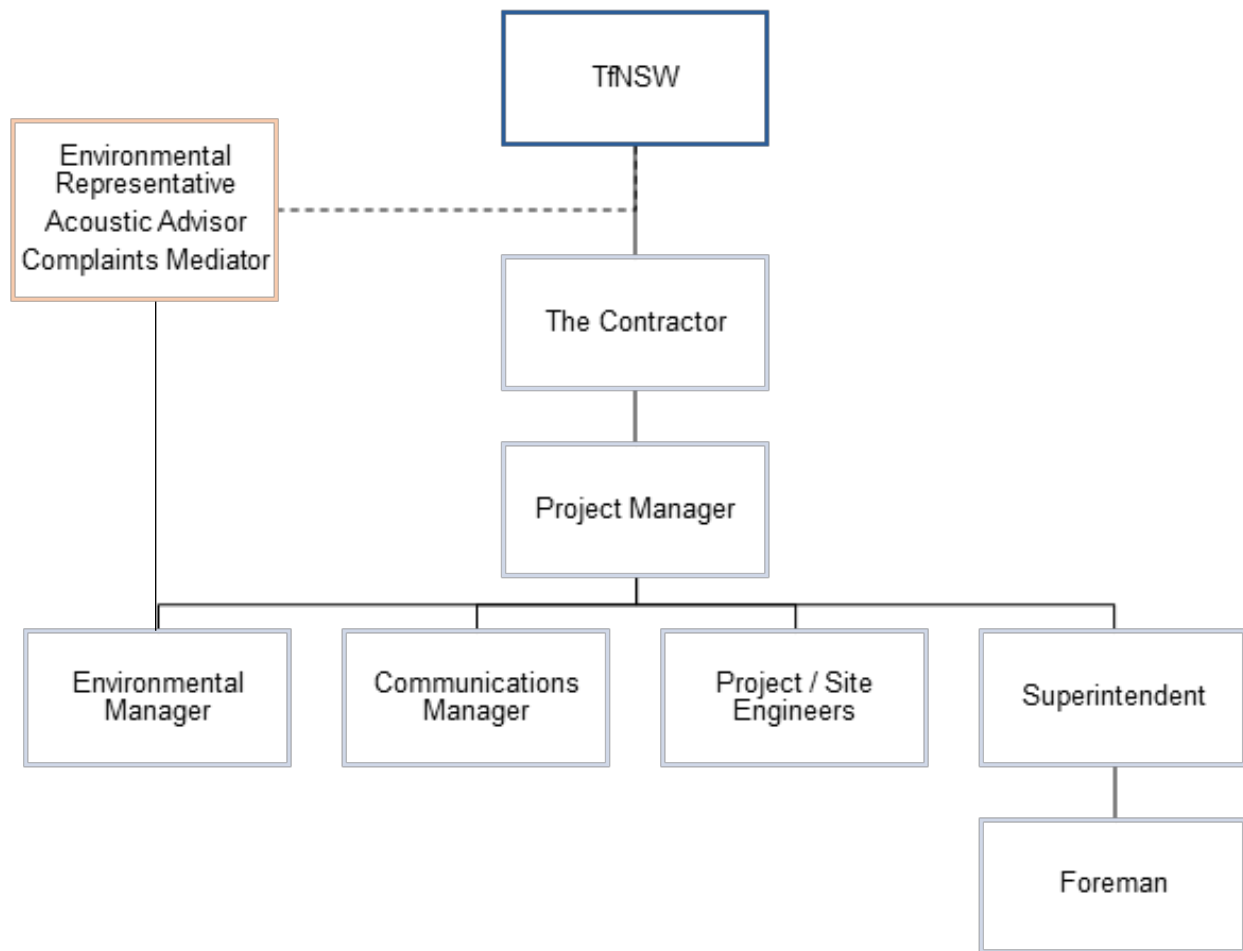
This CEMP for the noise barrier works has been prepared in accordance with requirements of the CoA C1 to C3.

This CEMP will be available to all workers, subcontractors, visitors or anyone working on the project throughout the duration of early works under the CSSI.

### **3.3 Resources, responsibilities and authority**

The key environmental management roles and responsibilities for the construction phase of the project are described below. The structure of these roles is shown in Figure 3-1.





*Figure 3-1 Project Management Structure*

### **Environmental Representative**

The Environmental Representative (ER) is engaged by TfNSW and has been approved by the Planning Secretary. The primary role of the ER is to independently oversee compliance with the Infrastructure Approval and be the principal point of advice on the environmental performance of the works.

The role and responsibilities of the ER are outlined in CoA A24 to A28. The roles and responsibilities include the following:

- Receive and respond to communication from the Planning Secretary in relation to the environmental performance of the CSSI
- Consider and inform the Planning Secretary on matters specified in the terms of the Infrastructure Approval
- 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
- Review documents identified in CoA A10, A17, C1, C4 and C11 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under the Infrastructure Approval and if so:
  - Make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or
  - Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary / Department)

for information or are not required to be submitted to the Planning Secretary/Department);

- Regularly monitor the implementation of the documents listed in CoA A10, A17, C1, C4 and C11 to ensure implementation is being carried out in accordance with the document and the terms of the Infrastructure Approval
- As may be requested by the Planning Secretary, help plan or attend audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under CoA A38 of the Infrastructure Approval
- As may be requested by the Planning Secretary, assist in the resolution of community complaints
- Consider or assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by CoA A19 of the Infrastructure Approval
- Consider any minor amendments to be made to the Ancillary Site Establishment Management Plan, CEMP, CEMP Sub-plans and monitoring programs without increasing impacts to nearby receivers or that comprise updating or are of an administrative nature and are consistent with the terms of this approval and the CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of the Infrastructure Approval
- Prepare and submit to the Planning 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, or as otherwise agreed by the Planning Secretary
- Assess the impacts of activities as required by the Low Impact Works definition.

### **Acoustics Advisor**

The independent AA is engaged by TfNSW and has been approved by the Planning Secretary. The primary role of the AA is to independently oversee construction noise and vibration planning, management and mitigation in accordance with the Infrastructure Approval. The AA has been engaged by TfNSW for the duration of construction and for no less than six months following completion of construction of the CSSI.

The responsibilities of the Acoustics Advisor are outlined in CoA A29 to A34. The role and responsibilities include the following:

- Receive and respond to communication from the Planning Secretary in relation to the performance of the CSSI in relation to noise and vibration
- Consider and inform the Planning Secretary on matters specified in the terms of the Infrastructure Approval relating to noise and vibration
- Consider and recommend, to the Proponent, improvements that may be made to avoid or minimise adverse noise and vibration impacts
- Review all proposed night-time works to determine if sleep disturbance would occur and recommend measures to avoid sleep disturbance or appropriate additional alternative mitigation measures
- Review all noise and vibration documents required to be prepared under the terms of the Infrastructure Approval and, should they be consistent with the terms of the Infrastructure Approval, endorse them before submission to the Planning Secretary (if required to be submitted to the Planning Secretary) or before implementation (if not required to be submitted to the Planning Secretary)

- Regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of the Infrastructure Approval to ensure implementation is in accordance with what is stated in the document and the terms of the Infrastructure Approval
- In conjunction with the ER, the AA must:
  - As may be requested by the Planning Secretary or Community Complaints Mediator (required by CoA B12), help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits
  - In the event that conflict arises between the Proponent and the community in relation to the noise and vibration performance of the CSSI, follow the procedure in the Communication Strategy approved under CoA B2 to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary
  - Consider relevant minor amendments made to the Ancillary Site Establishment Management Plan, 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 the Infrastructure Approval and the management plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, endorse the amendment, (this does not include any modifications to the terms of the Infrastructure Approval
  - Review the noise impacts of minor construction ancillary facilities
  - Prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, a Monthly Noise and Vibration Report detailing the AA's actions and decisions on matters for which the AA was responsible in the preceding month. The Monthly Noise and Vibration Report must be submitted within seven days following the end of each month for the duration of the AA's engagement for the CSSI, or as otherwise agreed by the Planning Secretary.

### **TfNSW Environmental Manager**

The responsibilities of the TfNSW Environmental Manager include, but are not limited to, the following:

- Review any environmental management plans and related documents prepared for the project
- Review and consider minor project refinements that are consistent with the project environmental assessment
- Monitor the environmental performance of the project in relation to the approval, CEMP and associated Sub-plans and procedures and TfNSW requirements
- Liaise with the ER, AA and other government authorities as required
- Approve all project documents prepared by the contractor for submission to DPIE
- Hold contractor accountable for compliance with the approval and other statutory instruments and conformance with this CEMP and the CEMP Sub-plans etc.

### **SPA Construction Manager**

The environmental responsibilities of the Project Manager include (but are not limited to) the following:

- Sign off on and approve the contents of this CEMP on behalf of the Construction Contractor
- Ensure all works comply with relevant regulatory and project requirements
- Ensure the requirements of this CEMP are fully implemented
- Plan construction works in a manner that avoids or minimises impact to environment

- Support the project environmental policy attached at Appendix A5
- Liaise with TfNSW, ER and other government authorities as required
- Participate and provide guidance in the regular review of this CEMP and supporting documentation
- Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements
- Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements
- Ensure that complaints are investigated to ensure effective resolution
- Stop work immediately if an unacceptable impact on the environment has or is likely to occur
- Ensure that environmental protection and safeguards remains an integral element of all project planning and activities
- Support the Construction Environmental Manager in achieving the project environmental objectives
- Ensure environmental management procedures and protection measures are implemented.

### **SPA Superintendent**

The environmental responsibilities of the superintendent include (but are not limited to) the following:

- Communicate with all personnel and subcontractors regarding compliance with this CEMP and site-specific environmental issues
- Ensure all site workers attend an environmental induction prior to the commencement of works
- Co-ordinate the implementation of this CEMP
- Co-ordinate the implementation and maintenance of pollution control measures
- Identify and deploy resources required for implementation of this CEMP
- Support the Construction Environmental Manager in achieving the project environmental objectives, including on ground implementation of the EWMS and ESCP
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the construction Environmental Manager or delegate
- Co-ordinate action in emergency situations and allocate required resource
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager and Environmental Manager
- Follow any directions given by the ER.

### **SPA Environmental Manager**

The environmental responsibilities of the Environmental Manager include, but are not limited to, the following:

- Overall responsibility for the implementation of environmental matters on the project
- Development, implementation, monitoring and updating of this CEMP and the CEMP Sub-plans in accordance with ISO14001

- Report to Project Manager and other senior managers on the performance and implementation of the CEMP
- Ensure management reviews of the CEMP are undertaken biannually, documented and actions implemented
- Ensure environmental risks of the project are identified and appropriate mitigation measures implemented
- Identify where environmental measures are not meeting the targets set and where improvement can be achieved
- Ensure environmental protocols are in place and managed
- Ensure environmental compliance
- Obtain, implement and update all environmental licences, approvals and permits as required
- Liaise with the ER, AA and other government authorities as required
- Manage environmental document control, reporting, inductions and training
- Manage environmental reporting within the project team and to the TfNSW and regulatory authorities
- Preparing reports on a monthly basis outlining the project works undertaken and the achievements that have been met, as well as identifying those areas where improvements were made
- Oversee site monitoring, inspections and audits
- Manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and overseeing the submission of their environmental documents
- Prepare and/or distribute environment awareness notes
- Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel
- Determine when an incident has occurred, notify TfNSW and relevant authorities in the event of an environmental incident and manage close-out
- Stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformities, and advise the Project Manager and Superintendent
- Assist the Communications Manager to resolve environment-related complaints.
- Follow any directions given by the ER.
- Notify the Planning Secretary of noise and vibration incidents in accordance with CoA A43 and A45.

### **SPA Communications Manager (and Public Liaison Officer)**

The environmental responsibilities of the Communications Manager/Public Liaison officer include, but are not limited to, the following:

- Ensure that all community consultation activities are carried out
- Report any environmental issues to the SPA Environmental Manager raised by stakeholders or members of the community

- Communicate general project progress, performance and issues to stakeholders including the community
- Maintain the 24-hour complaints hotline
- Maintain the complaint register.
- Liaise and coordinate communications activities with the SPA environment team and the utilities coordinator as appropriate

### **SPA Utilities Co-ordinator**

The environmental responsibilities of the Utilities Coordinator include, but are not limited to, the following:

- the management and coordination of all utility Work associated with the delivery of the M2A noise wall
- ensure respite is provided to the community
- providing advice to the Public Liaison Officer(s) regarding upcoming utility Work, including the scope of the work and the responsibility for the Work; and
- Investigating complaints received from the Community Complaints Mediator or the Public Liaison Officer(s) relating to utility Work and providing a response to the Community Complaints Mediator or Public Liaison Officer(s)

### **SPA Project/Site Engineers**

The environmental responsibilities of the site / project engineers include (but are not limited to) the following:

- Provide input into the preparation of environmental planning documents as required
- Ensure that instructions are issued, and adequate information provided to employees that relate to environmental risks on-site
- Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls
- Identify any environmental risks
- Identify resource needs for implementation of CEMP requirements and related documents
- Ensure that complaints are investigated to ensure effective resolution
- Take action in the event of an emergency and allocate the required resources to minimise the environmental impact
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent and SPA Environmental Manager.
- Follow any directions given by the ER.

### **SPA Foreman**

The environmental responsibilities of the foreman include (but are not limited to) the following:

- Undertake any environmental duties as defined by the superintendent or project/site engineer
- Control field works and implement/maintain effective environmental controls
- Where required, undertake environmental risk assessment of works prior to commencement
- Ensure site activities comply with EWMS and relevant records are kept
- Ensure all site workers are site inducted prior to commencement of works

- Attend to any spills or environmental incidents that may occur on-site
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Superintendent or SPA Environmental Manager.
- Follow any directions given by the ER.

#### **Wider project team (including subcontractors)**

The environmental responsibilities of the wider project team (including subcontractors) include (but are not limited to) the following:

- Comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by a member of the project's management
- Participate in the mandatory project/site induction program
- Report any environmental incidents to the foreman immediately or as soon as practicable if reasonable steps can be adopted to control the incident
- Undertake remedial action as required to ensure environmental controls are maintained in good working order
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Superintendent or SPA Environmental Manager
- Follow any directions given by the ER.

### **3.4 Selection and management of subcontractors**

Environmental requirements and responsibilities will be specified to subcontractors in the contract documentation. As part of the selection process, consideration will also be given to their past environmental performance. SPA will ensure that all subcontractors selected to work on the project understand and have the capability to comply with their environmental management responsibilities. The SPA sub-contractor scope of works that forms part of sub-contractor agreements commits all sub-contractors to work in accordance with this CEMP.

Subcontractors are responsible for:

- Environmental requirements and responsibilities which are specified in their contract documentation
- Work in accordance with this CEMP, Sub-plans and procedure
- Attend inductions, toolbox meeting and other meetings as required where the requirements and obligations of the CEMP, Sub-plans and procedures are communicated
- Reporting environmental incidents to their contact within the project (Site Supervisor or delegate) immediately and prior to leaving the site
- Participating in investigation and/or risk assessments where necessary.

A record of all subcontractors inducted will be maintained as part of the project induction and training register. Subcontractor environmental performance will be recorded during the environmental inspection framework detailed within Section 3.9 of this CEMP.

### **3.5 Competence, training and awareness**

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The SPA Environmental Manager will coordinate the environmental training in conjunction with other training and development activities (e.g., safety).

### **3.5.1 Environmental induction**

All personnel (including sub-contractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site to ensure all personnel are aware of the requirements of this CEMP and the implementation of these requirements.

Visitors to site for purposes such as deliveries and undertaking inspections will be required to be accompanied by inducted personnel at all times.

The environmental component of the induction must cover all elements of this CEMP and would include as a minimum:

- Requirements of due diligence and duty of care
- Environmental and compliance obligations under the terms of the approval, EPL and other statutory instruments
- Potential environmental emergencies on site and the emergency response procedures
- Reporting and notification requirements for pollution and other environmental incidents
- High risk activities and associated environmental safeguards
- The existence of EWMS for high-risk activities, including working in or near environmentally sensitive areas
- Requirements of the Driver's Code of Conduct
- Information about the community the project is working in and what to do when approached by a member of the public or media.

A record of all environment inductions will be maintained. The SPA Environmental Manager may authorise amendments to the induction at any time.

### **3.5.2 Toolbox talks, training and awareness**

Toolbox talks are used to raise environmental awareness throughout construction and educate personnel on environmental issues. They will be tailored to specific environmental issues relevant to upcoming works, including details of EWMS for relevant personnel.

Toolbox talk attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be also provided to workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact.

Awareness of environmental issues will also be communicated through posters, booklets, or similar and will be used to inform the broader workforce through either daily pre-starts meeting (see Section 3.5.3) or provision in worker crib sheds / break facilities.

### **3.5.3 Daily Pre-Start Meetings**

The pre-start meeting is used to inform the workforce of the day's activities, environmental protection practices, work area restrictions, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The Foreman will conduct a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift.

The environmental component of pre-starts will be determined by relevant foreman and environmental personnel and will include any environmental issues that could potentially be impacted on or by the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.



### **3.6 Communication**

A Community Communication Strategy has been prepared to provide mechanisms to facilitate communication between the TfNSW, the ER, the AA, the relevant Council and the community in accordance with the CoA B1. These works will be undertaken in accordance with the strategy

#### **3.6.1 Internal Communication**

Regular meetings will be scheduled with the ER, relevant TfNSW environmental staff and SPA to communicate ongoing environmental performance and to identify any issues to be addressed.

Further internal communications regarding environmental issues and aspects will be through awareness training as described in Section 3.5.

#### **3.6.2 Liaison with EPA, government authorities or other relevant stakeholders**

The SPA Environmental Manager will report on the ongoing environmental performance of the project to TfNSW, the Environmental Representative and relevant government agencies.

Relevant government agencies will be consulted throughout construction in accordance with the CCS.

The SPA Project Manager and the SPA Environmental Manager are 24-hour contacts that have the authority to halt the progress of the works. They are the key emergency response personnel during an environmental site emergency.

The SPA Project Manager and SPA Environmental Manager are authorised contact person for communications with TfNSW and the EPA on environmental matters.

A report will be prepared on each occasion the site is visited by EPA, and the TfNSW will be immediately notified. The Report will be provided to TfNSW within one working day of the visit.

#### **3.6.3 Community liaison and/or notification**

Consultation and engagement with the community will be in accordance with the CCS which includes the appointment of a Public Liaison Officer for construction ancillary facilities and noise barrier works. The Public Liaison Officer will be available at all times that works are occur and will assist the public with questions and complaints they may have in accordance with the CoA B6.

Key stakeholders and the community will be consulted during the construction phase in accordance with the CoA and the Community Communication Strategy. Regular meetings will be held to discuss environmental performance, upcoming works, any planned high risk activities and will include inspections of the work sites as required.

All communications by the Contractor with DPIE are to be facilitated via TfNSW.

#### **3.6.4 Complaints management**

A Complaints Management System will be developed for the project by TfNSW in accordance with the CoA B7. The CCS contains further details on this management system, the complaints register and the Community Complaints Mediator.

The SPA Environmental Manager will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate construction staff to allow modifications and improvements in the management of any environmental issues resulting in community complaints.

### **3.7 Emergency and incident planning**

An (environmental) incident is an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. This may be 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.

The management and reporting of an environmental incident, including pollution incidents will be managed and reported in accordance with the *RMS Environmental Incident Classification and Reporting Procedure* (RMS, 2018) located in Appendix A7.

To proactively minimise the likelihood of an emergency the following fire-fighting equipment will be kept on site and in vehicles to ensure the safety of public and property:

- Fire extinguishers
- Water hoses and water carts
- Dry powder
- Fire suppressants.

Fire extinguishers will be maintained, clearly labelled and distributed around the site compounds and vehicles. Adequate first aid supplies are stocked, and first aiders are available on-site.

All environmental incidents, reportable events, regulatory actions and non-compliance reporting (refer to Section 3.8) will use the In-Control Module of the TfNSW INX System, which complies with the AS/NZS 4360:2004 Risk Management Standards. Reporting to TfNSW by the Contractor will be via the INX System.

The TfNSW Environment Manager will undertake all external notifications and regulatory incident reporting requirements, including those listed in CoA A43 and A44 which state:

- The Planning Secretary will be notified via the Major Projects Website immediately after the project becomes aware of an incident. The notification will 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.
- Subsequent notification and reporting must be undertaken in accordance with, and the requirements set out in Appendix A of the Infrastructure Approval. This involves the preparation of an Incident Report which will include a summary of the incident, outcomes of an incident investigation (including identification of the cause of the incident), details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence, and details of any communication with other stakeholder regarding the incident.

Where an incident involves a potential impact to an Aboriginal site, relevant authorities such as the Office of Environment and Heritage, and Registered Aboriginal Parties will be notified, and their input sought in closing out the incident.

The EPA will be notified of any pollution incidents on or around the site via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act). The circumstances where this will take place include:

- It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations)

SPA will provide all records of the environmental incidents and regulatory action to TfNSW team.

In accordance with the requirements of the EPL held by SPA for the noise barrier works, a Pollution Incident Response Management Plan (PIRMP) will be prepared and implemented as required.

## 3.8 Environmental non-conformance

### 3.8.1 Non-compliance

An environmental non-compliance is a breach with any condition of approval, licence condition or any other statutory approval relevant to the activity and/or area where the activity occurs.

Potential and actual non-compliances will be classified in line with Table 2 of the TfNSW Environmental Incident Classification and Reporting Procedure (TfNSW, 2018). After becoming aware of an environmental non-compliance, SPA will notify TfNSW immediately of becoming aware of a non-compliance and TfNSW will notify DPIE via the Major Projects Website within seven days in accordance with CoA A45. The notification must identify the CSSI (including the application number and the name of the CSSI), set out the condition/s that is non-compliant, the nature of the breach; the reason for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. The ER will also include environmental non-compliances within the Environmental Representative Monthly Report.

CoA A46 states that a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

### 3.8.2 Non-conformance

An environmental non-conformance is failure to conform with EMS documentation including this CEMP and supporting documentation.

Any member of the project team, ER, AA, public authority or TfNSW may raise a non-conformance or improvement opportunity.

In the event of a non-conformance, the following procedures will be implemented:

- Details of the non-conformance will be investigated by the SPA Environmental Manager
- Subject to the investigation, corrective or preventative action(s) shall be implemented, the timing of which will be determined by a risk-based approach, within no later than two (2) months, unless otherwise agreed with TfNSW, DPIE or relevant public authority, or as otherwise required by a CoA
- Additional site inspections and monitoring may be undertaken
- The effectiveness of controls will be reviewed and identify the need for new/additional controls
- Strategies will be identified to prevent reoccurrence
- Effectiveness of awareness programs will be reviewed and identify the need for increased environmental awareness
- Environmental documentation and records will be reviewed and revised (outlined in Section 3.11).

Corrective/preventative actions and improvement opportunities will be entered into SPA's quality system database and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

Non-conforming activities may be stopped, if necessary, by the SPA Environmental Manager, or Project / Site Engineer following consultation with the Project Manager or delegate. The works will not commence until a corrective / preventative action has been closed out. In such circumstances a non-conformance report must be prepared in accordance with the SPA's Project Quality Plan. Non-conformance reports will be submitted to the relevant Project stakeholders including the ER in accordance with the Quality Plan.

The ER may also stop non-conforming activities as part of monitoring and inspection carried out in accordance with CoA A27(d). In such circumstances a non-conformance report must be prepared

by SPA in accordance with SPA's Project Quality Plan. Non-conformance reports will be submitted to the relevant Project stakeholders including the ER in accordance with the Quality Plan.

### 3.9 Monitoring, inspections and auditing

#### 3.9.1 Environmental inspections

##### Weekly and post rainfall site inspections

The SPA Environmental Manager (or delegate) will undertake weekly and post rainfall inspections of the work sites to evaluate the effectiveness of environmental controls using an inspection checklist form.

Any maintenance and/or deficiencies in environmental controls will be recorded on the checklist form, including any actions required and an implementation priority. Actions will be closed out in accordance with the identified priority and evidence of close out would be kept on file.

##### ER, TfNSW and ER inspections

The ER and TfNSW staff will undertake regular inspections of works sites, in particular critical activities, throughout construction of the project. Inspections by the ER and TfNSW project staff would occur on a weekly or fortnightly basis depending on the complexity and anticipated risks associated with the stage of construction.

A member of the SPA environment team will participate in all ER and TfNSW inspections.

Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

#### 3.9.2 Environmental monitoring

Monitoring will be undertaken to validate the impacts predicted for the project, to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements in accordance with CoA C11 to C21. Environmental Monitoring Programs have only been prepared for environmental aspects with moderate or higher residual risks (as identified in the Environmental Risk Assessment Workshop) as detailed in Table 3-1 below.

*Table 3-1 Environmental monitoring programs*

Monitoring Program	Document
Noise and Vibration Monitoring Program	Noise and Vibration Management Sub-Plan Appendix E – Noise and Vibration Monitoring Program

Note that this CEMP and associated Sub-plans apply only to the noise barrier works of the project. Hence, the Marine Monitoring Program and Dredging Monitoring Program required under CoA C11 have not been prepared as they fall outside the scope of noise barrier works. Groundwater aspects are included as part of the Soil and Water Management Procedure.

In accordance with CoA C19, unless otherwise agreed with DPIE, construction must not commence until all of the relevant Construction Monitoring Programs have been approved by DPIE, and all relevant baseline data for the specific construction activity has been collected.

The TfNSW Representative will be advised of any construction phase non-conformances from monitoring. Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the project (i.e., are influenced by factors under the direct control of the project e.g., noise from construction equipment), the process described in Section 3.8 will be implemented.

All environmental monitoring equipment shall be maintained and calibrated according to manufacturer's specifications and appropriate records kept.

### 3.9.3 Auditing

Independent environmental audits will be conducted in accordance with CoA A38, according to the audit schedule located in the Independent Audit Requirements (DPIE, 2020). The initial project audit was undertaken in September 2021, with the next audit to be undertaken by March 2022 (not more than 26 weeks from the initial Independent Audit), unless otherwise agreed by the Planning Secretary.

According to CoA A37, proposed independent auditors will be agreed to in writing by the Planning Secretary prior to the commencement of any Independent Audits. This condition does not apply to the engagement of auditors required under Condition E145.

Internal auditing will be undertaken on a six-monthly basis throughout the project by SPA. Audits will include works undertaken by subcontractors. The purpose of this auditing is to verify compliance with:

- This CEMP and Sub-plans
- Approval requirements (CoAs and REMMs)
- Any relevant legal and other requirements (e.g., licenses, permits, regulations, TfNSW contract documentation).

The ER will ensure that environmental auditing is undertaken in accordance with this CEMP and the project's environmental management system. In addition, and in accordance with CoA A27(f), audits may be requested by DPIE.

Table 3-2 SPA and Independent Audit requirements presents auditing requirements that are applicable to the project.

*Table 3-2 SPA and Independent Audit requirements*

No.	Audit	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.	SPA Environmental Manager	SPA Project Manager and TfNSW
2	Independent audit (CoA A38)	Verify compliance with approval and legal requirements, TfNSW specifications, construction documentation and any other commitments	The initial independent audit will occur within 12 weeks of the commencement of construction and then half-yearly there-after (at intervals no greater than 26 weeks)  The final audit report and project response to audit findings will	SPA Environmental Manager and TfNSW	SPA Project Manager and TfNSW

			be provided to DPIE within two months of the audit site inspection.		
--	--	--	---	--	--

### 3.9.4 Other reporting

Prior to, during and following construction, various reports will be prepared as summarised in Table 3-3 Reporting requirements. Additional reporting may be necessary as the works progress. In such a circumstance, Table 3-3 will be amended to reflect these changes.

*Table 3-3 Reporting requirements*

Report	Requirement	Timing	Responsibility	Recipient
Monthly environmental report	A monthly summary of the achievements, approvals, complaints and incidents during the period.	Within 10 working days of the end of each calendar month.	SPA Environmental Manager	TfNSW
ER monthly report	Report of site environmental performance following routine inspections and a summary of the Complaints Register and non-compliances for the preceding month	Monthly – within seven calendar days following the end of each month	ER	TfNSW and DPIE
AA Monthly Noise and Vibration Report (as required by CoA C21)	Report detailing the AAs actions and decisions on matters for which the AA was responsible in the preceding month	Monthly – within seven calendar days following the end of each month	AA	TfNSW and DPIE
Environmental risk assessment	Conducted for each construction stage, project changes and significant issues.	Prior to construction during development of CEMP and as required thereafter	SPA Environmental Manager Project Manager	TfNSW
Construction Monitoring Report	Report on monitoring data recorded and potential exceedances against criteria.	Bi-annual	SPA Environmental Manager	TfNSW, DPIE and EPA
TfNSW and/ ER environmental inspection reports	Response to matters raised in TfNSW and ER site inspections.	As required. Typically, every two weeks for TfNSW and ER inspection reports	SPA Environmental Manager	TfNSW and ER

Report	Requirement	Timing	Responsibility	Recipient
Waste Avoidance and Resource Recovery Report	Information relating to wastes generated or recycled	Annually - within one month from 1 July and at actual completion date	SPA Environmental Manager	TfNSW
EPL annual returns	Report on compliance with EPL	Annually - within 60 days of the anniversary of the EPL	SPA Environmental Manager	EPA

### 3.10 Records of environmental activities

#### 3.10.1 Environmental records

The SPA Environmental Manager is responsible for maintaining all environmental management documents and records as current including:

- Monitoring, inspection and compliance reports/records
- Correspondence with public authorities
- Induction and training records
- Regulatory licences and permits
- Reports on environmental incidents, other environmental non-conformances, complaints and follow-up action
- Minutes of review meetings and evidence of any action taken
- CEMP, Sub-plans and procedure
- EWMS
- Any relevant reports submitted to the regulatory authorities or government agencies.

All environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements.

Only the SPA Environmental Manager, or delegate, has the authority to change any of the environmental management documentation.

#### 3.10.2 Document control

SPA, the ER and TfNSW will coordinate the preparation, review and distribution, as appropriate, of the environmental documents and records listed above.

During the Project, the environmental documents and records will be stored at each of the main site compounds.

SPA will implement the document control management system to control the flow of documents within and between TfNSW, stakeholders and subcontractors.

The procedure will also ensure that documentation is:

- 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.

### **3.11 Management review**

Management reviews will be undertaken as part of the continual improvement process. TfNSW will conduct a formal review of this CEMP, the Sub-plans and procedures on a six-monthly basis, to verify compliance with the approval, the requirements of the standards, policies and objectives and, if not, to amend the CEMP to ensure compliance.

The review will include:

- A review of the aspects and impacts register, legal register and environmental induction
- A review of the environmental risk assessment
- Analysis of the causes of non-conformances and deficiencies, including those identified in environmental inspections
- Consideration of incidents and lessons learnt
- A review of the effectiveness of environmental controls
- Effectiveness of environmental management documentation implementation
- Potential improvements to the environmental management documentation
- Adequacy of resources and organisation changes
- Compliance with legal and other requirements and consideration of new issues
- Effectiveness of training and inductions.

Where the management review identifies aspects of the CEMP that should be amended, this will be undertaken before the next management review. Where the change identified is necessary to avoid compliance or significant environmental risks, the amendments will be prioritised to be undertaken as soon as possible.

A project risk register, incorporating environment risks, will also be maintained to ensure that key environmental risks are documented.

### **3.12 CEMP Revision and changes to the project**

#### **3.12.1 CEMP revision**

Continual improvement is achieved through constant measurement and evaluation, and audit and review of the effectiveness of this CEMP and associated Sub-plans and Procedures. Monthly reports by the ER and the SPA Environmental Manager and six-monthly management reviews (refer to Section 3.11) provide specific opportunities to identify improvements in the EMS and/or this CEMP.

The CEMP will be updated as required:

- Following reportable environmental incidents
- Upon identification of new 'significant' risks, including risks identified during risk register updates
- When non-compliances are identified
- When the root cause of incident or non-conformance is identified as part of the investigation
- In response to significant project change (including modifications to the CSSI)



- Within one month of any of the above occurrences
- As part of a continuous improvement process
- The effect of changes in standards and legislation.

Should the document review process identify issues or items within the documents that are either redundant or in need of updating, the SPA and TfNSW Environmental Manager will prepare changes to the revised documents. The revised document will then be issued to the TfNSW Project Manager for internal approval, and to the ER or DPIE to review and approve changes. Where changes are minor, they may be approved by the ER. Minor changes would typically include those that:

- Are administrative in nature (e.g., staff and agency/authority name changes)
- Are consistent with the CoA
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Are in response to audit findings or periodic reviews
- Are in response to the approval of a consistency assessment or a modification to the Infrastructure Approval
- Do not comprise the ability of the project to meet approval or legislative requirements.

Where the ER, TfNSW and SPA deem a change is not minor it will be provided to the Secretary of DPIE for review and approval.

### **3.12.2 Changes to the project**

Refinements to the project may result from detailed design or changed circumstances during construction.

Design changes or changes in scope of works will be communicated to the SPA Environmental Manager. The Environmental Manager will then undertake an additional environmental assessment and consistency assessment in consultation with the ER and / or TfNSW to determine if a project modification may be required.

Should the consistency assessment determine that a project modification may be required, the ER will be informed and modification application under section 5.25 of the EP&A Act prepared and lodged by TfNSW to the Secretary DPIE for determination.

Following the approval of consistency assessments and / or project modifications, this CEMP, the Sub-plans and procedures will be reviewed to assess if an update is required. Where the plan requires revision, the process in Section 3.12.1 will be followed.

### **3.13 Directions from DPIE**

All written requirements or directions received from DPIE shall be complied with at all times (CoA A4), including in relation to:

- The environmental performance of the CSSI
- Any document or correspondence in relation to the CSSI
- Any notification given to the Secretary under the terms of the Infrastructure Approval
- Any audit of the construction or operation of the CSSI
- The terms of the Infrastructure Approval and compliance with the terms of the Infrastructure Approval (including anything required to be done under the Infrastructure Approval)
- The carrying out of any additional monitoring or mitigation measures, and

- In respect of ongoing monitoring and management obligations, compliance with an updated or revised version of a guideline, protocol, Australian Standard or policy required to be complied with under the Infrastructure Approval.

## Appendix A1 Environmental Performance Outcomes

The environmental performance outcomes listed below are outlined in Chapter 28.6 of the EIS. Only the environmental performance outcomes specific to this CEMP have been presented in this appendix.

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
Project Performance Outcomes – Early and Enabling Works Phase		
<b>Consultation</b> The project is developed with meaningful and effective engagement during project design and delivery	<ul style="list-style-type: none"> <li>Engaged and informed community and key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Community consultation will be undertaken in accordance with the CCS throughout the delivery of the project to meet the consultation performance outcomes</li> </ul>
<b>Transport and traffic</b> <ul style="list-style-type: none"> <li>Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts</li> <li>The safety of transport system customers is maintained</li> <li>Impacts on network capacity and the level of service are effectively managed</li> </ul>	<ul style="list-style-type: none"> <li>Minimise impacts to local streets from loss of parking, road closures and heavy vehicles</li> <li>Minimise impacts to road network efficiency during construction</li> <li>Maintain pedestrian and cyclist safety</li> <li>Access to properties would be maintained.</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the Traffic Management Plan and to meet the project's transport and traffic performance outcomes</li> </ul>
<b>Air quality</b> The project is designed and constructed in a manner that minimises air quality impacts (including nuisance dust and odour) to minimise risks to human health and the environment to the greatest extent.	<ul style="list-style-type: none"> <li>Effective management of dust, odour, and other emissions during construction</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the air quality procedure to meet the project's air quality performance outcomes</li> </ul>
<b>Health and safety</b> <ul style="list-style-type: none"> <li>The project avoids or minimises any adverse health impacts arising from the project</li> <li>The project avoids, to the greatest extent possible, risk to public safety</li> </ul>	<ul style="list-style-type: none"> <li>Establish and operate ancillary facilities and construction sites to protect road user and public safety</li> <li>Hazardous materials within project areas will be managed to protect human health</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with SPA's Health and Safety System.</li> </ul>

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
	<ul style="list-style-type: none"> <li>Minimise incidents and crashes and risks to public safety during construction</li> </ul>	
<b>Noise and vibration – Amenity</b> <ul style="list-style-type: none"> <li>Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on acoustic amenity.</li> </ul>	<ul style="list-style-type: none"> <li>Comply with the relevant criteria from the NSW Industrial Noise Policy and Interim Construction Noise Guideline.</li> <li>Effective management of construction noise and vibration in accordance with relevant guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the Noise and Vibration Management Plan to meet the project's noise and vibration (amenity) performance outcomes</li> </ul>
<b>Noise and vibration – Structural</b> <ul style="list-style-type: none"> <li>Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage</li> <li>Increases in noise emissions and vibration affecting environmental heritage as defined in the <i>Heritage Act 1977</i> during operation of the project are effectively managed</li> </ul>	<ul style="list-style-type: none"> <li>No damage to features of heritage conservation significance from vibration</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the NVMP and heritage procedure to meet the project's noise and vibration (structural) performance outcomes</li> </ul>
<b>Biodiversity</b> <ul style="list-style-type: none"> <li>The project design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>Minimise removal of high retention value trees</li> <li>Compensatory tree planting</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the flora and fauna procedures and soil and water procedure to meet the project's biodiversity performance outcomes</li> </ul>
<b>Socio-economic, Land Use and Property</b> <ul style="list-style-type: none"> <li>The project minimises adverse social and economic impacts and capitalises on opportunities potentially</li> </ul>	<ul style="list-style-type: none"> <li>Minimise property acquisition</li> <li>Manage the property acquisition process to minimise impacts to community</li> </ul>	<ul style="list-style-type: none"> <li>The implementation of the CCS will minimise adverse social and economic impacts and capitalises on opportunities potentially</li> </ul>

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
<p>available to affected communities.</p> <ul style="list-style-type: none"> <li>The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land</li> </ul>	<ul style="list-style-type: none"> <li>Minimise impacts to businesses during construction</li> <li>Make provision for social infrastructure.</li> </ul>	<p>available to affected communities.</p>
<p><b>Water – Hydrology and Quality</b></p> <ul style="list-style-type: none"> <li>Long term impacts on surface water are minimised</li> <li>The environmental values of nearby, connected and affected water sources are maintained (where values are achieved) or improved and maintained (where values are not achieved)</li> <li>Sustainable use of water resources</li> <li>The project is designed and constructed to protect the NSW Water Quality Objectives where they are currently being achieved and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the project to the extent of the project impact including estuarine and marine waters (if applicable).</li> </ul>	<ul style="list-style-type: none"> <li>Establish water quality discharge criteria with consideration of NSW Water Quality Objectives</li> <li>Effectively treat water to meet water quality discharge criteria</li> <li>Maximise reuse of treated water during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Management of soil and surface water will be undertaken throughout the delivery of the project in accordance with the soil and water procedure.</li> </ul>
<p><b>Soils</b></p> <ul style="list-style-type: none"> <li>The environmental values of land, including soils,</li> </ul>	<ul style="list-style-type: none"> <li>Erosion and sediment controls will be implemented in accordance with</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the soil and water procedure to</li> </ul>

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
<p>subsoils and landforms, are protected.</p> <ul style="list-style-type: none"> <li>Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulfate soils (ASS) and site contamination</li> </ul>	<p>Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and Volume 2D (DECCW 2008), commonly referred to as the 'Blue Book'</p> <ul style="list-style-type: none"> <li>Manage ASS in accordance with good practice measures</li> <li>Manage contamination to protect environmental values and human health</li> </ul>	<p>meet the project's soils performance outcomes.</p>
<p><b>Heritage</b></p> <ul style="list-style-type: none"> <li>The design, construction and operation of the project facilitates, to the greatest extent possible, the long-term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places.</li> <li>The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places</li> </ul>	<ul style="list-style-type: none"> <li>Minimise impacts on heritage items during construction</li> <li>Minimise damage to features of heritage conservation significance from vibration</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the heritage procedure to meet the project's heritage performance outcomes</li> </ul>
<p><b>Waste</b></p> <ul style="list-style-type: none"> <li>All wastes generated during the construction of the project are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values</li> </ul>	<ul style="list-style-type: none"> <li>Recycle or reuse uncontaminated spoil either on site or off-site</li> <li>Manage off-site waste re-use in accordance with relevant NSW Environment Protection Authority resource recovery exemptions and requirements</li> </ul>	<ul style="list-style-type: none"> <li>Construction activities will be managed in accordance with the waste procedure to meet the project's waste performance outcomes</li> </ul>

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
	<ul style="list-style-type: none"> <li>Dispose of waste at appropriately licensed facilities.</li> </ul>	
<b>Light Spillage</b> <ul style="list-style-type: none"> <li>Construction activities will be managed with the objective of minimising light spill by directing lighting away from residential receivers wherever possible.</li> </ul>	<ul style="list-style-type: none"> <li>Lights will be located as far away as possible and pointed away from neighbours and away from sensitive areas, such as bedroom windows</li> <li>Existing features will be used to hide the light source from view. For instance, retained vegetation will be used to shield lighting existing structures</li> <li>Lights will be directed to illuminate the target area. If there is no alternative to up-lighting, shields and baffles will be fitted to help keep spill light to a minimum</li> </ul>	<ul style="list-style-type: none"> <li>Management of light spillage will be undertaken throughout the delivery of the project through the completion of daily checklists and monitoring during OOHW</li> <li>Monitoring for light spillage is also undertaken during noise and vibration monitoring activities during OOHW</li> </ul>

## Appendix A2 Condition of Approval and REMMs compliance tracking

The Conditions of Approval (CoA) and Revised Environmental Management Measures (REMMs) detailed below are those that are related specifically to the preparation of this Construction Environmental Management Plan (CEMP).

CoA No.	Condition requirements	Document reference
<b>General</b>		
A1	<p>The Proponent must carry out the CSSI in accordance with the terms of this approval and generally in accordance with the:</p> <p>(a) Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement – Volumes 1A-B and 2A-J (dated January 2020) (the EIS); and</p> <p>(b) Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report (dated September 2020) (the RtS)</p>	This CEMP
A5	<p>Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include:</p> <p>(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;</p> <p>(b) a log of the dates of engagement or attempted engagement with the identified party;</p> <p>(c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations;</p> <p>(d) outline of the issues raised by the identified party and how they have been addressed; and</p> <p>(e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.</p>	<p>Section 2</p> <p>Traffic, Transport and Access Management Sub-plan (TTAMP)</p> <p>Noise and Vibration Management Sub-plan (NVMP) and Noise and Vibration Monitoring Program (NVMoP)</p>



CoA No.	Condition requirements	Document reference
A7	References in the terms of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Australian Standards or policies in the form they are in as at the date of this approval (Project approval issued 21 January 2021).	Relevant guidelines and protocols are provided in the discipline specific subplans and procedures (refer to appendices to this CEMP)
<b>Ancillary Facilities</b>		
A16	<p>Ancillary facilities that are not identified by description and location in the documents listed in Condition A1 can only be established and used in each case if:</p> <p>(a) they are located within or immediately adjacent to the construction boundary; and</p> <p>(b) they are not located next to sensitive land user(s) (including where an access road is between the facility and the receiver), unless the landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location; and</p> <p>(c) they have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and</p> <p>(d) the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.</p>	Section 1.3
<b>Use of Construction Ancillary Facilities</b>		
A18	The use of a construction ancillary facility for construction must not commence until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C11 have been approved by the Planning Secretary.	<p>Section 1.3</p> <p>Minor Ancillary Facilities Assessment</p>
A19	<p>Lunch sheds, office sheds, portable toilet facilities, car parking, material storage, and the like, can be established and used where they have been assessed in the documents listed in Condition A1 or satisfy the following criteria:</p> <p>(a) are located within or adjacent to the construction boundary; and</p>	Section 1.3

CoA No.	Condition requirements	Document reference
	<p>(b) have been assessed by the ER to have</p> <ul style="list-style-type: none"> <li>(i) minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and</li> <li>(ii) minimal environmental impact with respect to waste management and flooding, and</li> <li>(iii) no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.</li> </ul>	
A20	<p>Boundary screening must be erected between ancillary facilities and are adjacent to sensitive land user(s) for the duration of the ancillary facility is in use unless otherwise agreed with relevant affected residents, business operators or landowners.</p> <p>All boundary screening must minimise visual impacts on adjacent sensitive land user(s).</p>	Section 1.3.2
<b>Environmental Representative</b>		
A27	<p>For the duration of the work until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must:</p> <ul style="list-style-type: none"> <li>(i) consider any minor amendments to be made to the Ancillary Site Establishment Management Plan, CEMP, CEMP Sub-plans and monitoring programs without increasing impacts to nearby receivers or that comprise updating or are of an administrative nature and are consistent with the terms of this approval and the CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval.</li> </ul>	<p>Section 2</p> <p>Section 3.3</p> <p>Section 3.9.3</p> <p>Section 3.12.1</p>
<b>Acoustics Advisor</b>		
A34	<p>The approved AA (<i>Acoustics Advisor</i>) must:</p> <p>...</p> <p>(h) in conjunction with the ER, the AA must:</p>	<p>Section 2</p> <p>Section 3.3</p>

CoA No.	Condition requirements	Document reference
	<p>...</p> <p>(iii) consider relevant minor amendments made to the Ancillary Site Establishment Management Plan, 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 Planning Secretary and, if satisfied such amendment is necessary, endorse the amendment, (this does not include any modifications to the terms of this approval).</p>	
<b>Notification of Commencement</b>		
A35	The Department must be notified in writing of the dates of commencement of construction and operation at least one month before those dates.	Section 2
A36	If the construction or operation of the CSSI is to be staged, the Department must be notified in writing at least month before the commencement of each stage, or of the date of the commencement of that stage.	Section 2
<b>Auditing</b>		
A37	Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit. This condition does not apply to the engagement of auditors required under Condition E145	Section 3.9.3
A38	Independent Audits of the CSSI must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (DPIE, 2020).	Section 3.9.3
<b>Incident notification, reporting and response</b>		
A43	The Planning Secretary must be notified via the Major Projects Website 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.	<p>Section 3.3</p> <p>Section 3.7</p> <p>Section 3.8.1</p>

CoA No.	Condition requirements	Document reference
A44	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A.	Section 3.7
<b>Non-compliance Notification</b>		
A45	The Planning Secretary must be notified via the Major Projects Website within seven days after the Proponent becomes aware of any non-compliance. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one), set out the condition/s that is non-compliant, the nature of the breach; the reason for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Section 3.8.1
A46	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 3.8.1
<b>Identification of Workforce and Compounds</b>		
A48	The CSSI name; application number; telephone number; postal address and email address required under <b>Condition B8</b> of this approval must be made available on site boundary fencing/hoarding at each ancillary facility before the commencement of construction. This information must also be provided on the website required under <b>Condition B15</b> of this approval.	Section 1.3
<b>Construction Environmental Management Plan</b>		
C1	A Construction Environmental Management Plan (CEMP) must be prepared having regard to the <i>Environmental Management Plan Guideline for Infrastructure Projects</i> (Department of Planning, Industry and Environment, 2020). The CEMP must detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 will be implemented and achieved during construction.	This CEMP Appendix A1 Appendix A2 Appendix A3
C2	The CEMP must provide:	(a) Section 1.2

CoA No.	Condition requirements	Document reference
	(a) a description of activities to be undertaken during construction (including the scheduling of construction);	(b) Section 1.7, Section 3.1.2, Appendix A3, Appendix A5 and Sub-plans
	(b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	(c) Section 3.1.1 and Section 3.11
	(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;	(d) Section 1.6 and Appendix A1
	(d) details of how the activities described in subsection (a) of this condition will be carried out to:	(e) Section 3.9
	(i) meet the performance outcomes stated in the documents listed in Condition A1; and	(f) Section 3.7 and Section 3.8
	(ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition;	(g) Section 3.8
	(e) an inspection program detailing the activities to be inspected and frequency of inspections;	(h) Section 1.7
	(f) a protocol for managing and reporting any:	(i) Section 3.3
	(i) incidents; and	(j) Section 3.5
	(ii) non-compliances with this approval or statutory requirements;	(k) Section 3.11 and Section 3.12
	(g) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	
	(h) a list of all the CEMP Sub-plans required in respect of construction, as set out in Condition C4. 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;	(l) Section 2 and relevant Sub-plans
	(i) a description of the roles and environmental responsibilities for relevant employees and their professional / organisational 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;	

CoA No.	Condition requirements	Document reference															
	<p>(k) for periodic review and update of the CEMP and all associated plans and programs; and</p> <p>(l) the outcomes of consultation with government agencies in accordance with Condition A5.</p>																
C3	The CEMP must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one month before the commencement of construction, or where construction is staged no later than one month before the commencement of that stage.	Section 2															
C4	<p>The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5.</p> <table border="1"> <thead> <tr> <th></th><th>Required CEMP Sub-plan</th><th>Relevant government agencies to be consulted for each CEMP Sub-plan</th></tr> </thead> <tbody> <tr> <td>(a)</td><td>Traffic, transport and access</td><td>North Sydney Council Willoughby Council</td></tr> <tr> <td>(b)</td><td>Noise and vibration</td><td>NSW Health, relevant council(s) North Sydney Council Willoughby Council</td></tr> <tr> <td>(c)</td><td>Flora and Fauna</td><td>Not applicable, Flora and Fauna Procedure has been prepared (as per Staging Report)</td></tr> <tr> <td>(d)</td><td>Air quality and odour</td><td>Not applicable, Air Quality and Odour Procedure has been prepared (as per Staging Report)</td></tr> </tbody> </table>		Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan	(a)	Traffic, transport and access	North Sydney Council Willoughby Council	(b)	Noise and vibration	NSW Health, relevant council(s) North Sydney Council Willoughby Council	(c)	Flora and Fauna	Not applicable, Flora and Fauna Procedure has been prepared (as per Staging Report)	(d)	Air quality and odour	Not applicable, Air Quality and Odour Procedure has been prepared (as per Staging Report)	<p>Section 1.7</p> <p>Section 2</p> <p>Appendices: B1 to B7</p>
	Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan															
(a)	Traffic, transport and access	North Sydney Council Willoughby Council															
(b)	Noise and vibration	NSW Health, relevant council(s) North Sydney Council Willoughby Council															
(c)	Flora and Fauna	Not applicable, Flora and Fauna Procedure has been prepared (as per Staging Report)															
(d)	Air quality and odour	Not applicable, Air Quality and Odour Procedure has been prepared (as per Staging Report)															

CoA No.	Condition requirements			Document reference
	(e)	Soil and surface water	Not applicable, Soil and Water Management Procedure has been prepared (as per Staging Report)	
	(f)	Groundwater	Not applicable, Flora and Fauna Procedure has been prepared (as per Staging Report)	
	(g)	Maritime Heritage	Not applicable to noise barrier works (as per the Staging Report)	
	(h)	Non-Aboriginal Heritage	Not applicable, Heritage Management Procedure has been prepared (as per Staging Report)	
	(i)	Aboriginal Cultural Heritage	Not applicable, Heritage Management Procedure has been prepared (as per Staging Report)	
	(j)	Dredging and Disposal Management Plan	Not applicable (as per Staging Report)	
C5	<p>The CEMP Sub-plans must state how:</p> <p>(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;</p> <p>(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;</p> <p>(c) the relevant terms of this approval will be complied with; and</p> <p>(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.</p>			Appendices: B1 to B7

CoA No.	Condition requirements	Document reference															
C9	The CEMP Sub-plans must be submitted to the Planning Secretary for approval along with, or subsequent to, the submission of the CEMP but in any event, no later than one month before construction	Section 2 Appendices: B1 to B7															
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved, unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning 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 stage have been endorsed by the ER and approved by the Planning Secretary.	Section 1.5															
<b>Construction Monitoring Programs</b>																	
C11	<p>The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of the CSSI against the performance predicted in the documents listed in Condition A1 or in the CEMP:</p> <table border="1"> <thead> <tr> <th></th><th>Required Construction Monitoring Programs</th><th>Relevant government agencies to be consulted for each Construction Monitoring Program</th></tr> </thead> <tbody> <tr> <td>(a)</td><td>Noise and Vibration Monitoring Program</td><td>EPA</td></tr> <tr> <td>(b)</td><td>Air Quality (including Odour) Monitoring</td><td>Not applicable to noise barrier works</td></tr> <tr> <td>(c)</td><td>Surface Water Monitoring Program</td><td>Not applicable to noise barrier works</td></tr> <tr> <td>(d)</td><td>Groundwater Monitoring Program</td><td>Not applicable to noise barrier works</td></tr> </tbody> </table>		Required Construction Monitoring Programs	Relevant government agencies to be consulted for each Construction Monitoring Program	(a)	Noise and Vibration Monitoring Program	EPA	(b)	Air Quality (including Odour) Monitoring	Not applicable to noise barrier works	(c)	Surface Water Monitoring Program	Not applicable to noise barrier works	(d)	Groundwater Monitoring Program	Not applicable to noise barrier works	Section 3.9.2 Noise and Vibration Monitoring Program (NVMoP)
	Required Construction Monitoring Programs	Relevant government agencies to be consulted for each Construction Monitoring Program															
(a)	Noise and Vibration Monitoring Program	EPA															
(b)	Air Quality (including Odour) Monitoring	Not applicable to noise barrier works															
(c)	Surface Water Monitoring Program	Not applicable to noise barrier works															
(d)	Groundwater Monitoring Program	Not applicable to noise barrier works															



CoA No.	Condition requirements	Document reference
C12	<p>Each Construction Monitoring Program must provide:</p> <ul style="list-style-type: none"> <li>(a) details of baseline data available;</li> <li>(b) details of baseline data to be obtained and when;</li> <li>(c) details of all monitoring of the project to be undertaken;</li> <li>(d) the parameters of the project to be monitored;</li> <li>(e) the frequency of monitoring to be undertaken;</li> <li>(f) the location of monitoring;</li> <li>(g) the reporting of monitoring results and analysis results against relevant criteria;</li> <li>(h) details of the methods that will be used to analyse the monitoring data;</li> <li>(i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicate unacceptable project impacts;</li> <li>(j) a consideration of SMART principles;</li> <li>(k) any consultation to be undertaken in relation to the monitoring programs; and</li> <li>(l) any specific requirements as required by Conditions C13 to C16.</li> </ul>	<p>Section 3.9.2</p> <p>NVMoP</p>
C13	<p>The Noise and Vibration Monitoring Program must include:</p> <ul style="list-style-type: none"> <li>a) noise and vibration monitoring locations determined in consultation with the AA to confirm construction noise and vibration levels;</li> <li>(b) for the purposes of (a), noise monitoring must be undertaken during the day, evening and night-time periods and within the first month of work as well as throughout the construction period and cover the range of activities being undertaken at the sites;</li> <li>(c) a protocol for reviewing the implemented management and mitigation measures, based on the monitoring results, to confirm they are consistent with the CEMP Subplan (Condition C4b), and to identify any additional management and mitigation measures that must be implemented; and</li> </ul>	<p>Section 3.9.2</p> <p>NVMoP</p>

CoA No.	Condition requirements	Document reference
	(d) a process to undertake real time noise and vibration monitoring. The results of the monitoring must be readily available to the construction team, Proponent, ER and AA. The Planning Secretary and EPA must be provided with access to the results on request.	
C17	The Construction Monitoring Programs must be developed in consultation with relevant government agencies as identified in Condition C11. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant Construction Monitoring Programs, including copies of all correspondence from those agencies as required by Condition A5.	Section 3.9.2 NVMoP
C18	The Construction Monitoring Programs must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one month before the commencement of construction.	Section 3.9.2 NVMoP
C19	Unless otherwise agreed with the Planning Secretary, construction must not commence until all of the relevant Construction Monitoring Programs have been approved by the Planning Secretary, and all relevant baseline data for the specific construction activity has been collected.	Section 3.9.2 NVMoP
C20	The Construction Monitoring Programs, as approved by the Planning Secretary including any minor amendments approved by the ER must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater	Section 3.9.2 NVMoP
C21	<p>The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.</p> <p><i>Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.</i></p>	Section 3.9.2 NVMoP
<b>Air Quality and Odour</b>		

CoA No.	Condition requirements	Document reference
E1	Measures must be implemented to minimise and manage the emission of dust, odour and other air pollutants during construction and operation.	Air Quality and Odour Management Procedure
<b>Habitat Enhancement</b>		
E48	Within three months of the removal of any native trees, the Proponent must consult with local community restoration/rehabilitation groups, Landcare groups, relevant councils, DPI Fisheries and any relevant public authorities to determine if there is an interest for the reuse of suitable timber and root balls in habitat enhancement and rehabilitation work. If there is an interest, native trees that are removed for the construction of the CSSI and that are greater than 25-30 centimetres in diameter and three metres in length must be salvaged and stored for a period of at least six weeks to enable collection by interested parties.	Flora and Fauna Management Procedure
<b>Aboriginal Cultural Heritage</b>		
E50	The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact Aboriginal objects except as authorised by this approval.	Heritage Management Procedure
<b>Excavation and Archaeology</b>		
E58	Prior to the commencement of construction that has the potential to impact upon areas of archaeological significance as defined in the documents listed in Condition A1, a revised Archaeological Research Design and Excavation Methodology must be prepared in accordance with the Heritage Council of NSW guidelines and Heritage NSW comments on the EIS and RtS, to guide the archaeological program.  The revised methodology must be prepared in consultation with Heritage NSW and submitted to the Planning Secretary for information.	Heritage Management Procedure
E59	Prior to commencement of archaeological excavation, the Proponent must nominate a suitably qualified Excavation Director who complies with Heritage NSW's Criteria for Assessment of Excavation Directors (September 2019) to oversee and advise on matters associated with historical archaeology. The Excavation Director must be present to oversee excavation, advise on archaeological issues, advise on the duration and extent	Heritage Management Procedure

CoA No.	Condition requirements	Document reference
	of oversight required during archaeological excavations consistent with the approved Archaeological Research Design and Excavation Methodology required by Condition E58.	
E60	Following completion of archaeological excavation programs, a Final Excavation Report must be prepared that includes: the details of any archival recording, further historical research undertaken to enhance the final reporting and results of archaeological excavations (including artefact analysis and identification of a final repository for finds). The report must be prepared in accordance with guidelines and standards required by Heritage NSW.	Heritage Management Procedure
<b>Artefact Management</b>		
E61	An Artefact Conservation Management Plan (ACMP) must be prepared to support the archaeological excavation programs and be prepared with the support of a conservator. The ACMP must include historical and maritime relics recovered by the project. Artefact specialists must be engaged to analyse and report on the different assemblages as part of the final reporting for the CSSI. This must include details of analysis, processing and management of the collection including its curation needs in the short and long term. The Plan must be included in the Maritime Heritage and Non-Aboriginal Heritage Management CEMP Sub-plans, required by Condition C4.	Heritage Management Procedure
E62	The Final Excavation Report must be submitted to the Planning Secretary, Heritage NSW and the relevant Council for information no later than 12 months after the completion of the work referred to in Condition E60. It must include details of any significant artefacts recovered, where they are located and details of their ongoing conservation and protection in perpetuity. Copies of the Final Excavation Report must be provided to the Planning Secretary, Heritage NSW and to the relevant local Council's local studies unit.	Heritage Management Procedure
<b>Unexpected Heritage Finds</b>		
E63	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds (including maritime discoveries) in accordance with	Heritage Management Procedure

CoA No.	Condition requirements	Document reference
	any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of construction.	
E64	<p>The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of construction.</p> <p>Note: Human remains that are found unexpectedly during the carrying out of work may be under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.</p>	Heritage Management Procedure
<b>Land Use Survey</b>		
E65	<p>A detailed land use survey must be undertaken to confirm sensitive land user(s) (including critical working areas such as operating theatres and precision laboratories) potentially exposed to construction noise and vibration, construction ground-borne noise and operational noise. The survey may be undertaken on a progressive basis but must be undertaken in any one area before the commencement of work which generates construction or operational noise, vibration or ground-borne noise in that area.</p> <p>The results of the survey must be included in the Noise and Vibration CEMP Sub-plan required by Condition C4.</p>	NVMP
<b>Construction Hours</b>		
E66	<p>Work must only be undertaken during the following hours:</p> <p>(a) 7:00am to 6:00pm Mondays to Fridays, inclusive;</p> <p>(b) 8:00am to 6:00pm Saturdays; and</p> <p>(c) at no time on Sundays or public holidays.</p>	<p>Section 1.4</p> <p>NVMP</p>
<b>Highly Noise Intensive Work</b>		
E67	Except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable NML at the same receiver must only be undertaken:	Section 1.4.2

CoA No.	Condition requirements	Document reference
	<p>(a) between the hours of 8:00 am to 6:00 pm Monday to Friday;</p> <p>(b) between the hours of 8:00 am to 1:00 pm Saturday; and</p> <p>(c) if continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.</p> <p>For the purposes of this condition, 'continuously' includes any period during which there is less than one hour between ceasing and recommencing any of the work.</p>	
<b>Variation to Work Hours</b>		
E68	<p>Notwithstanding Conditions E66 and E67 work may be undertaken outside the hours specified in any of the following circumstances:</p> <p>(a) Safety and Emergencies, including:</p> <p>(i) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or</p> <p>(ii) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm.</p> <p>On becoming aware of the need for emergency work in accordance with Condition E68(a)(ii), the Proponent must notify the AA, the ER, the Planning Secretary and the EPA of the reasons for such work. The Proponent must use best endeavours to notify all noise and/or vibration affected sensitive land user(s) of the likely impact and duration of those work.</p> <p>(b) Low impact, including:</p> <p>(i) construction that causes LAeq(15 minute) noise levels:</p> <ul style="list-style-type: none"> <li>• no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, or</li> <li>• no more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); or</li> </ul>	<p>Section 1.4.3</p> <p>NVMP</p>

CoA No.	Condition requirements	Document reference
	<p>(ii) construction that causes LAFmax(15 minute) noise levels no more than 15 dB(A) above the rating background level at any residence; or</p> <p>(iii) construction that causes:</p> <ul style="list-style-type: none"> <li>• continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or</li> <li>• intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006).</li> </ul> <p>(c) By Approval, including:</p> <p>(i) where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or</p> <p>(ii) works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by Condition E69; or</p> <p>(iii) negotiated agreements with directly affected residents and sensitive land user(s).</p> <p>(d) By Prescribed Activity, including:</p> <p>(i) tunnelling (excluding cut and cover tunnelling and surface works) and tunnel fit out works (excluding surface works) are permitted 24 hours a day, seven days a week; or</p> <p>(ii) delivery of material that is required to occur outside of standard construction hours in Condition E66 to directly support tunnelling activities, except between the hours 10:00 pm and 7:00 am to/from WHT7 at Berrys Bay which could result in a sleep disturbance event for receivers in the proximity of Bay Road and Balls Head Road, Waverton; or</p> <p>(iii) works within an acoustic shed where there is no exceedance of the NMLs; or NSW Government 46 Department of Planning, Industry and Environment Western Harbour Tunnel &amp; Warringah Freeway Upgrade (SSI-8863)</p> <p>(iv) trailer suction hopper dredging; or</p> <p>(v) along the Warringah Freeway corridor in accordance with Condition E88.</p>	

CoA No.	Condition requirements	Document reference
<b>Out-Of-Hours Work Protocol – Works Not Subject to an EPL</b>		
E69	<p>An Out-of-Hours Work Protocol must be prepared to identify a process for the consideration, management and approval of work, which is outside the hours defined in Conditions E66, and that are not subject to an EPL. The Protocol must be approved by the Planning Secretary before commencement of the Out-of-Hours Work. The Protocol must be prepared in consultation with the ER, AA and EPA. The Protocol must provide:</p> <ul style="list-style-type: none"> <li>(a) identification of low and high-risk activities and an approval process that considers the risk of activities, proposed mitigation, management, and coordination, including where: <ul style="list-style-type: none"> <li>(i) the ER and AA review all proposed out-of-hours activities and confirm their risk levels,</li> <li>(ii) low risk activities can be approved by the ER in consultation with the AA, and</li> <li>(iii) high risk activities that are approved by the Planning Secretary;</li> </ul> </li> <li>(b) a process for the consideration of out-of-hours work against the relevant NML and vibration criteria;</li> <li>(c) a process for selecting and implementing mitigation measures for residual impacts in consultation with the community at each affected location, including respite periods consistent with the requirements of Condition E83. The measures must take into account the predicted noise levels and the likely frequency and duration of the out-of-hours works that sensitive land user(s) would be exposed to, including the number of noise awakening events;</li> <li>(d) procedures to facilitate the coordination of out-of-hours work including those approved by an EPL or undertaken by a third party, to ensure appropriate respite is provided; and</li> <li>(e) notification arrangements for affected receivers for all approved out-of-hours works and notification to the Planning Secretary of approved low risk out-of-hours works.</li> </ul> <p>This condition does not apply if the requirements of Condition E68(b) are met.</p>	NVMP
<b>Construction Noise Management Levels and Vibration Criteria</b>		



CoA No.	Condition requirements	Document reference
E70	<p>Mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration objectives:</p> <p>(a) construction 'Noise affected' NML established using the Interim Construction Noise Guideline (DECC, 2009);</p> <p>(b) vibration criteria established using the Assessing vibration: a technical guideline (DEC 2006) (for human exposure);</p> <p>(c) Australian Standard AS 2187.2 - 2006 "Explosives - Storage and Use - Use of Explosives";</p> <p>(d) BS 7385 Part 2-1993 "Evaluation and measurement for vibration in buildings Part 2" as they are "applicable to Australian conditions"; and</p> <p>(e) the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration-effects of vibration on structures (for structural damage).</p> <p>Any work identified as exceeding the noise management levels and/or vibration criteria must be managed in accordance with the Noise and Vibration CEMP Sub-plan.</p> <p><i>Note: The ICNG identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction NML.</i></p>	NVMP
E71	<p>Mitigation measures must be applied when the following residential ground-borne noise levels are exceeded:</p> <p>(a) evening (6:00 pm to 10:00 pm) — internal LAeq(15 minute): 40 dB(A); and</p> <p>(b) night (10:00 pm to 7:00 am) — internal LAeq(15 minute): 35 dB(A).</p> <p>The mitigation measures must be outlined in the Noise and Vibration CEMP Sub-plan, including in any Out-of-Hours Work Protocol, required by Condition E69.</p>	NVMP
E72	<p>Noise generating work in the vicinity of potentially-affected community, religious, educational institutions, noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) resulting in noise levels above the NMLs must not be timetabled within sensitive periods, unless other reasonable arrangements with the affected institutions are made at no cost to the affected institution.</p>	NVMP

CoA No.	Condition requirements	Document reference
E73	At no time can noise generated by construction exceed the National Standard for exposure to noise in the occupational environment of an eight-hour (8hr) equivalent continuous A-weighted sound pressure level of LAeq,8h of 85 dB(A) for any employee working at a location near the CSSI.	NVMP
<b>Construction Noise and Vibration Mitigation and Management</b>		
E74	<p>Industry best practice construction methods must be implemented where reasonably practicable to ensure that noise levels are minimised. Practices must include, but are not limited to:</p> <ul style="list-style-type: none"> <li>(a) use of regularly serviced low sound power equipment;</li> <li>(b) early occupation and later release of road carriageways and construction sites;</li> <li>(c) scheduling of noisiest works before 11.00 pm Sunday to Thursday and before 12 midnight Friday and Saturday;</li> <li>(d) temporary noise barriers (including the arrangement of plant and equipment) around noisy equipment and activities such as rock hammering and concrete cutting; and</li> <li>(e) use of alternative construction and demolition techniques.</li> </ul>	NVMP
E75	Construction Noise and Vibration Impact Statements (CNVIS) must be prepared for any work that may exceed the noise management levels, vibration criteria and/or ground-borne noise levels specified in Condition E70 and Condition E71 at any residence outside construction hours identified in Condition E66, or where receivers will be highly noise affected. The CNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the works. A copy of the CNVIS must be provided to the AA and ER prior to the commencement of the associated works. The Planning Secretary may request a copy/ies of CNVIS.	NVMP
E76	Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified before work that generates vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owners and occupiers are to be provided a schedule of	NVMP

CoA No.	Condition requirements	Document reference
	potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier. These properties must be identified and considered in the Noise and Vibration CEMP Sub-plan required by Condition C4 and the Community Communication Strategy required by Condition B1.	
<b>Soils</b>		
E114	Prior to the commencement of any work, erosion and sediment controls must be installed and maintained, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'.	Soil and Water Management Procedure
<b>Contaminated sites</b>		
E115	Prior to the commencement of any work that would result in the disturbance of moderate to high risk contaminated sites as identified in the documented listed in Condition A1, a Detailed Site Investigations must be undertaken by a Contaminated Land Consultant certified under either the Environment Institute of Australia or New Zealand's "Certified Environmental Practitioner" (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia "Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.	Not applicable, the work will not result in the disturbance of moderate to high risk contaminated sites.
E116	<p>A Detailed Site Investigation Report must be prepared and submitted to the Planning Secretary for information following the completion of Detailed Site Investigations required by Condition E115.</p> <p>The report must be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997 (NSW) and prepared by a Contaminated Land Consultant certified under either the Environment Institute of Australia or New Zealand's "Certified Environmental Practitioner" (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia "Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.</p> <p>Nothing in this condition prevents the Proponent from preparing individual Site Contamination Reports for separate sites.</p>	Not applicable, the work will not require the preparation of a Detailed Site Investigation Report (refer above to CoA E115).

CoA No.	Condition requirements	Document reference
E117	<p>The Detailed Site Investigation Report must provide details on:</p> <ul style="list-style-type: none"> <li>(a) primary sources of contamination, for example potentially contaminating activities, infrastructure (such as underground storage tanks, fuel line, sumps or sewer lines) or site practices;</li> <li>(b) contaminant dispersal in air, hazardous ground gases, surface water, groundwater, soil vapour, separate phase contaminants, sediments, infrastructure (e.g., concrete), biota, soil and dust;</li> <li>(c) contaminant characterisation and behaviour (volatility, leachability, speciation, degradation products and physical and chemical conditions on-site which may affect how contaminants behave);</li> <li>(d) potential effects of contaminants on human health, including the health of occupants of built structures (for example arising from risks to service lines from hydrocarbons in groundwater, or risks to concrete from acid sulphate soils) and the environment;</li> <li>(e) potential and actual contaminant migration routes including potential preferential pathways;</li> <li>(f) the adequacy and completeness of all information available for use in the assessment of risk and for making decisions on management requirements, including an assessment of uncertainty;</li> <li>(g) the review and update of the conceptual site model from the preliminary and detailed site investigations;</li> <li>(h) nature and extent of any existing remediation (such as impervious surface cappings); and/or;</li> <li>(i) whether the land is suitable (for the intended final land use) or can be made suitable through remediation.</li> </ul>	Not applicable, the work will not require the preparation of a Detailed Site Investigation Report (refer above to CoA E115).
E118	Should remediation be required to make land suitable for the final intended land use, a Remediation Action Plan must be prepared or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil	Not applicable, the work will not require remediation (refer above to CoA E115), unless this condition is triggered by unexpected finds.

CoA No.	Condition requirements	Document reference
	<p>Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.</p> <p>The Remedial Action Plan must be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997 and must include measures to remediate the contamination at the site to ensure the site will be suitable for the proposed use when the Remedial Action Plan is implemented. The Remedial Action Plan must be submitted to the Planning Secretary for information prior to undertaking remediation.</p>	
E119	<p>The Remediation Action Plan must include measures to remediate the contamination at the site to ensure the site will be suitable for the proposed use and detail how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil/sediment or groundwater.</p> <p>Nothing in this condition prevents the preparation of individual Remediation Action Plans for separate sites.</p>	Not applicable, the work will not require remediation (refer above to CoA E115), unless this condition is triggered by unexpected finds.
E120	<p>Prior to commencing remediation, a Section B Site Audit Statement(s) must be prepared by a NSW EPA-accredited Site Auditor that certifies that the Remediation Action Plan is appropriate and that the site can be made suitable for the proposed use. The Remedial Action Plan must be implemented and any changes to the Remedial Action Plan must be approved in writing by the NSW EPA accredited Site Auditor.</p> <p>Nothing in this condition prevents the Proponent from engaging the Site Auditor to prepare Site Audit Statements for separate sites.</p>	Not applicable, the work will not require remediation nor a Section B Site Audit Statement(s) (refer above to CoA E115), unless this condition is triggered by unexpected finds.
E121	<p>A Section A1 or A2 Site Audit Statement (accompanied by an Environmental Management Plan) and its accompanying Site Audit Report, which state that the contaminated land disturbed by the work has been made suitable for the intended land use, must be submitted to the Planning Secretary and Council after remediation and no later than prior to the commencement of operation of the CSSI.</p> <p>Nothing in this condition prevents the Proponent from obtaining Section A Site Audit Statements for individual parcels of remediated land.</p>	Not applicable, the work will not require a Section A1 or A2 Site Audit Statement (refer above to CoA E115), unless this condition is triggered by unexpected finds.

CoA No.	Condition requirements	Document reference
E122	Contaminated land must not be used for the purpose approved under the terms of this approval until a Section A1 or A2 Site Audit Statement is obtained which states that the land is suitable for that purpose and any conditions on the Section A Site Audit Statement have been complied with.	Not applicable, the work will not be located on contaminated land (refer above to CoA E115), unless this condition is triggered by unexpected finds.
E123	An Unexpected Finds Procedure for Contamination must be prepared before the commencement of work and must be followed should unexpected contamination or asbestos (or suspected contamination) be excavated or otherwise discovered. The procedure must include details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved. The procedure must be submitted to the Planning Secretary for information.	Soil and Water Management Procedure
E124	The Unexpected Finds Procedure for Contamination must be implemented throughout construction.	Soil and Water Management Procedure
<b>Place Design and Visual Amenity</b>		
E155	The CSSI must be constructed in a manner that minimises visual impacts of construction sites, including providing temporary landscaping and vegetative screening of the construction sites, minimising light spill, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located.	Section 1.3.1 Section 1.3.2

CoA No.	Condition requirements	Document reference
<b>Lighting and Security</b>		
E163	The Proponent must construct and operate the CSSI with the objective of minimising light spillage to surrounding properties. All lighting associated with the construction and operation of the CSSI must be consistent with the requirements of <i>AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting</i> and relevant Australian Standards in the series <i>AS/NZ 1158 – Lighting for Roads and Public Spaces</i> . Additionally, the Proponent must provide mitigation measures to manage any residual night lighting impacts to protect properties adjoining or adjacent to the CSSI, in consultation with affected landowners.	Section 1.3.2
<b>Waste</b>		
E201	Waste generated during construction and operation must be dealt with in accordance with 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.	Waste and Resource Use Management Procedure
E202	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the conditions of the current EPL for the CSSI, or be done in accordance with a Resource Recovery Exemption or Order issued under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> , as the case may be.	Waste and Resource Use Management Procedure

CoA No.	Condition requirements	Document reference
E203	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 <i>Protection of the Environment Operations (Waste) Regulation 2014</i> , or to any other place that can lawfully accept such waste.	Waste and Resource Use Management Procedure
E205	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Waste and Resource Use Management Procedure
<b>Construction Requirements</b>		
E207	The Proponent must consider the Guidelines for controlled activities on waterfront land Riparian corridors (Department of Industry 2018) when carrying out work within 40 metres of a watercourse, including its bed.	Not applicable, the work will not occur within 40m of a watercourse, including its bed



## Revised Environmental Management Measures

REMMs No.	REMMs requirements	Document reference
<b>Air Quality</b>		
AQ1	<p>Standard construction air quality mitigation and management measures will be detailed in construction management documentation and implemented during construction, such as:</p> <ul style="list-style-type: none"> <li>a) Reasonable and feasible dust suppression and/or management measures, including the use of water carts, dust sweepers, sprinklers, dust screens, site exit controls (eg wheel washing systems and rumble grids), stabilisation of exposed areas or stockpiles, and surface treatments</li> <li>b) Selection of construction equipment and/or materials handling techniques that minimise the potential for dust generation</li> <li>c) Management measures to minimise dust generation during the transfer, handling and on site storage of spoil and construction materials (such as sand, aggregates or fine materials) (eg the covering of vehicle loads)</li> <li>d) Adjustment or management of dust generating activities during unfavourable weather conditions, where possible</li> <li>e) Minimisation of exposed areas during construction</li> <li>f) Management measures for managing unexpected odour generation likely to result in odour impacts at sensitive receivers in the vicinity during the disturbance, handling and storage of potentially odorous materials, including any contingency measures</li> <li>g) Internal project communication protocols to ensure dust-generating activities in the same area are coordinated and mitigated to manage cumulative dust impacts of the project</li> <li>h) Site inspections will be carried out to monitor compliance with implemented measures.</li> </ul>	Air Quality and Odour Management Procedure

REMMs No.	REMMs requirements	Document reference
AQ2	Dust and air quality complaints will be managed in accordance with the overarching complaints handling process for the project. Appropriate corrective actions; if required, will be taken to reduce emissions in a timely manner.	Air Quality and Odour Management Procedure
<b>Biodiversity</b>		
B1	Vegetation removal including the clearing of native vegetation and fauna habitat will be further minimised, where feasible and reasonable.	Flora and Fauna Management Procedure
B2	Vegetation removal will be carried out in accordance with Guide 4: Clearing of vegetation and removal of bushrock of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Flora and Fauna Management Procedure
B3	The unexpected species find procedure included in Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) will be followed if threatened ecological communities, flora or fauna species, not assessed in the biodiversity assessment, are identified in the construction footprint.	Flora and Fauna Management Procedure
B5	Pre-clearing surveys for threatened flora species will be carried out in accordance with Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Flora and Fauna Management Procedure
B10	Fauna will be managed in accordance with Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Flora and Fauna Management Procedure
B11	Pre-clearing surveys will be undertaken in accordance with Guide 1: Preclearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Flora and Fauna Management Procedure
B14	Weed species will be managed in accordance with Guide 6: Weed management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Flora and Fauna Management Procedure

REMMs No.	REMMs requirements	Document reference
B15	Pathogens will be managed in accordance with Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Flora and Fauna Management Procedure
<b>Aboriginal Cultural Heritage</b>		
AH5	If at any time during construction of the project, any items of potential Aboriginal archaeological or cultural heritage conservation significance or human remains are discovered they will be managed in accordance with the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime, 2015).	Heritage Management Procedure
AH6	Cultural and historic heritage awareness training will be carried out for personnel engaged in work that may impact heritage items before commencing works for the project.	Heritage Management Procedure
<b>Non-Aboriginal Heritage</b>		
NAH10	If at any time during construction of the project, historical heritage materials, features and/or deposits are encountered during construction, the Roads and Maritime Services Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime, 2015) will be followed.	Heritage Management Procedure
NAH11	In the event that construction of the project reveals possible human skeletal material (remains), Standard Management Procedures – Unexpected Heritage Items (Roads and Maritime, 2015) will be implemented.	Heritage Management Procedure
NAH12	Non-Aboriginal historical heritage awareness training will be provided for contractors prior to commencement of construction works to ensure understanding of potential heritage items that may be impacted during the project, and the procedure required to be carried out in the event of discovery of historical heritage materials, features or deposits, or the discovery of human remains.	Heritage Management Procedure

REMMs No.	REMMs requirements	Document reference
<b>Geology, Soils and Groundwater</b>		
SG5	Erosion and Sediment measures will be implemented at all work sites in accordance with the principles and requirements in 'Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004) and Volume 2D (NSW Department of Environment, Climate Change, 2008), commonly referred to as the 'Blue Book'.	Soil and Water Management Procedure
SG6	<p>Potentially contaminated areas directly affected by the project will be investigated and managed in accordance with the requirements of guidance endorsed under section 105 of the Contaminated Land Management Act 2008.</p> <p>This includes, but is not limited to, further investigations in potential areas of environment interest in the project footprint, including:</p> <ul style="list-style-type: none"> <li>• Easton Park</li> <li>• Birchgrove peninsula (including Yurulbin Park)</li> <li>• Balls Head peninsula</li> <li>• Waverton Park</li> <li>• Warringah Freeway (from North Sydney to Cammeray).</li> </ul> <p>Subject to the outcomes of the investigations, a Remediation Action Plan will be implemented in the event that site remediation is warranted prior to construction.</p> <p>The Remediation Action Plan will be prepared and implemented in accordance with Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (Department of Urban Affairs and Planning and EPA, 1998).</p> <p>An independent NSW EPA Accredited site Auditor will be engaged where contamination is complex to review applicable all contamination reports and evaluate the suitability of sites for a specified use as part of the project.</p>	Soil and Water Management Procedure
SG7	Any soil/fill materials surplus to construction will be classified in accordance with the NSW EPA (2014a) Waste Classification Guidelines.	Waste and Resource Use Management Procedure

REMMs No.	REMMs requirements	Document reference
SG8	Asbestos handling and management will be carried out in accordance with relevant legislation, codes of practice and Australian standards.	Waste and Resource Use Management Procedure
SG10	The Construction Waste Management Plan for the project will include procedures for handling and storing potentially contaminated substances.	Waste and Resource Use Management Procedure Soil and Water Management Procedure
SG11	The discovery of previously unidentified contaminated material will be managed in accordance with an unexpected contaminated lands discovery procedure, as outlined in the Guideline for the Management of Contamination (Roads and Maritime, 2013).	Soil and Water Management Procedure
SG23	Emergency Spill measures procedures will be developed to avoid and manage accidental spillages of fuels, chemicals, and fluids to minimise the risk of human health impacts and contamination of groundwater.	Soil and Water Management Procedure
<b>Hydrodynamics and Water Quality</b>		
WQ1	Erosion and sediment measures will be implemented at all work sites and surface road upgrades in accordance with the principles and requirements in Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), Managing Urban Stormwater: Volume 2D Main Road Construction (NSW Department of Environment, Climate Change and Water, 2008) and relevant guidelines, procedures and specifications of Transport for NSW. A soil conservation specialist will be engaged by both Transport for NSW and the Contractor for the duration of construction of the project to provide advice regarding erosion and sediment control including review of Erosion and Sediment Control Plans (ESCPs).	Soil and Water Management Procedure
WQ2	Emergency spill procedures will be developed to avoid and manage accidental spillages of fuels, chemicals or fluids during construction.	Soil and Water Management Procedure

REMMs No.	REMMs requirements	Document reference
<b>Resource Use and Waste Management</b>		
WM1	Construction materials will be sourced in accordance with the project's Sustainability Framework and with a preference for Australian materials and prefabricated products with low embodied energy, where feasible and reasonable.	Waste and Resource Use Management Procedure
WM2	The resource management hierarchy principles established under the <i>Waste Avoidance and Recovery Act 2001</i> of avoid/reduce/reuse/recycle/dispose will be applied.	Waste and Resource Use Management Procedure
WM3	Wastes for land disposal will be classified in accordance with the NSW Environment Protection Authority Waste Classification Guidelines: Part 1 Classifying Waste.	Waste and Resource Use Management Procedure
WM4	Wastes will be appropriately transported, stored and handled according to their waste classification and in a manner that prevents pollution of the surrounding environment.	Waste and Resource Use Management Procedure

## Appendix A3 Legal requirements and compliance tracking

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<b>General</b>					
<i>Environmental Planning and Assessment Act, 1979 (EP&amp;A Act)</i>	All	<p>The Project has been declared Critical State Significant Infrastructure (CSSI) by virtue of Schedule 3, clause 1(1) of <i>State Environmental Planning Policy (State and Regional Development) 2011</i>.</p> <p>Comply with the terms Minister for Planning and Public Places' approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.</p>	S5.13 S5.14	Yes	Section 1.1
<i>Environmental Planning and Assessment Act, 1979 (EP&amp;A Act)</i>	All	Environmental assessment and public consultation, including a preferred infrastructure report that outlines any proposed changes to the CSSI.	S5.17	Yes	Section 1.1 Section 2
<i>Environmental Planning and Assessment Act, 1979 (EP&amp;A Act)</i>	All	<ul style="list-style-type: none"> <li>• Application of other provisions of the <i>EP&amp;A Act</i></li> <li>• Approvals and legislation that does not apply</li> <li>• Approvals and legislation that must be applied consistently</li> </ul>	S5.22 S5.23 S5.24	Yes	Appendix A3 Section 3.1.2
<i>Environmental Planning and Assessment Act, 1979 (EP&amp;A Act)</i>	All	The proponent may request the Minister to modify the Minister's approval for CSSI, which should be lodged with the Planning Secretary.	S5.25	Yes	Section 3.12.2
<i>Protection of the Environment Operations Act 1997</i>	Environmental protection	<p>Do not risk harming the environment by wilfully or negligently:</p> <ul style="list-style-type: none"> <li>• Disposing of waste unlawfully</li> </ul>	S115 S116 S117	Yes	Waste and Resource Use Management Procedure

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		<ul style="list-style-type: none"> <li>Causing any substance to leak, spill or otherwise escape (whether or not from a container) or</li> <li>Emitting an ozone depleting substance.</li> </ul>			Soil and Water Quality Management Procedure Air Quality and Odour Management Procedure
<i>Roads Act 1993</i>	Road work	Requires the consent of the appropriate road authority for carrying out work on, or disturbing, the surface of a public road. Where the proponent is a public authority, the roads authority must consult with the applicant before making a decision.	S138	Yes	TTAMP
<b>Water</b>					
<i>Water Management Act 2000</i>  With the exception of controlled activity approvals, the <i>Water Management Act 2000</i> (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	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 of water on land (unless supplied by a water utility, irrigation corporation etc or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S90 S91A	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.



Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Water Management Act 2000</i>	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	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
<i>Water Management Act 2000</i>	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  Public authorities are exempt from the need to obtain a controlled activity approval.  <i>Water Management (General) Regulation 2011</i> (cl.38)	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
<i>Water Management Act 2000</i>	Activity approvals	An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.	S91(3)	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
<i>Water Act 1912</i> Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i> (WM Act).	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water	S21B	Yes	Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i> and does not apply to areas of the state where water sharing plans are in place. Groundwater and surface water within and

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.					near the Project are covered by the following Water Sharing Plans: Water Sharing Plan, Greater Metropolitan Region Groundwater Sources (NoW 2011).
<i>Sydney Water Act 1994</i>	Wastewater	Approval to discharge wastewater to sewer and Trade Waste Agreement	S49	Yes	Soil and Water Management Procedure
<i>Sydney Water Regulation 1994</i>	Plumbing and drainage	Permit required to do plumbing or drainage work, which includes connection to a stormwater drain	S18	Yes	Soil and Water Management Procedure
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of an Environment Protection Licence.	S120 S122	Yes	Soil and Water Management Procedure
<b>Noise</b>					
<i>Protection of the Environment Operations Act 1997</i>	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes	Noise and Vibration Management Plan (NVMP)
<i>Protection of the Environment Operations Act 1997</i>	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes	NVMP
<i>Protection of the Environment Operations (Noise</i>	Marine vessels – offensive noise and	As owner or captain, do not allow a vessel to be used on navigable waters so as to emit offensive noise.	cl. 30-31 cl. 32	NA	NVMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Control) Regulation 2008</i>	noise control equipment	Do not use a vessel on navigable waters if its noise control equipment is defective.			
<b>Contamination</b>					
<i>Protection of the Environment Operations Act 1997</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However, it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Yes	Soil and Water Management Procedure
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	<p>Notify the EPA if;</p> <ul style="list-style-type: none"> <li>Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water.</li> <li>Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land.</li> <li>Contamination meets other criteria that may be prescribed by the regulations.</li> </ul>	S60	Yes	Soil and Water Management Procedure
<b>Biodiversity</b>					
<i>Biodiversity Conservation Act 2016</i>	Fauna	Do not harm any animal that is; of a threatened species, that is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Yes	Flora and Fauna Management Procedure

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Biodiversity Conservation Act 2016</i>	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g., planning approval).	S2.4 S2.8	Yes	Flora and Fauna Management Procedure
<i>Biodiversity Conservation Act 2016</i>	Biodiversity	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g., planning approval).	S2.3 S2.8	Yes	Flora and Fauna Management Procedure
<i>Biodiversity Conservation Act 2016</i>	Flora	Do not pick a plant that is; of a threatened species, that is part of a threatened ecological community or is a protected plant, unless authorised under other legislation (e.g., planning approval).	S2.2 S2.8	Yes	Flora and Fauna Management Procedure
<i>Biosecurity Act 2015</i>	Biosecurity matters including pests, disease and weeds	The duty to prevent, eliminate and minimise biosecurity risks posed by biosecurity matters as defined by the Act.	S22	Yes	Flora and Fauna Management Procedure
<i>Biosecurity Regulation 2017</i>	Pests and Diseases	Notify the presence any pest or disease listed in Schedule 1 of the <i>Biosecurity Regulation 2014</i> , within 1 working day after suspecting or becoming aware of the pest or disease.	Regulation cl.7 Schedule 1	Yes	Flora and Fauna Management Procedure
<i>Fisheries Management Act 1994</i>	Dredging or reclamation	Provide the Minister for Primary Industries 28 days' notice of planned dredging or reclamation work.	S199	Yes	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
<i>Fisheries Management Act 1994</i>	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Fisheries Management Act 1994</i>	Fish passage	Do not block fish passage without a permit	S219	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
<i>Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)</i>	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes	Flora and Fauna Management Procedure
<b>Air Quality</b>					
<i>Protection of the Environment Operations Act 1997</i>	Air quality	Do not operate plant which emits air pollution caused by poor maintenance or operation	S124	Yes	Air Quality and Odour Management Procedure
		Do not cause or neglect to prevent air pollution (e.g., dust exceeding reasonable levels without active management measures in place)	S126	Yes	Air Quality and Odour Management Procedure
		Do not cause or permit the emission of an offensive odour	S129	Yes	Air Quality and Odour Management Procedure
<i>Protection of the Environment Operations (Clean Air) Regulation 2002</i>	Air quality	Excessive impurities are visible for a continuous period of more than 10 seconds.	S15	Yes	Air Quality and Odour Management Procedure
		Air emission concentrations for scheduled premises.	Schedule 4	Yes	Air Quality and Odour Management Procedure
<b>Waste</b>					
<i>Protection of the Environment Operations Act 1997</i>	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle.  Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises.	Part 5.6A	Yes	Waste and Resource Use Management Procedure Community Communication Strategy (CCS)

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		Do not deposit advertising material on or in vehicles.			
<i>Protection of the Environment Operations Act 1997</i>	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence.  A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: <ul style="list-style-type: none"> <li>• Is VENM.</li> <li>• Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas.</li> <li>• Is covered by a “general exemption”. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land.</li> <li>• A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.</li> </ul>	Part 3.2 Schedule 1	Yes	Waste and Resource Use Management Procedure
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes	Waste and Resource Use Management Procedure
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes	Waste and Resource Use Management Procedure
<i>Protection of the Environment</i>	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition	Regulation cl.49	Yes	Waste and Resource Management Procedure

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Operations (Waste) Regulation 2005</i>		and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.			
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes	Waste and Resource Use Management Procedure
<i>Waste Avoidance and Resource Recovery Act 2001</i>	Waste and transportation	Establish the waste hierarchy. Promotes waste avoidance and resources recovery by developing waste avoidance and resource recovery strategies.	-	Yes	Waste and Resource Use Management Procedure
<b>Heritage</b>					
<i>Heritage Act 1977</i>	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
		Notify the heritage Council on discovery of a relic	S146	Yes	Roads and Maritime Services Standard Management Procedure Unexpected Heritage Items (November 2015) (Unexpected Heritage Items Procedure)

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86	No	Heritage Management Procedure
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes	Heritage Management Procedure
		An Aboriginal heritage impact permit may be issued.	S90	No	Under the <i>EP&amp;A Act</i> , the Project is exempt from this requirement.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes	Heritage Management Procedure
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes	Heritage Management Procedure
<b>Traffic</b>					
<i>Transport Administration Act 2988</i>	Traffic management	Comply with the functions of Roads and Maritime relating to traffic management and safety.	S52A		TTAMP
<i>Road Rules 2014</i>	Use of roads	Establish the road rules that are applicable to vehicles and road users on roads in NSW.	-	Yes	TTAMP
		Provisions of <i>Road Rules 2014</i> not applicable to a person at the site of, and engaged in, roadworks.	310	Yes	TTAMP
<i>Roads Act 1993</i>	Use of roads	Obtain a Road Occupancy Licence prior to commencement of traffic related works that require access to roads.	S138	Yes	TTAMP



Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<b>Hazard and Risk</b>					
<i>Environmentally Hazardous Chemicals Act 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes	Section 3.1.2
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes	Soil and Water Management Procedure
<i>Pesticides Act 1999</i>	Hazards and risks	<p>Do not use an unregistered pesticide without a permit.</p> <p>Use pesticides in an environmentally sensitive manner.</p> <p>Read the label or permit for the pesticide.</p> <p>Use registered pesticides in accordance with instructions on the label.</p> <p>Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act.</p> <p>Compliance with pesticide codes of practice is required.</p>	<p>S12</p> <p>S13</p> <p>S14</p> <p>S15</p> <p>S17</p>	Yes	Flora and Fauna Management Procedure
<b>Incident Response</b>					
<i>Protection of the Environment Operations Act 1997</i>	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes	Section 3.7 Appendix A7
<i>Protection of the Environment Operations Act 1997</i>	Pre-emptive pollution/incident control	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices)	S167	Yes	Section 3.7 Soil and Water Management Procedure

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Local Government Act 1993</i>	Fire related incident	In the event of a fire related incident the project will comply with the requirements of the Act.	N/A	Yes	Section 3.7
<i>Rural Fires Act 1997</i>	Fire related incident	In the event of a fire related incident the project will comply with the requirements of the Act.	N/A	Yes	Section 3.7

*Other approvals and licences*

Approval / licence	Requirement	Relevant section of CEMP or supporting documentation
Road Occupancy Licences	Prior to commencement of traffic related works that require access to roads	Section 3.1.2

## Environmental Management Plan Guideline for Infrastructure Projects (DPIE, 2020)

### *Environmental Management Plan Guideline for Infrastructure Projects (DPIE, 2020)*

Requirement	Plan reference	Yes/No/Not applicable
<b>Document preparation and endorsement</b>		
Has the EMP been prepared in consultation with all relevant stakeholders as per the requirements of the conditions of consent? (Section 4.1)	Section 2	Yes
Have the views of the relevant stakeholders been taken into consideration? Have appropriate amendments been made to the EMP and does the EMP clearly identify the location of any changes? (Section 4.1)	Section 2	Yes
Has the EMP been internally approved by an authorised representative of the proponent or contractor? (Section 4.2)	Document Control Table	
<b>Version and content</b>		
Does the EMP describe the proponent's Environmental Management System (EMS) (if any), and identify how the EMP relates to other documents required by the conditions of consent? (Section 3.5.1)	Section 1.7	Yes
Does the EMP include the required general content and version control information? (Section 3.1)	Version Control Table	Yes
Does the EMP have an introduction that describes the project, scope of works, site location and any staging or timing considerations? (Section 3.2)	Section 1	Yes
Does the EMP reference the project description? (Section 3.3)	Section 1.2	Yes
Does the EMP reference a Community and Stakeholder Engagement Plan (or similar) or include community and stakeholder engagement actions (if required)? (Section 3.4)	Section 3.6	Yes
Have all other relevant approvals been identified? Has appropriate information been provided regarding how each approval is relevant? (Section 4)	Section 3.1.2	Yes
Has the environmental management structure and responsibilities been included? (Section 3.5.2)	Section 3.2	Yes

Requirement	Plan reference	Yes/No/Not applicable
Does the EMP include processes for training of project personnel and identify how training and awareness needs will be identified? (Section 3.5.3)	Section 3.5	Yes
Does the EMP clearly identify the relevant legal and compliance requirements that relate to the EMP? (Section 3.5.3)	Section 3.1.2 Appendix A3	Yes
Does the EMP include all the conditions of consent to be addressed by the EMP and identify where in the EMP each requirement has been addressed? (Section 3.5.13)	Section 3.1.2 Appendix A2	Yes
Have all relevant guidelines, policies and standards been identified, including details of how they are relevant? (Section 3.5)	Section 3.1.2 Appendix A3	Yes
Is the process that will be adopted to identify and analyse the environmental risks included? (Section 3.5.5)	Section 3.1.1	Yes
Have all the environmental management measures in the EIA been directly reproduced into the EMP? (Section 3.5.7)	Sub-Plans and procedures Appendices B1 to B7	Yes
Have any additional environmental management measures been included in the EMP? (Section 3.5.7)	Sub-Plans and procedures Appendices B1-B7	Yes
Have environmental management measures been written in committed language? (Section 3.5.7)	Sub-Plans and procedures Appendices B1-B7	Yes
Have project environmental management measures, including hold points, been identified and included? (Section 3.5.6)	Sub-Plans and procedures Appendices B1-B7	Yes
Are relevant details of environmental monitoring that will be carried out included? (Section 3.5.8)	Section 3.9.2 Sub-Plans and procedures Appendices B1-B7	Yes

Requirement	Plan reference	Yes/No/Not applicable
Have the components of any environmental monitoring programs been incorporated? (Section 3.5.8)	Sub-Plans and procedures Appendices B1-B7	Yes
Are environmental inspections included? (Section 3.5.9)	Section 3.9.1	Yes
Does the EMP document all relevant compliance monitoring and reporting requirements for the project? (Section 3.5.12 and 3.5.13)	Section 3.9	Yes
Does the EMP describe the types of plans or maps (such as environmental control maps) that will be used to assist with the management of environmental matters on site? (Section 3.5.10)	Section 3.1.4 Appendix A6	Yes
Does the EMP list environmental management documents? (Section 3.5.11)	Section 1.7	Yes
Is an auditing program referenced? (Section 3.5.13)	Section 3.9.3	Yes
Does the EMP include the incident notification and reporting protocols that comply with the relevant conditions of consent? (Section 3.5.15)	Section 3.7	Yes
Does the EMP identify the project role/position that is responsible for deciding whether an occurrence is an incident? (Section 3.5.15)	Section 3.2	Yes
Does the EMP describe a corrective and preventative action process that addresses the requirements? (Section 3.5.16)	Section 3.8	Yes
Does the EMP include details of a review and revision process that complies with the requirements? (Section 3.6)	Sections 3.11 and 3.12	Yes

## **Appendix A4      Environmental aspects and impacts**

# Appendix A4 – Aspects and Impacts Register

This Environmental Aspects and Impacts Register has been prepared by the Transport for New South Wales (TfNSW), to supplement the Environmental Risk Analysis conducted as part of the Environmental Assessment (EA).

The identification of significant construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards.

The risk management process involved an assessment of all specific project activities/aspects in or near environmentally sensitive areas and resulted in the development of a list of environmental risks (effects and impacts) and a corresponding risk mitigation strategy and risk ranking. Each environmental risk was categorised, based on the following:

- The environmental aspect
- Relative scale of the potential impact
- Type of potential impact
- Likelihood of occurrence.

The identification of risks included a review of the proposed works, the CoA, EMM, and review of the environmental risks identified by the EA and subsequent Response to Submissions Report.

THIS PAGE IS LEFT INTENTIONALLY BLANK



**Table 1 Risk assessment matrix**

Risk Analysis Risk Classification = Consequence x Likelihood		LIKELIHOOD				
		5 Very high*	4 High*	3 Medium*	2 Low*	1 Very low*
		Almost certain to happen i.e. could occur daily or more frequently	Strong anecdotal evidence that it is likely to occur in the identified circumstances without any controls in place;	May occur in the identified circumstances without any controls in place	Could occur at some time in the identified circumstances without any controls in place but not expected;	Highly unlikely to occur in the identified circumstances without any controls in place
<b>CONSEQUENCE</b>	5 Very large Major irreversible environmental harm on-site and/or off-site damage.	25 Critical	20 Significant	15 Significant	10 Moderate	5 Minor
	4 Large Major on-site and/or off-site impacts with clean up or remedy requires significant effort	20 Significant	16 Significant	12 Moderate	8 Minor	4 Minor
	3 Medium Moderate on-site and/or off-site impacts (but no significant irreversible damage) with clean up or remedy work incurring a moderate level of effort	15 Significant	12 Moderate	9 Moderate	6 Minor	3 Minor
	2 Small Treatable on-site impact with clean up or remedy work incurring a small level of effort.	10 Moderate	8 Minor	6 Minor	4 Minor	2 Negligible
	1 Very small Reversible and insignificant environmental impact.	5 Minor	4 Minor	3 Minor	2 Negligible	1 Negligible

**Table 1: Aspect and impact register**

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
Air Quality	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Cutting of rock face to create slots (recess) for piles</li> <li>Removal of existing noise barrier</li> <li>Installation of new noise barrier</li> <li>Landscaping/rehabilitation work</li> </ul>	<ul style="list-style-type: none"> <li>Generation of dust due to cutting/grinding/sawing equipment, material /waste/spoil handling; and generation of exhaust emissions due to inappropriate plant maintenance</li> <li>Generation and mobilisation of dust impacting receivers including residents, businesses, and vegetation</li> </ul>	8 (minor)	<p>Direct:</p> <ul style="list-style-type: none"> <li>Construction activities with the potential to generate dust will be modified or ceased during unfavourable weather conditions to reduce the potential for dust generation</li> <li>Access roads within Project sites will be maintained and managed to reduce dust generation (including the use of a street sweeper where appropriate)</li> <li>Storage of materials that have the potential to result in dust generation will be minimised within Project sites at all times</li> <li>During high wind and/or dry conditions, programming of dust generating activities is to be considered in order to reduce nuisance to neighbouring properties</li> <li>Demolition activities will be planned and carried out to minimise the potential for dust generation</li> <li>Adequate dust suppression will be applied during all demolition/rock cutting and excavation works required to facilitate the Project</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the Air Quality and Odour Management Procedure (AQOMP)</li> </ul>	6 (minor)	Air Quality and Odour Management Procedure (AQOMP)
Biodiversity	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Removal of existing noise barrier</li> <li>Installation of new noise barrier</li> <li>Vegetation clearance</li> </ul>	<p>Clearing outside of an approved area, including:</p> <ul style="list-style-type: none"> <li>Accidental clearing outside of the project boundaries</li> <li>Accidental clearing beyond the requirements of the Project Approval</li> <li>Accidental lopping of trees and/or damage to tree roots</li> <li>Accidental clearing of threatened species or threatened ecological communities outside of the project boundary</li> </ul>	8 (minor)	<p>Direct:</p> <ul style="list-style-type: none"> <li>Toolbox talks regarding clearing limits</li> <li>Clearly delineate the Project footprint prior to clearing</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Engage an arborist to supervise works where impact or damage to tree roots is probable</li> <li>Provide tree protection where required at the direction of the arborist</li> <li>Other measures outlined in the Flora and Fauna Management Procedure (FFMP)</li> </ul>	6 (minor)	Flora and Fauna Management Procedure (FFMP)
		Spreading of weeds in stockpiled material	8 (minor)	<p>Direct:</p> <ul style="list-style-type: none"> <li>Implement a weed management procedure.</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the FFMP</li> </ul>	6 (minor)	Weed Management Procedure (within FFMP)
Contamination	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> </ul>	Contamination of soil or water from spill or leak of dangerous or hazardous materials from plant / equipment	10 (moderate)	<p>Direct:</p> <ul style="list-style-type: none"> <li>The use of any hazardous substance that could result in a spill will be undertaken away from drainage or stormwater lines and, wherever possible, within defined bunds</li> <li>Any refuelling undertaken on site shall be undertaken in designated areas only, and well away from stormwater system inlets</li> <li>All spills or leakages will be immediately contained and absorbed</li> </ul>	3 (minor)	Soil and Water Management Procedure (SWMP)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
	<ul style="list-style-type: none"> <li>Removal of existing noise barrier</li> <li>Installation of new noise barrier</li> </ul>			<ul style="list-style-type: none"> <li>Spill containment kits will be placed at locations where there is direct discharge of stormwater to receiving waterways</li> </ul> Indirect: <ul style="list-style-type: none"> <li>Other measures outlined in the Soil and Water Management Procedure (SWMP)</li> </ul>		
		Exposure to unidentified contaminated materials during works, causing program delays and injuries and health concerns	10 (moderate)	Direct: <ul style="list-style-type: none"> <li>Induct construction personnel in the identification and management of previously unidentified contaminated sites.</li> <li>The discovery of previously unidentified contaminated material will be managed in accordance with an unexpected contaminated lands finds procedure. The procedure will include:               <ul style="list-style-type: none"> <li>Cease work in the vicinity</li> <li>Initial assessment by an appropriately qualified environmental consultant</li> <li>Further assessment and management of contamination, if confirmed, in accordance with Section 105 of the CLM Act</li> </ul> </li> </ul> Indirect: <ul style="list-style-type: none"> <li>Other measures outlined in the Unexpected Contaminated Land Finds Procedure</li> </ul>	8 (minor)	Unexpected Contaminated Land Finds Procedure (within SWMP)
Heritage	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Removal of existing noise barrier</li> <li>Installation of new noise barrier</li> </ul>	Disturbance or damage of unidentified Aboriginal heritage artefact	4 (minor)	Direct: <ul style="list-style-type: none"> <li>All on site personnel will be provided with site training in regard to Aboriginal cultural heritage site awareness, key mitigation and management requirements and their responsibilities pertaining to the Aboriginal Heritage provisions of the NPW Act 1974 (NSW) prior to construction commencing. Training will include unexpected heritage finds procedures for heritage items, objects and human remains.</li> <li>Implement Unexpected Heritage Finds and Human Remains Procedure</li> </ul> Indirect: <ul style="list-style-type: none"> <li>Other measures outlined in the Heritage Management Procedure (HMP)</li> </ul>	3 (minor)	Heritage Management Procedure (HMP)  Unexpected Heritage Finds and Human Remains Procedure (within HMP)
		Disturbance or damage of non-Aboriginal heritage items including: <ul style="list-style-type: none"> <li>Cammeray Conservation Area at Cammeray</li> <li>Heritage House (I0002) at 11 Armstrong Street, Cammeray</li> <li>Heritage House (I0023) at 280 West Street, Cammeray</li> <li>Tarella, Cammeray</li> </ul>	9 (moderate)	Direct: <ul style="list-style-type: none"> <li>Any excavations, intrusive works or other operations that have the potential to impact areas of known heritage, cultural or archaeological items must ensure works are performed in accordance with a heritage assessment and regulatory requirements (which may include a dilapidation survey and/or supervision of works by a competent person and/or vibration monitoring)</li> <li>Any such areas should be signposted and segregated by the erection of physical barriers to prevent authorised entry</li> <li>Implementation of Noise and Vibration Management Plan to minimise the risk of structural damage to any heritage item (note – all heritage items are outside the buffer zone for vibration impacts)</li> </ul> Indirect: <ul style="list-style-type: none"> <li>Other measures outlined in the HMP and the CNVMP</li> </ul>	6 (minor)	HMP CNVMP
Noise and Vibration	<ul style="list-style-type: none"> <li>General construction activities</li> </ul>	Noise and vibration impacts on nearby receivers, including out of hours impacts resulting in	15 (significant)	Direct:	9 (moderate)	Noise and Vibration Management Plan (NVMP)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
	<ul style="list-style-type: none"> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Removal of existing noise barrier</li> <li>Installation of noise barrier</li> </ul>	structural damage or community complaints		<ul style="list-style-type: none"> <li>All on site personnel will undergo a site induction and ongoing toolbox talks that will detail noise and vibration requirements from this plan through inductions, toolboxes and targeted training</li> <li>Noise and vibration monitoring undertaken in accordance with the Project's Construction Noise and Vibration Monitoring Program</li> <li>The safe working distances for vibration intensive plant would be complied with where feasible and reasonable. This would include the consideration of smaller equipment when working in close proximity to existing structures</li> <li>Erection of temporary noise walls</li> <li>Community liaison and notification</li> <li>Provision of respite and alternative accommodation where required</li> <li>Programming the works to minimise the duration of noisy works in any one particular location</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the NVMP and Construction Noise and Vibration Monitoring Program (NVMoP)</li> </ul>		Construction Noise and Vibration Monitoring Program (NVMoP)
		Noise disturbance due to works undertaken out of standard construction hours	15 (significant)	<ul style="list-style-type: none"> <li>Out of Hours Works are to be carried out in accordance with the Project's Out-of-Hours-Works Protocol and EPL</li> <li>Ensure OOHW are appropriately justified – safety or community requirement.</li> <li>Implement noise mitigation strategies for out of standard hours work as per OOHW Protocol.</li> <li>Monitor noise for compliance to project goals.</li> <li>Community notifications distributed.</li> </ul>	9 (moderate)	NVMP OOHW Protocol
Soil and Water	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Augering of piles</li> <li>Removal of existing noise barrier</li> <li>Installation of noise barrier</li> </ul>	Serious incidents, e.g., uncontrolled release of contaminated water, major fuel spill, that cause or threaten material harm to the environment	12 (moderate)	<p>Direct:</p> <ul style="list-style-type: none"> <li>Any washout areas will be adequately sized, regularly maintained, and located in designated covered areas. They will be outside of riparian areas and well away from stormwater system inlets in a position where wastewater will not enter any drainage lines or waterways</li> <li>The use of any hazardous substance that could result in a spill will be undertaken away from drainage or stormwater lines and, wherever possible, within defined bunds</li> <li>Any refuelling undertaken on site shall be undertaken in designated areas only, outside of riparian areas and well away from stormwater system inlets</li> <li>Spill containment kits will be placed at locations where there is direct discharge of stormwater to receiving waterways</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the SWP</li> </ul>	8 (minor)	SWMP
		Erosion and sedimentation impacts on downstream waterways due to exposed land, inadequate controls or failure of controls	12 (moderate)	<p>Direct:</p> <ul style="list-style-type: none"> <li>ESCPs will be prepared for all work and implemented in advance of site disturbance</li> <li>All on site personnel will undergo a site induction and ongoing toolbox talks that will detail erosion and sediment control management measures</li> </ul>	6 (minor)	SWMP ESCP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> <li>Further targeted training to key on site personnel</li> <li>EWMS will be prepared for high risk activities</li> <li>An experienced soil conservation specialist (CPESC) will be engaged to provide advice regarding erosion and sediment control</li> <li>Hardstand areas and surrounding public roads will be cleaned as required using methods such as brooms, bobcat attachments or street sweepers</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the SWP</li> </ul>		
Traffic	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Removal of existing noise barrier</li> <li>Installation of noise barrier</li> </ul>	Traffic and parking impacts due to increased number of construction vehicles, site access arrangements and vehicle movements	12 (significant)	<p>Direct:</p> <ul style="list-style-type: none"> <li>Designated haul routes for heavy vehicles</li> <li>Use of the virtual superintendent system</li> <li>Deployment of surveillance officers</li> <li>Utilisation of the traffic control centre</li> <li>Staff log-in at designated parking stations</li> <li>Limiting vehicle movements to designated entries and exits and haulage routes</li> <li>All on site personnel will undergo a site induction and ongoing toolbox talks that will detail traffic, transport and access management measures</li> <li>Communication and adherence to a Worker Code of Conduct</li> <li>Minimise construction vehicle parking on public roads</li> <li>Queuing and idling of construction vehicles in residential streets will be minimised</li> <li>Measures identified in the TTAMP will be implemented for each ancillary facility/construction compound which requires direct access/egress onto the local/arterial road network</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the TTAMP</li> <li>Local Roads Approval</li> <li>Construction Parking and Access Strategy (CPAS)</li> </ul>	9 (moderate)	Traffic, Transport and Access Management Plan (TTAMP)
Visual	<ul style="list-style-type: none"> <li>General construction activities</li> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Removal of existing noise barrier</li> <li>Installation of noise barrier</li> </ul>	Visual impacts on nearby receivers due to light spill, construction works, overshadowing	10 (moderate)	<p>Direct:</p> <ul style="list-style-type: none"> <li>Site establishment works will be conducted to minimise visual impacts. Where there is no noise wall or hoarding in place, boundary fencing will be installed to minimise visual, noise and air quality impacts on adjacent sensitive receivers</li> <li>Retention of existing vegetation or treatment of key temporary structures</li> <li>Minimise light spill from the project by directing construction lighting into the construction areas and ensuring the site is not over-lit</li> </ul>	8 (minor)	CEMP and Sub-plans
Waste	<ul style="list-style-type: none"> <li>General construction activities</li> </ul>	Inappropriate disposal of waste (including demolition, vegetation and hazardous / special waste) or disposal at an unlicensed waste facility	12 (moderate)	<p>Direct:</p> <ul style="list-style-type: none"> <li>All on site personnel will undergo a site induction and ongoing toolbox talks that will detail waste and resource management measures</li> </ul>	6 (minor)	Waste and Resource Use Management Procedure (WRUMP) FFMP SWMP



Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
	<ul style="list-style-type: none"> <li>Excavation and civil works, including backfilling, temporary and permanent reinstatement works</li> <li>Removal of existing noise barrier</li> <li>Installation of noise barrier</li> </ul>			<ul style="list-style-type: none"> <li>Vegetation disposal in accordance with the FFMP and Weed Management Protocol</li> <li>HAZMAT surveys and removal of asbestos prior to demolition activities</li> <li>Waste classification in accordance with EPA guidelines</li> <li>Suitably licensed waste contractors will be used for the collection and transport of all non-domestic, retail and commercial wastes for either offsite processing and/or disposal to an appropriately licensed facility.</li> <li>Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes</li> <li>Waste tracking register</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the Waste and Resource Use Management Procedure (WRUMP), SWMP and FFMP</li> </ul>		
		Litter, inappropriate use of co-mingling and waste receptacles	4 (minor)	<p>Direct:</p> <ul style="list-style-type: none"> <li>All staff and subcontractors will undergo a site induction and ongoing toolbox talks that will detail waste and resource management measures (including the waste management hierarchy) and energy consumption</li> <li>All recyclable solid wastes (paper/ cardboard/ plastic/ glass/ timber/ metals/ fluorescent lighting/ printer cartridges/ICT equipment) will be segregated for recycling purposes and volumes reported. Wherever possible, packaging should be avoided or minimised to prevent waste products being unnecessarily brought onto an operation</li> </ul> <p>Indirect:</p> <ul style="list-style-type: none"> <li>Other measures outlined in the Sustainability Management Plan and WRUMP</li> </ul>	2 (negligible)	WRUMP

## **Appendix A5      Environment and Sustainability policy**

# Transport Environment and Sustainability Policy

**Transport is a key enabler of economic and social activity. We are committed to delivering transport which contributes to economic prosperity and social inclusion in an environmentally responsible and sustainable manner, consistent with the Future Transport Strategy 2056.**

Transport for NSW's activities cover the whole State and its infrastructure will last for generations to come. We have a duty to undertake our activities in the interest of the greater good, moving beyond compliance, and being a genuine leader in environment and sustainability performance.

## **We will work towards achieving this for NSW by:**

- Leadership – contributing to and influencing the strategic environment and sustainability agenda of the NSW Government
- Environmental protection – being accountable for addressing and minimising the environmental impacts of our activities to satisfy the expectations and legislative requirements of the NSW Government and community
- Energy and carbon – improving energy efficiency and working towards net zero carbon emissions
- Resilience – embedding climate risk and resilience considerations in our activities
- Sustainable procurement – procuring and delivering sustainable, efficient and cost effective transport options, including responsible supply chains
- Whole of life – considering whole of life benefits and impacts from our activities across all life cycle stages - demand/need, plan, acquire, operate/maintain and disposal
- Social – recognising the social impacts and benefits of our activities, and working for healthy liveable communities
- Awareness – raising the awareness and capacity of our workforce to be accountable for implementing the Policy through their activities to achieve enhanced environmental outcomes and a culture of environmental responsibility
- Communication – communicating openly, responsively and empathetically with our customers, partners and stakeholders on environmental matters and report on our performance

## **This Policy applies to the agencies listed below:**

- Transport for NSW
- Department of Transport
- Sydney Trains
- NSW Trains
- RailCorp
- State Transit Authority
- Sydney Metro

This Policy applies to permanent, temporary and casual staff of the above agencies, staff seconded from another organisation and contingent workers including labour hire, professional services contractors and consultants.



**Rodd Staples**  
**Secretary**

13 January 2020



# ENVIRONMENT POLICY

## UP FOR THE CHALLENGE OF IMPROVING LIVES

### OUR COMMITMENT

To value the natural environment and communities in which we work.

Our goal across all business activities is to use resources efficiently, respond to climate change, prevent pollution, enhance and protect the environment and our heritage.

### OUR APPROACH

John Holland's four values of caring, empowering, imaginative and future-focused are the platform for our everyday interactions. We use these values to guide our approach to the environment.

#### Caring



**We care deeply about what we do and how it affects the environment now and for the future by:**

- Driving a strong culture to respect the environment across the business in our offices, on our projects and with our joint venture partners.
- Prioritising the environment, the community, sustainable products and resource efficiency in our decision making.
- Providing best practice training and education to our people to build awareness and capability to protect the environment and respect the communities in which we work and live.

#### Empowering



**We gain trust through action by:**

- Empowering our people, partners and subcontractors to speak up about how we can better protect and enhance the environment.
- Encouraging participation and collaboration to achieve sound environmental performance and outcomes.
- Driving accountability by ensuring everyone is responsible for valuing and protecting the environment.

#### Imaginative



**We push the boundaries by:**

- Focusing on continual learning and improvement by reviewing performance, capturing and sharing lessons learnt and celebrating successes.
- Exploring and introducing new technologies and approaches that minimise impacts on the environment and provide cost effective solutions that are resource efficient.
- Having a transparent critical risk management process that helps us to continuously identify opportunities and improvements to our systems and processes.

#### Future-focused



**We're in it for the long, long term by:**

- Exceeding our legislative, customer and other mandatory requirements.
- Establishing and maintaining an effective management system.
- Ensuring our work leaves a positive legacy for the communities we serve and the environments we operate in.

**Joe Barr**

Chief Executive Officer

January 2020

## Sustainability Policy

### Our commitment

John Holland is committed to integrating economic growth, environmental resilience, and social progress as priorities into decision-making at every level of the business, with the ambition to create long-term value.

### Our approach

John Holland will undertake its business in a manner that maximises positive social and economic impact for our people and stakeholders. We are adopting a resilient and enduring strategic approach to meet and mitigate the existing and emerging challenges for society and our infrastructure environment. John Holland acknowledges that sustainability enables long term financial resilience.

### Sustainability Policy in practice

- Create a sense of place for communities, by making a positive and meaningful difference to the community by genuinely engaging with the community and stakeholders
- Work closely with our customers to achieve optimal and resilient outcomes for users and society
- Decision making to integrate economic, social, environmental and governance aspects, and seek to achieve positive outcomes in each
- Minimise whole of life asset impact by future proofing our assets and responding to climate change
- Address environment considerations in a manner that is sensitive to the needs of our stakeholders and the environment, creating enhanced environmental outcomes wherever practical
- Be recognised as an industry leader in making our workplaces safer through innovation, collaboration and effective planning and management of risks
- Enhance workforce health and wellbeing and inclusion and diversity, through employee empowerment to deliver sustainable outcomes
- Source sustainably and ethically, including prioritising local industry participation, social procurement initiatives and a commitment to avoiding modern slavery
- Encourage innovation amongst our delivery teams and supply chain to achieve sustainable outcomes
- Manage all activities ethically, measuring and reporting the sustainability performance of the project
- Govern for sustainability by implementing project systems and processes to ensure the effective and efficient delivery and operation of the project
- Support the UN Sustainable Development Goals



**Joe Barr**

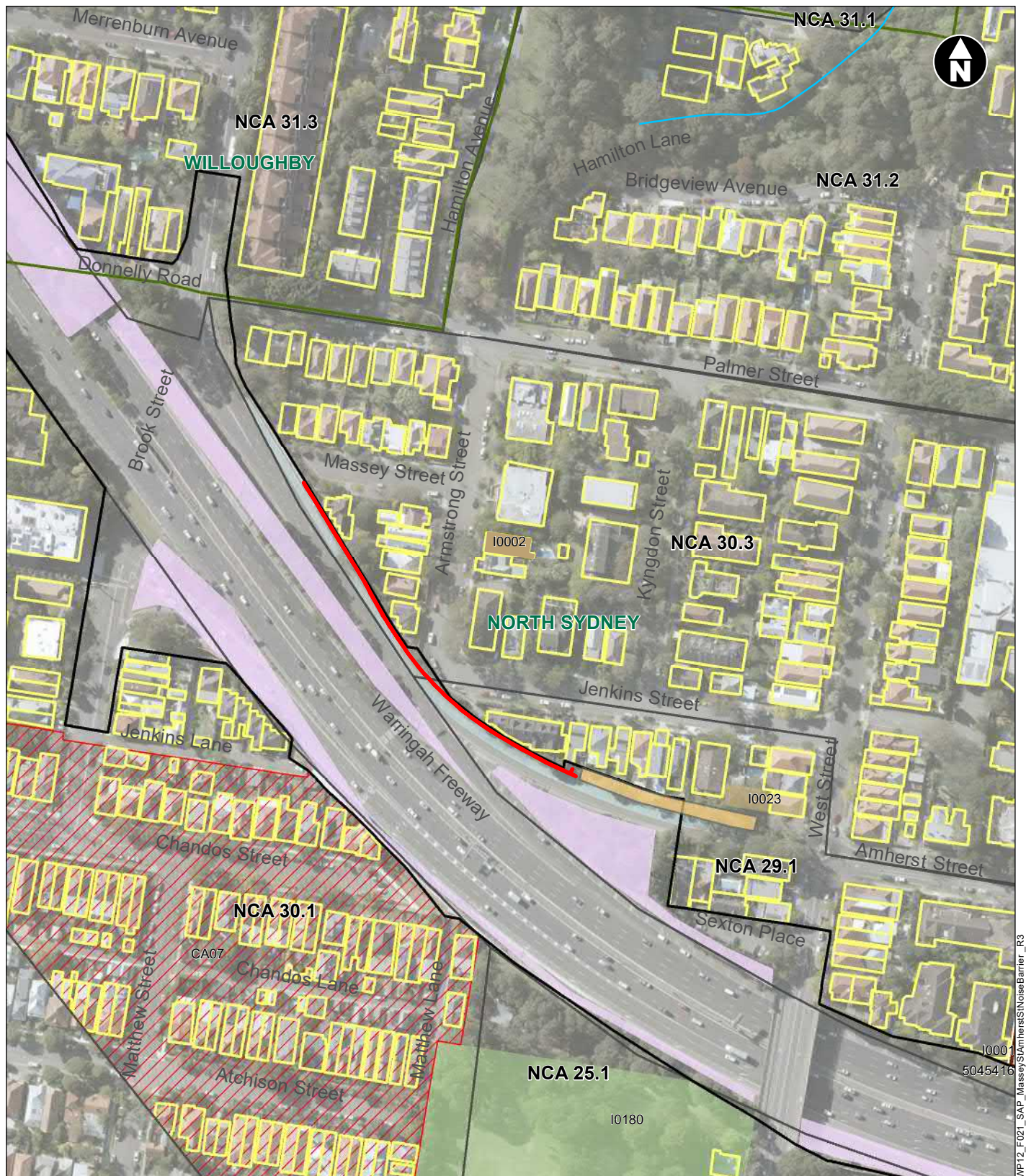
Chief Executive Officer  
John Holland Group Pty Ltd

February 2019

Caring  
Empowering  
Imaginative  
Future-focused

## **Appendix A6      Sensitive Area Plan**





#### Legend

Construction footprint

LGA boundary

Moderate to high risk contaminated site

EIS Noise Receivers [24/10/2019] (EIS Figures 10-2 – 10-9)

State Heritage Act

North Sydney LEP-Conservation Area - General

North Sydney LEP-Item - General

North Sydney LEP-Item - Landscape

State Heritage Register Curilages [30/05/2017]

Noise wall

Do not disturb area

Waterway

EIS Noise Catchment Areas [24/10/2019] (EIS Figures 10-2 – 10-9)

EIS Noise Receivers [24/10/2019] (EIS Figures 10-2 – 10-9)

#### Sensitive Area Plan – Massey Street to Amherst Street noise barrier



# Environmental Incident Classification and Reporting Procedure

Roads and Maritime Services | November 2018

Document No. | RMS 17.374 | Version 5.1





## About this release

<b>Title</b>	Environmental Incident Classification and Reporting Procedure
--------------	---

Approval		
<b>Prepared by</b>	Environment Manager Performance Improvement	Scott Machar
<b>Reviewed by</b>	Director Environment Operations	Sally Durham
<b>Approved by</b>	Director Environment	Michael Crowley

Document Control			
<b>Version</b>	5.1	<b>Release date</b>	November 2018
<b>Publication Number</b>	RMS 17.374	<b>ISBN</b>	978-1-925659-57-3



# Contents

About this release.....	3
Acronyms and definitions.....	5
1. Introduction.....	6
1.1 Aim.....	6
1.2 Objectives .....	6
1.3 Scope and coverage.....	6
2. Environmental incident classification .....	7
3. Environmental incident response.....	10
3.1 Considerations and steps for environmental incident response .....	10
3.2 Critical incidents .....	13
4. Environmental incident reporting .....	14
4.1 Environmental incident report form .....	14
4.2 Completing the incident report form.....	14
4.3 Submitting the incident report form .....	14
4.4 Roads and Maritime contacts .....	15
5. Regulatory agency notification.....	15
5.1 Notification of Material Harm pollution incidents .....	15
5.1.1 Definition of Material Harm pollution incidents .....	15
5.1.2 Determining if an incident should be considered Material Harm .....	15
5.1.3 Relevant authorities to notify .....	16
5.1.4 The relevant information to provide .....	17
5.2 Summary of other regulatory agency notification requirements .....	17
5.3 Requests for written reports from regulatory authorities (activities delivered internally by Roads and Maritime) .....	18

Acronyms and definitions	
Acronym	Definition
DE	(Roads and Maritime Services) Director Environment
DES	(Roads and Maritime Services) Director Environment Sydney
DPE	Department of Planning and Environment
Environmental harm	Any act that degrades or pollutes the environment
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1997</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
REF	Review of Environmental Factors
Roads and Maritime	NSW Roads and Maritime Services
SEQC	(Roads and Maritime Services) Safety Environment and Quality Co-ordinator
SEQO	(Roads and Maritime Services) Safety Environment and Quality Officer
WHS	Work Health and Safety

# 1. Introduction

## 1.1 Aim

The Environmental Incident Classification and Reporting Procedure (the Procedure) aims to ensure Roads and Maritime Services workers and contractors understand how to classify, respond to and report environmental incidents that occur as a result of Roads and Maritime managed activities.

## 1.2 Objectives

The objectives of the Procedure are to:

- Ensure all relevant Roads and Maritime workers, managers and contractors are made aware of environmental incidents promptly and can respond accordingly
- Ensure site workers understand the immediate environmental incident reporting requirements
- Ensure all workers understand reporting timeframes, including statutory requirements
- Ensure incidents are reported to enable monitoring, sharing of lessons learnt and response to emerging environmental incident trends
- Comply with statutory obligations to report certain environmental incidents to regulators and other relevant government agencies (see [section 5.1](#)).

## 1.3 Scope and coverage

This Procedure is applicable to all Roads and Maritime activities where environmental incidents may occur. This includes (but is not limited to):

- Temporary activities, such as preliminary investigations (e.g. geotechnical and environmental surveys) and the construction and maintenance of Roads and Maritime assets
- Activities at Roads and Maritime properties and facilities
- Vessels operated by Maritime division
- Activities undertaken by contractors on behalf of Roads and Maritime.

The requirements of this Procedure must be communicated to all Roads and Maritime workers and contractors (e.g. during inductions) who are undertaking activities where incidents may occur.

The Procedure is for internal reporting processes, except where incidents are identified that need to be notified to regulators, and other relevant authorities (see [section 5.1](#)).

The procedure does NOT cover environmental incidents caused by:

- Operational road and traffic activities of the general public (e.g. vehicle accidents, fires caused by discarded cigarette butts)
- Boating accidents (except those involving Roads and Maritime vessels)
- Dumping of materials by members of the public on Roads and Maritime roadsides or land (except where hazardous materials are unexpectedly found during road construction or maintenance activities). Illegal dumping should be reported to the [NSW Environment Protection Authority \(EPA\)](#)
- Marine oil and chemical spills covered by the [National Plan for Maritime Environmental Emergencies](#) (Australian Maritime Safety Authority, 2014).

## 2. Environmental incident classification

There are three categories of environmental incidents, as detailed in Table 2.

Table 2: Environmental incident classification			
Category	Description	Examples	
Category 1	<p>Potential breaches of legislation or failures of process that result in actual off-site environmental harm, or residual on-site environmental harm or</p> <p>Works undertaken outside approved areas, without required approval or without environmental assessment or</p> <p>Any Material Harm pollution incident as defined by <u>Part 5.7 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act)</u>.</p>	Pollution Incidents	Discharge of waters from site not in accordance with any approval requirements (e.g. discharge criteria in an Review of Environmental Factors (REF) safeguard or Environment Protection Licence (EPL) condition)
			Pollution, or potential pollution, of waters
			Unmanaged vehicle tracking of materials or emissions of dust, offensive odours or noise beyond the site boundary that are not managed in accordance with approval requirements and/or might impact on nearby land users
			Pollution incidents that threaten harm to the health or safety of people (e.g. uncontrolled releases of hazardous substances)
			Unauthorised or illegal disposal or transport of waste
			A spill or other incident that causes pollution to land
		Conservation Breaches	Unauthorised harm or damage to native flora and fauna (terrestrial or aquatic/marine)
			Unauthorised dredging or reclamation works within a watercourse
			A fire caused by Roads and Maritime activities that travels beyond the boundary causing or potentially causing harm to the environment or community
		Heritage Breaches	Unauthorised harm to Aboriginal objects and Aboriginal places
			Unauthorised damage to any State or locally significant relic or Heritage item, or item listed on the <u>Roads and Maritime Section 170 register</u>

Table 2: Environmental incident classification

Category	Description	Examples	
		Planning and compliance breaches	<p>Failure to comply with the requirements of:</p> <ul style="list-style-type: none"> <li>The <i>Environmental Planning and Assessment Act 1997</i> (EP&amp;A Act), including exempt activities, Part 5 determinations and Part 5.1 approvals</li> <li>An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval</li> <li>An EPL</li> <li>A CEMP or environmental work method statement</li> <li>A permit from a regulator (e.g. under the <i>Fisheries Management Act 1994</i>)</li> </ul>
Category 2	Failures of process or events that do not result in off-site environmental harm, or residual on-site environmental harm. These incidents may result in temporary on-site environmental harm that can be rectified to pre-existing conditions.	<p>A procedural, administrative or technical breach of environmental requirements, including:</p> <ul style="list-style-type: none"> <li>Failure to prepare or submit required documents, reports or other correspondence</li> <li>Failure to comply with the requirements of: <ul style="list-style-type: none"> <li>The <i>Environmental Planning and Assessment Act 1997</i> (EP&amp;A Act), including exempt activities, Part 5 determinations and Part 5.1 approvals</li> <li>An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval</li> <li>An EPL</li> <li>A CEMP or environmental work method statement</li> <li>A permit from a regulator (e.g. under the <i>Fisheries Management Act 1994</i>).</li> </ul> </li> </ul>	
		Spills and discharges that do not leave a site boundary and are cleaned up without residual on-site environmental harm, and the area of temporary impact can be restored to pre-existing conditions	
		A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community	
Reportable Event	An event or unexpected find that occurs outside the scope of reasonable environmental controls and mitigation measures	<p>Sediment or site water travelling beyond a site boundary, and where it can be demonstrated that:</p> <ul style="list-style-type: none"> <li>Erosion and sediment controls were installed and maintained in accordance with an erosion and sediment control plan, and</li> <li>The cause of the incident was reasonably unforeseen or the weather (rain, wind etc) event exceeded the design capacity of controls.</li> </ul>	

Table 2: Environmental incident classification

Category	Description	Examples
		Note these events are considered to have occurred (and the response should commence in accordance with <a href="#">Section 3</a> ) when sediment or site water first travels beyond the site boundary (e.g. when an appropriately sized and maintained sediment basin commences overtopping)
		An unexpected archaeological find that is being managed in accordance with the "Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds"
		An unexpected threatened species find that is being managed in accordance with the "Roads and Maritime Biodiversity Guidelines – unexpected threatened species finds procedure"
		An unexpected find of contaminated soils, asbestos or other potentially hazardous substances during construction or maintenance works. Note that once a particular contaminant is identified or found for the first time (either during project planning or construction phases) it is then reasonably expected to be found, so additional finds need not be reported in this category.
Regulatory Action	Formal regulatory action from an environmental regulator (that has not already been reported in conjunction with another incident)	<p>Formal regulatory action from an environmental regulator includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>• Penalty infringement notices (PINs)</li> <li>• Clean up notices</li> <li>• Prevention notices</li> <li>• Official cautions / warnings</li> <li>• EPA show cause notifications.</li> </ul>

**Note:** For any incident where there is associated formal regulatory action from an environmental regulator, copies of this correspondence must be forwarded to [envops@rms.nsw.gov.au](mailto:envops@rms.nsw.gov.au) in addition to the Environmental Incident Report (see [section 4](#)).

## 3. Environmental incident response

### 3.1 Considerations and steps for environmental incident response

The step-by-step response for Category 1 incidents, Category 2 incidents and Reportable Events is detailed in Table 3.1a (activities undertaken by contractors) and Table 3.1b (activities undertaken by Roads and Maritime Regional Maintenance). However, some key points apply throughout all stages of the response to any environmental incident:

- If in doubt, treat all incidents as Category 1 to ensure reporting timeframes can be met
- Project teams should also undertake the following notifications as appropriate:
  - Roads and Maritime Corporate Communications for any incidents that have potential for community or media attention (see [section 4.4](#))
  - Roads and Maritime Work Health and Safety (WHS) Branch for any incidents that involve actual or potential risks to worker health and safety (see [section 4.4](#)).
- The person responsible for operational management of the site/activity shall assume responsibility for the response to the incident and direct actions as necessary and in accordance with this Procedure
- The Director Environment Sydney (DES) may reclassify the category of an incident where appropriate, in consultation with the relevant Roads and Maritime Environment Manager.

Any Regulatory Action received (that has not already been reported in conjunction with another incident) should be immediately forwarded to the [envops@rms.nsw.gov.au](mailto:envops@rms.nsw.gov.au) mailbox, and followed by an immediate phone call to the relevant Roads and Maritime Environment Manager, who will immediately advise the DES. Consideration should then be given as to whether an environmental incident has occurred (see [section 2](#)) that should be reported in accordance with this section.

**Table 3.1a: Environmental incident response – activities undertaken by contractors**

Step	Action	Responsibility for completing action	Timeframe	
			Category 1 Incidents	Category 2 Incidents / Reportable Events
1	Stop work in relevant area (if necessary) and take actions to prevent adverse impact to human health or the environment. Note human health and safety is the primary concern, and no action should be taken if it is not safe to do so - in these instances emergency services should be contacted (phone triple zero).	Person who identifies incident	Immediate	Immediate
2	Advise the contractor site management team (and Roads and Maritime Corporate Communications and/or WHS Branch as appropriate)	Person who identifies incident	Immediate	Immediate
3	Advise the Roads and Maritime project management team and the relevant Roads and Maritime Environment Manager.	Contractor	Immediate	Day of the incident
4	Consider if the incident is a pollution incident that constitutes Material Harm in accordance with Part 5.7 of the POEO Act. For Material Harm pollution incidents, notify relevant agencies (see <a href="#">section 5.2</a> ). Sites with an EPL should implement their Pollution Incident Response Management Plan.	Contractor	Immediate	Immediate
5	Advise DES by phone. The DES may request photographs and a brief summary of known information via email. The following Roads and Maritime managers should also be notified by phone as relevant: <ul style="list-style-type: none"> <li>Director Environment (Regions)</li> <li>Director Environment (Motorways).</li> </ul>	Roads and Maritime Environment Manager	Immediately following advice of the incident	N/A
6	Where relevant, notify incident to appropriate regulatory agency (see <a href="#">section 5.1</a> ). Note this does not refer to the requirement to notify Material Harm pollutions incidents (see Step 4).	Contractor	As required by legislation	As required by legislation
7	Complete the incident report form (see <a href="#">section 4.2</a> ), including sign-off from Roads and Maritime Project Manager, and submit to Roads and Maritime Environment Manager* (see sections <a href="#">4.3</a> and <a href="#">4.4</a> ).	Contractor	Within 3 business days of the incident	Within 3 business days of the incident
8	Sign and submit incident report form to <a href="mailto:envops@rms.nsw.gov.au">envops@rms.nsw.gov.au</a> .	Roads and Maritime Environment Manager	On the day of receipt of the form	On the day of receipt of the form
9	For Material Harm pollution incidents, provide a written report to each relevant authority (see <a href="#">section 5.2</a> ).	Contractor	Within 7 days of the incident	N/A
10	Undertake incident investigation (level of investigation to be appropriate to the severity of the incident) to determine root cause and any necessary corrective actions. Summarise findings in 'Incident Lessons Learnt' template and submit to Environment Manager for review.	Contractor	Within 1 month of incident	N/A
11	Submit final Incident Lessons Learnt to <a href="mailto:envops@rms.nsw.gov.au">envops@rms.nsw.gov.au</a> .	Roads and Maritime Environment Manager	Within 1 week of receipt	N/A
12	Consider the need for any required corrective actions to be addressed through a management system (e.g. corrective action request), and any required updates to a risk register.	Roads and Maritime Environment Manager and project team	As appropriate	As appropriate

\*Alternate workflow / signatory arrangements may be required for projects where a third party is involved (e.g. a delivery authority). These arrangements can be confirmed with the relevant Roads and Maritime Environment Manager.



**Table 3.1b: Environmental incident response – activities undertaken by Regional Maintenance** (including contractors or RMCC on behalf of Regional Maintenance)

Step	Action	Responsibility for completing action	Timeframe	
			Category 1 Incidents	Category 2 Incidents / Reportable Events
1	Stop work in relevant area (if necessary) and take actions to prevent adverse impact to human health or the environment. Note human health and safety is the primary concern, and no action should be taken if it is not safe to do so - in these instances emergency services should be contacted (phone triple zero).	Person who identifies incident	Immediate	Immediate
2	Advise the Roads and Maritime site management team and the relevant Roads and Maritime Environment Manager and Safety Environment Quality Officer (SEQO) / Safety Environment Quality Co-ordinator (SEQC) (and Corporate Communications and/or WHS Branch as appropriate)	Person who identifies incident	Immediate	Immediate
3	Advise DES by phone. The DES may request photographs and a brief summary of known information via email. The relevant Regional Maintenance Manager must also be notified.	Environment Manager	Immediate	N/A
4	Consider if the incident is a pollution incident that constitutes Material Harm in accordance with Part 5.7 of the POEO Act. For Material Harm pollution incidents, notify relevant agencies (see <a href="#">section 5.2</a> ). Sites with an EPL should implement their Pollution Incident Response Management Plan.	DES	Immediately following advice of the incident	N/A
5	Where relevant, notify incident to appropriate regulatory agency (see <a href="#">section 5.1</a> ). Note this does not refer to the requirement to notify Material Harm pollutions incidents (see Step 4).	Environment Manager	As required by legislation	As required by legislation
6	Complete the incident report form (see <a href="#">section 4.2</a> ), including sign-off from Roads and Maritime Project Manager, and submit to SEQC (see <a href="#">section 4.3</a> ).	Relevant Roads and Maritime site representative	Within 3 business days of the incident	Within 3 business days of the incident
7	SEQC to sign and submit incident report form to relevant Environment Manager (see <a href="#">section 4.4</a> ).	SEQC	On the day of receipt of the form	On the day of receipt of the form
8	Sign and submit incident report form to <a href="mailto:envops@rms.nsw.gov.au">envops@rms.nsw.gov.au</a> .	Environment Manager	On the day of receipt of the form	On the day of receipt of the form
9	For Material Harm pollution incidents, provide a written report to each relevant authority (see <a href="#">section 5.2</a> ).	DES	Within 7 days of the incident	N/A
10	Undertake incident investigation (level of investigation to be appropriate to the severity of the incident) to determine root cause and any necessary corrective actions. Summarise findings in 'Incident Lessons Learnt' template and submit both to Environment Manager for review. Consider the need for any required corrective actions to be addressed through a management system (e.g. corrective action request), , and any required updates to a risk register.	SEQC	Within 1 month of incident	N/A
11	Submit final Incident Lessons Learnt to <a href="mailto:envops@rms.nsw.gov.au">envops@rms.nsw.gov.au</a> .	Roads and Maritime Environment Manager	Within 1 week of receipt	N/A

Copies of formal regulatory action from an environmental regulator (that has not already been reported in conjunction with another incident) must be forwarded to the relevant Roads and Maritime Environment Manager (and SEQC/SEQO for Regional Maintenance projects) and [envops@rms.nsw.gov.au](mailto:envops@rms.nsw.gov.au) immediately upon receipt.

### 3.2 Critical incidents

Some Category 1 incidents require escalation so relevant members of the Roads and Maritime Executive are aware of the incident and ready to respond as necessary. Category 1 incidents will be deemed 'Critical Incidents' for escalation to the Executive when they have the potential for:

- Regulatory action (e.g. EPA Penalty Infringement Notice) and/or
- Reputational damage (e.g. media coverage) and/or
- Significant environmental harm.

Guiding factors that will be considered when determining whether there has been 'significant' environmental harm include:

- When there has been actual or potential harm to the health or safety of people or to the environment that is not trivial
- Actions required to prevent, mitigate or make good the actual or potential environmental harm are likely to exceed \$10,000

When a potential 'Critical Incident' is reported, the DES will immediately brief the Director Environment (DE) who will make a determination on whether it will be considered a 'Critical Incident'. The DE will then brief the Roads and Maritime Chief Executive and relevant Executive Director, as well as any other members of the Executive as appropriate. When the DE cannot be contacted, the DES will make the determination and make the relevant Executive briefings.

## 4. Environmental incident reporting

### 4.1 Environmental incident report form

The Environmental Incident Report Form should be completed for Category 1 incidents, Category 2 incidents and Reportable Events, and is available on the [Roads and Maritime website](#).

### 4.2 Completing the incident report form

All parts of the Incident Report Form must be completed in accordance with this procedure and following the instructions within the form. The Form (and any subsequent reports) must only include factual information. Speculation about the causes and outcomes of incidents are not to be included.

The Form must be signed by the following:

Signatory	Reason
The person making the report	The person witnessed the incident or has the most knowledge of the incident, and can provide sufficient factual information.
The Roads and Maritime Project Manager	To ensure all relevant Roads and Maritime parties can be made aware of the incident, and appropriate resources can be allocated and/or approved to respond to the incident. This also ensures the project management team are aware of any environmental performance trends if multiple incidents occur.
Safety Environment and Quality Co-ordinator (Roads and Maritime Regional Maintenance only)	To ensure Regional Maintenance management system staff are aware of the incident, and any necessary management system changes can be made once corrective actions and lessons learnt are finalised.
The relevant Roads and Maritime Environment Manager	Concurrence that the incident is adequately described, and the immediate actions and corrective actions are appropriate.

As noted in [Table 3.1a](#), alternate signatory arrangements may be required for projects where a third party is involved (e.g. a delivery authority). These arrangements can be confirmed with the relevant Roads and Maritime Environment Manager.

### 4.3 Submitting the incident report form

All Incident Report Forms must be populated, signed and submitted electronically (never printed / signed / scanned etc.) to enable Roads and Maritime to electronically capture the information entered in the form.

Completed Incident Report Forms should be submitted by the Roads and Maritime Environment Manager to the Environment Operations mailbox:

- [envops@rms.nsw.gov.au](mailto:envops@rms.nsw.gov.au)

It is essential that a clear and consistent subject line convention is used to allow tracking of correspondence about each incident. All emails about an incident between all parties should structure the subject line as follows:

- Category X - project name / incident location - date
- For example, Category 1 – Main Road Upgrade – dd/mm/yy.

Where information cannot be gathered within the timeframes set out in this Procedure, the incident form should be submitted to the mailbox as a 'draft', whether or not the information contained is fully completed.

- For example, Category 1 – Main Road Upgrade – dd/mm/yy (DRAFT).

The Environment Manager should then request further information from the person making the report, and the final report should be submitted within the next 24 hours.

## 4.4 Roads and Maritime contacts

The relevant Environment Manager for each region and Project Office is the first point of contact for enquiries relating to environmental incidents. Current contacts for all Roads and Maritime Environment Managers can be found on the [Roads and Maritime website](#).

Environment Managers can also provide contact details for other relevant contacts during an incident, such as Communications or Work, Health and Safety. Hazards and occurrences that occur during Roads and Maritime activities should be reported through the Roads and Maritime WHS reporting line on 1300 131 469.

The DES oversees the application of this Procedure, and can be contacted in the absence of the relevant Environment Manager for Category 1 incidents:

- Phone - (02) 0428 608 758

## 5. Regulatory agency notification

### 5.1 Notification of Material Harm pollution incidents

#### 5.1.1 Definition of Material Harm pollution incidents

Under Part 5.7 of the POEO Act, there is a duty to immediately notify (i.e. promptly and without delay) each relevant authority (see [section 5.1.3](#)) of a pollution incident where material harm to the environment is caused or threatened.

The POEO Act states that a pollution incident should be considered Material Harm if:

*“(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*

*(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000”*

Material Harm only relates to pollution incidents. Other environmental incidents, such as conservation, heritage and planning breaches, are not included in the definition of a pollution incident.

#### 5.1.2 Determining if an incident should be considered Material Harm

As soon as a person becomes aware of a pollution incident that has the potential to cause Material Harm, the Category 1 incident response should be followed (see [Table 3.1a](#) and [Table 3.1b](#) above). The determination on whether a pollution incident should be considered Material Harm should be made in accordance with [Table 5.1.2](#).

**Table 5.1.2: Determination of Material Harm pollution incidents**

Project delivery	Material Harm determination
Activities undertaken by Regional Maintenance	<p>The DES should make the determination (and any associated notifications) on whether a pollution incident should be considered Material Harm.</p> <p>If the DES is not available, the relevant Environment Manager should seek advice from other Roads and Maritime Environment Branch Directors, or make the material harm determination themselves.</p> <p>If no assistance can be obtained and it is suspected that a pollution incident should be considered Material Harm, the project should notify the relevant authorities in accordance with <a href="#">Table 5.1.3a</a> or <a href="#">Table 5.1.3b</a> (as relevant).</p>
Activities undertaken by contractors	<p>The contractor project team should make the determination (and any associated notifications) on whether a pollution incident should be considered Material Harm.</p> <p>The relevant Roads and Maritime Environment Manager or Environment Branch Director may contact the DES to assist in making an assessment of the incident, to aid the contractor in determining if the pollution incident should be considered Material Harm.</p> <p>Where Roads and Maritime believes a pollution incident should be considered Material Harm but the contractor disagrees, Roads and Maritime is required by law to notify EPA and other relevant authorities. In this instance the DES or DE would make a determination on whether the incident should be notified by Roads and Maritime as Material Harm. Roads and Maritime would provide details of any notifications made to the contractor.</p>

Even if only limited information is available for a pollution incident being considered Material Harm, each relevant authority must be immediately notified with the information available and updates provided as soon as further relevant information becomes available.

In circumstances where there is doubt about the need to notify a pollution incident as Material Harm, Roads and Maritime and its contractors should always err on the side of notification.

### **When in doubt, communicate!**

Note: Roads and Maritime is not responsible for notifying a Material Harm pollution incident caused by a traffic or vehicle accident where notification has already occurred by someone at the scene. However, if it is believed notification has not been undertaken, Roads and Maritime should undertake notification in accordance with [section 5.1.3](#). Environment Branch can provide advice in this instance (see [section 4.4](#)).

### **5.1.3 Relevant authorities to notify**

The relevant authorities that must be notified for a Material Harm pollution incident are listed in tables [5.1.3a](#) and [5.1.3b](#) below. It is important to note the order of notification and phone numbers to use can vary depending on the nature of the pollution incident, as detailed in the two tables.

All of the authorities listed (whether considered relevant or not) must be contacted for each Material Harm pollution incident to satisfy POEO Act requirements. Serious penalties apply to both individuals and corporations for failing to notify Material Harm pollution incidents:

- Maximum penalty for individuals - \$500,000
- Maximum penalty for corporations - \$2,000,000.

**Table 5.1.3a: Authorities to notify for Material Harm pollution incidents that present an immediate threat to human health or property**

Order	Authority	Contact Number
1	Fire and Rescue NSW	000
2	NSW EPA environment line	131 555
3	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the <a href="#">NSW Health Website</a>
4	SafeWork NSW	131 050
5	The Appropriate Regulatory Authority*, being either: <ul style="list-style-type: none"> <li>• Local council</li> <li>• Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council).</li> </ul>	Local council - contact Office of Local Government on 4428 4100, or visit the <a href="#">Office of Local Government website</a> Western Lands Commissioner – phone 6883 5400

**Table 5.1.3b: Authorities to notify for Material Harm pollution incidents that do NOT present an immediate threat to human health or property**

Order	Authority	Contact Number
1	NSW EPA environment line	131 555
2	The Appropriate Regulatory Authority*, being either: <ul style="list-style-type: none"> <li>• Local council</li> <li>• Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council).</li> </ul>	Local council - contact Office of Local Government on 4428 4100, or visit the <a href="#">Office of Local Government website</a> Western Lands Commissioner – phone 6883 5400

3	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the <a href="#">NSW Health Website</a>
4	SafeWork NSW	131 050
5	Fire and Rescue NSW	1300 729 579

\* The appropriate contact for the Appropriate Regulatory Authority and Public Health Unit will vary according to the geographic location of the activity. These contact numbers should be found in advance and stored for immediate access (e.g. in a project's Construction Environmental Management Plan and/or on site notice boards) should a pollution incident need to be notified.

#### 5.1.4 The relevant information to provide

It is important to avoid speculation on origin, causes or outcomes of a pollution incident in discussions with the authorities. Section 150 of the POEO Act provides the information that needs to be notified, being:

- The time, date, nature, duration and location of the incident
- The location of the place where pollution is occurring or is likely to occur, the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
- The circumstances in which the incident occurred (including the cause of the incident, if known)
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known
- Other information prescribed by the regulations.

Only known information should be provided when notifying of a Material Harm pollution incident. If further information becomes known after the initial notification, that information must immediately be notified to all authorities in accordance with Section 150 (see above). The immediate verbal notification is to be followed by written notification to each relevant authority within seven days of the date on which the incident occurred.

Complying with these notification requirements does not remove the need to comply with any other legislative requirements for incident notification (e.g. requirements under EPL conditions or the Work Health and Safety Act 2011).

## 5.2 Summary of other regulatory agency notification requirements

Specific statutory requirements relating to the notification of environmental incidents to relevant regulatory agencies are summarised in Table 5.2. Additional requirements adopted by Roads and Maritime are indicated in *italics*. Any notification to regulatory agencies should be indicated in the Environmental Incident Report Form to confirm that any required notifications have been initiated.

**Table 5.2: Regulatory agency notification requirements**

Legislation / issue	Regulating authority	Section / requirement
<i>Commonwealth Aboriginal and Torres Strait Islanders Heritage Protection Act 1984</i>	Department of the <a href="#">Environment and Energy</a>	Section 20 – requirement to notify the Minister of the discovery of Aboriginal remains.
<i>Contaminated Land Management Act 1997</i>	<a href="#">EPA</a>	Section 60 – requirement to notify if Roads and Maritime activities have contaminated land or if Roads and Maritime owns land that has been contaminated.
<i>Heritage Act 1977</i>	Office of <a href="#">Environment and Heritage</a>	Section 146 – requirement to notify the Heritage Council of the location of the relic once a relic has been discovered or located.
<i>National Parks and Wildlife Act 1974</i>	Office of <a href="#">Environment and Heritage</a>	Section 89A – requirement to notify the location of an Aboriginal object that is the property of the Crown.

<i>Protection of the Environment Operations Act 1997</i>	<u>EPA</u> and other relevant authorities	Section 148 – requirement to immediately notify pollution incidents that cause or threaten Material Harm to the environment (see <a href="#">Section 5.1</a> )
	<u>EPA</u>	<i>Pro-active reporting to the local EPA officer of offsite pollution incidents that occur as a result of Roads and Maritime activities is encouraged as soon as practicable after the pollution incident occurs.</i>
<i>Rural Fires Act 1997</i>	<u>NSW Rural Fire Service</u>	Section 64 – requirement to notify an appropriate fire officer of the inability to extinguish any fire burning during a bush fire danger period applicable to the land.
Breach of Conditions of Approval (projects approved under Part 5.1 of the EP&A Act)	<u>Department of Planning and Environment</u> (DPE)	DPE should be notified by the project proponent when there has been a breach of a Condition of Approval (CoA). There may also be other notification requirements included in the CoA.
<i>Water supply catchment areas</i>	<i>Local water supply authority</i>	<i>If an environmental incident has the potential for unapproved impacts on a drinking water supply, the relevant water supply authority must be advised.</i>

### 5.3 Requests for written reports from regulatory authorities (activities delivered internally by Roads and Maritime)

Should Roads and Maritime directly receive a request from a regulatory authority for a written report regarding an environmental incident, Environment Branch and Legal Branch must be immediately contacted for advice. No further correspondence (including email) about the incident should be distributed either internally or externally until advice is received. Environment Branch will coordinate with Legal Branch to:

- Assist in the investigation of the incident
- Provide legal advice to the project
- Co-ordinate the preparation of the written response to the regulatory authority.



[rms.nsw.gov.au](http://rms.nsw.gov.au)



13 22 13



Customer feedback  
Roads and Maritime  
Locked Bag 928,  
North Sydney NSW 2059

**November 2018**  
RMS 17.374  
ISBN: 978-1-925659-57-3



**Appendix A8      Environmental Inspection Checklist**

<b>Date:</b>	<b>Inspection No.</b>
<b>Site / Area Inspected:</b>	<b>Weather Conditions:</b>
<b>Activities:</b>	<b>Inspected By:</b>

**Instructions:** A tick (✓) should be placed in the **Yes/No** box. If an item is not applicable, write **N/A**.

If action is identified and fixed immediately, details are to be recorded in the **Comments and Actions** column.

If an item cannot be fixed immediately or by close of business the same day; or is recurring and/or not rectified by the next inspection, then it will be recorded as an **Action Item** in the ACTION PLAN section at the end of this checklist. Participants of inspections are free to use photographs, drawings and/or diagrams to assist with identifying and outlining requirements around environmental actions.

1. General	Yes	No	Comments & Actions
1.1 Is the site generally in a tidy condition and demonstrate good housekeeping			
1.2 Materials, equipment and infrastructure stored within designated compound areas			
1.3 Are construction-related activities/disturbance contained within the construction area(s)			
1.4 Access to private properties unobstructed			
1.5 Site and work areas kept secure and fences maintained			
1.6 No evidence of noisy activities being undertaken outside approved hours			
1.7 Site boundaries clearly demarcated			
2. Traffic Control	Yes	No	Comments & Actions
2.1 Traffic routes adjacent to site remain unobstructed			
2.2 Minimal traffic and access disruptions caused by construction			
2.3 Access maintained where vehicles enter and exit onto public paved roads			
3. Water Quality & Spill Response	Yes	No	Comments & Actions
3.1 Stormwater drainage lines free of debris and sediment build up			

## ENVIRONMENTAL INSPECTION CHECKLIST

Sydney Program Alliance

3.2 No evidence of material spillage on public roads, public roadways maintained free of mud and dirt from construction site activities			
3.3 Are there no apparent illegal discharges to waterways or drains (cleaning of paint brushes, water displaced when concreting etc)			
3.4 Any activities with the potential for spillage? (e.g. refueling, maintenance of equipment, piling)			
<b>4. Hazardous Materials</b>	<b>Yes</b>	<b>No</b>	<b>Comments &amp; Actions</b>
4.1 Chemicals and hazardous materials stored in bunded areas			
4.2 Hazardous materials suitably labelled, and sign posted			
4.3 Spill kits readily accessible and maintained			
4.4 Refueling of construction plant and equipment controlled			
4.5 No obvious signs of spills, leaks etc.			
<b>5. Noise and Vibration</b>	<b>Yes</b>	<b>No</b>	<b>Comments &amp; Actions</b>
5.1 Equipment / Plant switched off when not in use			
5.2 No evidence of tonal or intrusive noise at nearby residences			
5.3 No evidence of vibration impacts at residences			
<b>6. Air Quality</b>	<b>Yes</b>	<b>No</b>	<b>Comments &amp; Actions</b>
6.1 Are there visible dust emissions (inc wind-blown and traffic-generated dust) from site			
6.2 Practicable dust measures in place			
6.3 Evidence that daily weather reported provided to supervisors			
6.4 Construction vehicles, mobile plant and machinery maintained to minimise exhaust emissions.			
<b>7. Waste and Resource Management</b>	<b>Yes</b>	<b>No</b>	<b>Comments &amp; Actions</b>
7.1 Waste receptacles accessible, clearly marked and in a designated area			
7.2 Recyclable material separated			
7.3 Waste bins adequately serviced and emptied			
<b>8. Non-Aboriginal Heritage</b>	<b>Yes</b>	<b>No</b>	<b>Comments &amp; Actions</b>

8.1 Required protection measures maintained? (i.e. physical demarcation / barriers / fencing in place?)			
8.2 No evidence of destruction, defacement or damage to any heritage objects or places? (including no plant, equipment, materials leaning against or stored in proximity/contact with heritage structures, items, etc.)			

**ACTION PLAN**

Item No.	Required Corrective Action	Person Responsible	Completed – Date / Initials

## **Appendix A9      Stockpile Management Protocol**

# Stockpile Management Protocol

Western Harbour Tunnel and Warringah  
Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to  
Amherst (M2A)

**Transport for NSW**

THIS PAGE LEFT BLANK INTENTIONALLY



# Stockpile Management Protocol

## Western Harbour Tunnel and Warringah Freeway Upgrade

### Stage 1C Early and Enabling Works – Massey to Amherst (M2A)

October 2021

# Contents

<b>1</b>	<b>Purpose.....</b>	<b>8</b>
<b>2</b>	<b>Induction/Training.....</b>	<b>9</b>
<b>3</b>	<b>Stockpile location criteria.....</b>	<b>9</b>
<b>4</b>	<b>Protocol .....</b>	<b>11</b>
<b>5</b>	<b>Compliance.....</b>	<b>13</b>

## **Appendices**

- Appendix A    Stockpile location assessment and permit
- Appendix B    Example stockpile site register

## Document control

### Approval

<b>Title</b>	Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A), Stockpile Management Protocol
<b>Document No/Ref</b>	SPAWP12-JHG-PAP-ENV-0-0009

## Version control

The below document status table is for tracking the revisions of this Protocol, while the project is in construction. The version control table is to be used to track revisions, including those incorporating changes following agency comments.

It may be modified where necessary to fit with requirements of the individual project.

Revision	Date	Description	Approval
0	01/10/2021	Submission to ER	

## Glossary / abbreviations

Abbreviation	Expanded text
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
DPIE	Department of Planning, Industry and Environment
EEC	Ecological Endangered Community
EIS	Environmental Impact Statement
ESCP	Erosion and Sediment Control Plan
M2A	Stage 1C, Massey to Amherst Street (Noise Barrier Works)
Project, the	Western Harbour Tunnel Warringah Freeway Upgrade
Protocol, this	Stockpile Management Protocol
SPA	Sydney Program Alliance
TfNSW	Transport for NSW
WFU	Warringah Freeway Upgrade
WFUEW	Warringah Freeway Upgrade Early Works
WFUMW	Warringah Freeway Upgrade Main Works
WHT	Western Harbour Tunnel
WHTBL	Western Harbour Tunnel Beaches Link
WHTWFU	Western Harbour Tunnel Warringah Freeway Upgrade

# 1 Purpose

This Stockpile Management Protocol has been prepared to comply with the Conditions of Approval (CoA) for the Project. The definitions of Ancillary Facilities within the Infrastructure Approval includes the statement:

“Where an approved CEMP contains a stockpile management protocol, a material stockpile area located within the construction boundary is not considered to be ancillary facilities”

This Protocol will ensure that stockpiles are managed using appropriate mitigation measures and will be used to gain approval for all stockpiles that are not already approved within the Construction Environmental Management Plan (CEMP). This Protocol has been prepared with consideration of the *Transport for NSW (TfNSW) Stockpile Site Management Guideline* (May 2011).

## 2 Induction/Training

Personnel involved in planning or managing stockpiles will be trained in the requirements of this Procedure. Training will also include inductions, toolbox talks, pre-starts and targeted training as required.

## 3 Stockpile location criteria

Stockpiles sites on the Project shall be assessed against the following criteria:

- Located 5 metres away from areas of concentrated water flow;
- Located at least 10m away from a watercourse
- Have ready access to project or road network
- Located on relatively level land
- Located to minimize the need for heavy vehicles to travel on local streets and / or through residential areas
- Not unreasonably affect the land use of adjacent properties
- Located so that the appropriate erosion and sediment control measures can be installed and will operate effectively
- Located on land above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented
- On land that does not require the removal of threatened species (beyond those already impacted by the project)
- On land that does not require the removal of Endangered Ecological Communities (EEC) (beyond those already impacted by the project) or within the tree protection zone (in accordance with AS 4970) of EEC
- On land that does not require the removal of roosting habitat for listed threatened fauna species (beyond those already impacted by the project)
- Provides sufficient area for the storage of raw materials to minimize, to the greatest extent practical, the number of deliveries required outside of construction hours
- Positioned in areas where minimal visual and light spill impacts anticipated at the nearest residence.
- Positioned in areas where minimal noise and vibration impacts anticipated at the nearest residence
- Located in areas that will not impact on heritage sites (beyond those already impacted by the project)
- Located within the approved Project boundary.

Prior to use, proposed stockpiles will be assessed under the Stockpile Location Permit (Appendix A). The Stockpile Location Permit determines who is to provide approval and considers if a Minor Consistency Review is to be undertaken.

Stockpiles that are within the construction footprint and are in place for less than 30 days do not require approval under the Stockpile Location Protocol and Permit.

Approved stockpile locations are to be marked-up on Erosion and Sediment Control Plans (ESCP) or relevant site plans and recorded in the project Stockpile Register (example located in Appendix B).



## 4 Protocol

Prior to the establishment of any stockpile on site as part of the project, ensure that:

1. The location of the stockpile is to be considered against the site selection criteria contained in Section 5 and requires prior approval via a Stockpile Location Permit (Appendix A). The Stockpile Location Permit determines who is to approve the stockpile and if a Minor Consistency Review is to be undertaken.
2. Site-specific mitigation measures, where they are necessary to further reduced impacts, are identified and detailed in the 'Stockpile Location Permit'.
3. Mitigation measures for each stockpile site include as a minimum:
  - Materials will not be stockpiled within the tree protection zone (in accordance with AS 4970) of trees or native vegetation to be retained, and never pushed up around the base of trees. Trees are not to be flooded or soils caused to be waterlogged as a result of stockpile development
  - An ESCP will be prepared and implemented in advance of stockpiling. ESCPs will be updated
  - The ESCP will detail soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters. This may include:
    - Erosion and sedimentation controls will be erected between the site and any drainage lines or down-slope areas
    - A diversion bund will be installed on the uphill side of the stockpile to divert water around the site, unless run on water is 'dirty' construction water. Where this occurs 'dirty' run on water shall be diverted to erosion and sediment controls
    - Erosion and sediment control structures shall remain installed and maintained until sufficient stabilisation is achieved as per the Blue Book
    - Separating 'clean' run-on water from 'dirty' construction area run-off
    - Maximising the diversion of turbid construction runoff into detention/sediment basins.
    - Controlling run-off during the construction of stockpiles (
    - Diverting stockpile run-off through sediment traps and into pits and the stormwater drainage system as soon as practical to reduce surface flow lengths and velocities.
  - Controls will be installed around all stockpiles that are in place for more than 10 days in order to prevent wind and water erosion. These controls will be in accordance with the ESCP
  - Stockpile areas will be monitored for odours on a regular basis during inspections. If nuisance odours are generated and are impacting sensitive receivers, odour control measures will be implemented, in accordance with the CEMP
  - Weed management measure will be undertaken progressively including weed spraying or covering the stockpile to prevent growth as appropriate. Topsoil that is not contaminated by weeds will be located separately to other stockpiles.
  - Dust management measures (including for vehicle movements associated with stockpiling activities) will be implemented in accordance with the requirements of the CEMP
  - Stockpile heights will be generally no greater than 2 meters with slopes no steeper than 2:1

- Mulch stockpiles must be monitored and turned over as required to avoid spontaneous combustion
  - Mulch stockpiles in high tannin generating vegetation should be:
    - Located 50m from water ways for mulch stockpiles that will be in place for duration of more than 1 month
    - Located 20m from water ways for mulch stockpiles that will be in place for duration of less than 1 month
    - Located on elevated ground where possible
    - Be fully bunded to ensure up-gradient water is prevented from entering the stockpile site, and to capture tannin impacted water. Bunds are to be impervious and 300mm high at a minimum. All bunded stockpiles that are in place for a period longer than one month must include a lined discharge point for overflow in extreme rainfall events
    - Managed in accordance with all other requirements specified in the Environmental Direction: Management of Tannins from Vegetation Mulch
  - Other relevant mitigation measures that are specified within the CEMP
  - Other mitigations measures that are required by an approved Stockpile Location Permit.
4. Topsoil stockpiles must:
- be free from subsoil, other excavated materials, contaminated materials, refuse, clay lumps and stones, timber or other rubbish
  - be trimmed to a regular shape to facilitate measuring and batter slopes not steeper than 2H:1V
  - have their batters stabilised
5. Following completion of work, carry out restoration of the stockpile sites as follows:
6. Stockpile that are within the construction footprint and are in place for less than 30 days do not require approval under the Stockpile Location Permit
7. The Stockpile Management Protocol is not required for stockpiles that are approved within the CEMP.

## 5 Compliance

Compliance with this Protocol will be tracked through weekly environmental inspections. Identified non-compliances will be reported to the SPA Environmental Manager and the appropriate management measures will be put in place to ensure ongoing compliance.

# Appendix A – Stockpile location assessment and permit

Stockpile Location permit					
Date:		Location:			
#	Location based criteria	Yes	No	Permit approval requirement	Comments
1	Is the site located within the Approved Construction Footprint?			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
2	Is the site on land that does not require the removal of threatened species (beyond those already impacted by the project)?			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
3	Is the site on land that does not require the removal of EECs (beyond those already impacted by the project) or within the tree protection zone (in accordance with AS 4970) of EEC?			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
4	Is the site on land that does not require the removal of roosting habitat for listed threatened fauna species (beyond those already impacted by the project);			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
5	Are minimal noise and vibration impacts anticipated at the nearest residence?			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
6	Are minimal visual and light spill impacts anticipated at the nearest residence?			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
7	Is the site located in an area that does not impact on heritage sites beyond those already impacted by the project?			Yes = SPA EM. No = Consistency Assessment to be first approved by TNSW.	
8	Is the site located so that appropriate erosion and sediment control measures can be installed and will operate effectively?			Yes = SPA EM No = Amend proposal to facilitate controls.	
9	Is the site located so it does not unreasonably affect the land use of adjacent properties?			Yes = SPA EM. No = Amend proposal.	
10	Is the site located 5 metres away from areas of concentrated water flow?			Yes = SPA EM No = SPA EM to approve only if an approved ERSED plan is approved.	
11	Is the site located at least 10 metres from a watercourse?			Yes = SPA EM No = SPA EM to approve only if an approved ERSED plan is approved.	
12	Does the site have ready access to project or road network?			Yes = SPA EM No = Amend proposal	

Stockpile Location permit					
13	Is the site located to minimize the need for heavy vehicles to travel on local streets and / or through residential areas?			Yes = SPA EM No = Amend proposal	
14	Is the site located on relatively level land?			Yes = SPA EM No = SPA EM to approve only if an approved ERSED plan is approved.	
15	Is the site located on land above the 20 ARI flood level?			Yes = SPA EM. No = SPA EM to approve only if a contingency plan to manage flooding is prepared.	
16	Does the site provides sufficient area for the storage of raw materials to minimize, to the greatest extent practical, the number of deliveries required outside of construction hours?			Yes = SPA EM. No = Amend approval	
<p><b>Compliant Stockpile Locations:</b></p> <p>If the proposed stockpile site is deemed compliant with the location based criteria (or the relevant approval requirements have been obtained), this form is to be approved prior to establishment of the stockpile site.</p>					
Once approved, the stockpile location must be recorded in the project stockpile register.					
Prepared by:			Date:		
SPA Environmental Manager approval:			Date:		
ER approval (if required):			Date:		

# Appendix B – Example stockpile site register

Approved stockpile site register					
Stockpile Number					
Location					
Date Stockpile Approved					
Comment: additional mitigation measures etc.					



# Appendix B1 Traffic, Transport and Access Management Sub-plan

Refer to Traffic, Transport and Access Management Sub-plan

# Appendix B2 Noise and Vibration Management Sub-plan

Refer to the Noise and Vibration Management Sub-plan.

Note: The Noise and Vibration Management Sub-plan also includes the Noise and Vibration Monitoring Program.

# Appendix B3 Flora and Fauna Management Procedure

# Appendix B3

## Flora and Fauna Management Procedure

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

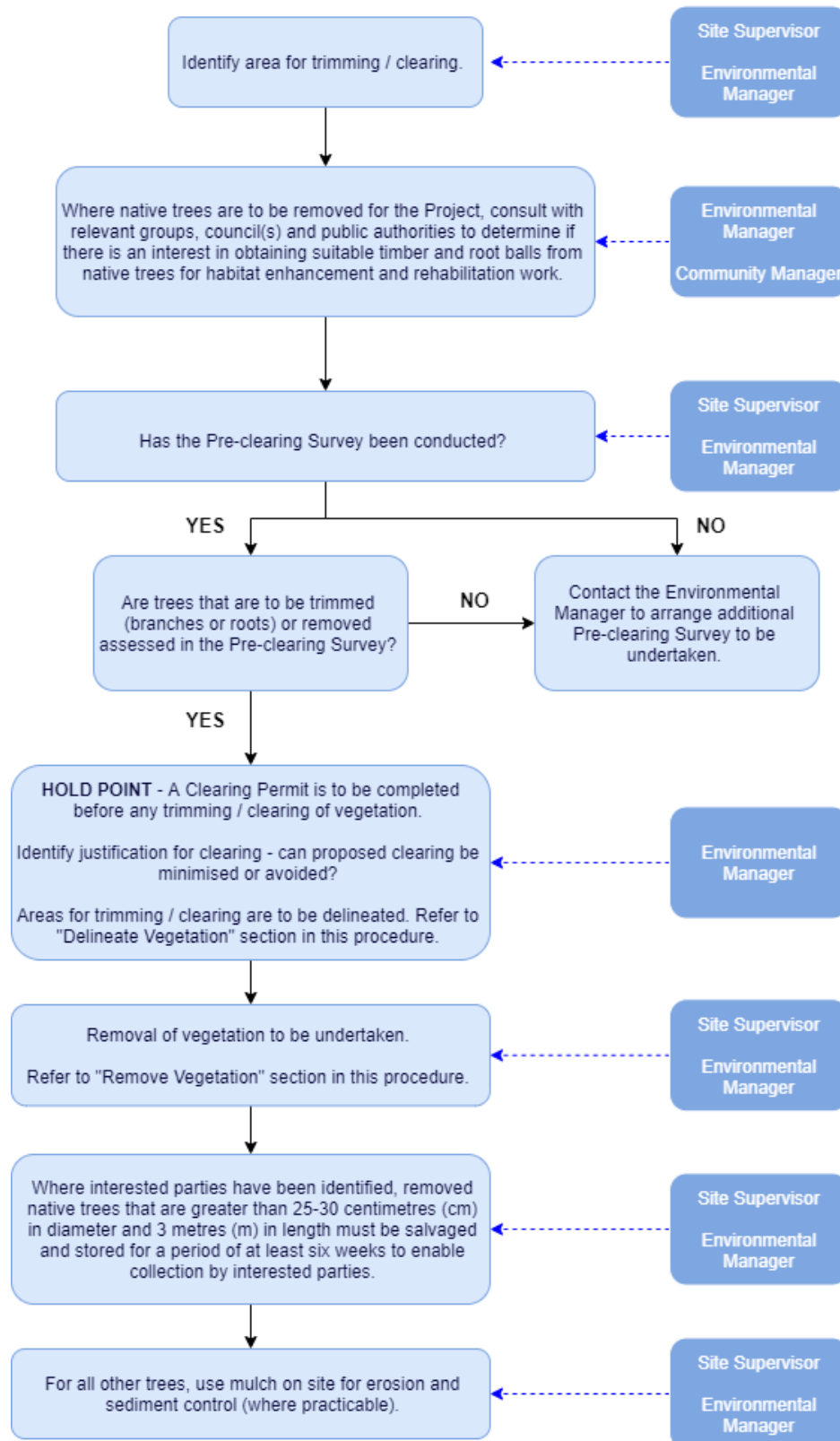
November 2021

THIS PAGE LEFT INTENTIONALLY BLANK

# Flora and Fauna Management Procedure

## VEGETATION CLEARING

### Vegetation Clearing Flowchart



### Purpose

This Procedure has been prepared in lieu of a Sub-plan due to the low risks associated with the environmental aspects of the Project. This Procedure details the effective management measures to minimise the impacts on flora and fauna from disturbance and loss of habitat as a result of vegetation clearing and trimming during the Massey to Amherst Street (M2A) noise barrier works of the project.

This Procedure has been prepared to consider Conditions of Approval (CoA) E48, Revised Environmental Management Measure (REMM) B1 to B3, B5, B10, B11, B14, B15, *Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011), and *Guide 4: Clearing of vegetation and removal of bushrock of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA 2011).

This Procedure addresses the specific environmental performance outcomes for flora and fauna, as outlined in Appendix A2 of the Construction Environmental Management Plan (CEMP).

### Potential Impacts

- Loss of plant species during clearing works.
- Disturbance or mortality of fauna during clearing works.
- Loss of fauna habitat or degradation.
- Fragmentation of habitats

### Recorded Threatened Flora

There are no records of threatened flora or fauna species that have been identified in the vicinity of the noise barrier works (refer to EIS Table 19-5 and Appendix S Biodiversity Development Assessment Report).

### Training and Inductions

All personnel will receive Environmental Inductions and ongoing training via Toolbox Talks, including Vegetation Clearing Procedure. Toolbox talk or pre-start meeting will be undertaken to discuss limit of clearing, clearing procedures, fauna handling and any weed identification and control measures. The ecologist /arborist will endeavour to individually remove sections of a tree containing a hollow or habitat prior to clearing and felling where applicable.

Within three months of the removal of any native trees, consult with the local community restoration/rehabilitation groups, Landcare groups, relevant council(s), DPI Fisheries and any relevant public authorities to determine if there is an interest for the reuse of suitable timber and root balls in habitat enhancement and rehabilitation work.

### Vegetation Clearing Procedure

Vegetation removal including the clearing of native vegetation and fauna habitat will be minimised, where feasible. Where unavoidable, the following Vegetation Clearing Procedure will be implemented during works:

#### Pre-clearing Survey

1. Pre-clearing surveys will be completed and reported by a suitably qualified ecologist, prior to the clearing of vegetation, and provide a report including with respect to the following matters:

- a. Identify the species and location of any weeds growing anywhere in the road reserve over the length to be cleared
  - b. Identify all locations of threatened flora species and trees to be marked or otherwise identified for preservation.
  - c. List any trees outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property.
  - d. Identify and clearly mark all hollow bearing trees.
2. The Environmental Staff (or delegated representative) will also inspect fauna habitat (including native and exotic trees and other vegetation, hollow bearing trees) for presence of fauna for relocation prior to clearing under the guidance of an ecologist.
  3. The ecologist will identify areas of habitat suitable for the release of fauna displaced during clearing of habitat trees prior to the commencement of vegetation clearance (refer to Fauna Encounter Procedure).

### **Delineate Vegetation**

The Environmental Manager and Site Supervisor will delineate the area of vegetation to be cleared or trimmed, based on the Pre-clearing Report using fencing or flagging. The area of vegetation that is to be retained will be delineated and signage will be installed (e.g., Tree Protection Zone – No Access).

**HOLD POINT (G40)** - The presence of weeds and unsound trees must be reported to TfNSW, including the limits of clearing and areas of weed infestation identified in the Pre-clearing Report before starting any clearing. The Environmental Manager (or delegate) will review the Pre-clearing Report, inspect and mark trees for preservation.

Clearing Permit is to be signed and issued from the Environmental Manager, prior to the commencement of any clearing works.

The G40 Hold Point release will be provided by the TfNSW Project Manager when they are satisfied that all commitments noted above have been fulfilled. This approval is required prior to commencement of removal of vegetation.

### **Remove Vegetation**

Vegetation clearing will be undertaken in accordance with the Pre-clearing Report using appropriate equipment and methods as identified below.

1. Only clear within delineated area. **Where clearing or trimming is required outside the Pre-clearing Report area, this must be raised with the Environmental Manager before the commencement of any activity to seek further approvals required.**
2. If weeds are present, program works from the least infected areas to most infected areas, where practicable (refer to Weed Management for additional detail on management and removal of weeds).
3. All non-marked habitat trees and features will be removed first. Groundcover habitat features (i.e., logs) that are not too large will be removed and searched. All remaining marked habitat trees will be knocked (gently tapped with construction equipment) at the end of each day of clearing, and groundcover features will be gently rolled and searched for the presence of animals at the same time.
4. Marked habitat trees will be shaken prior to felling using an excavator or similar equipment, then left for a specific period (determined by the qualified ecologist) to allow any fauna using the hollows to be observed.
5. Each marked habitat tree will be thoroughly searched for the presence of animals and carefully removed in the presence of a suitably qualified ecologist and/or fauna rescue personnel.
6. An ecologist will instruct the equipment operator regarding how and which side to fell the trees. In some instances, sections of a tree containing a hollow or habitat may be individually removed prior to felling.

7. Hollow-bearing trees will be slowly pushed over, with care taken to avoid damage to hollows. All practical measures will be taken to ensure that the tree falls as slowly as possible.
8. An ecologist will instruct the equipment operator regarding how and which side to fell the trees. In some instances, sections of a tree containing a hollow or habitat may be individually removed prior to felling.
9. Fauna found during the clearance searches will be either left to move into adjacent habitat on their own accord or captured and released into adjacent or nearby suitable habitat, at a time suitable for the subject species (refer to Fauna Handling Procedure).
10. If interested parties have been identified, native trees that are removed that are greater than 25-30 cm in diameter and 3 m in length must be salvaged and stored for a period of at least six weeks to enable collection by interested parties.
11. Mulch derived from native trees (not previously salvaged in Step 9) is to be reused on-site for erosion and sediment control or landscaping, if practicable. Residual mulch is to be taken to a recycling facility. Mulch/ green waste containing herbaceous noxious weeds will be managed in accordance with the Waste and Resource Use Management Procedure. Records of mulch/ green waste sent off site will be recorded.

### **Tree Protection**

- Safe working distances will be maintained outside the dripline of tree canopies.
- Avoid structural root zone and protect roots, as required.
- Any roots that are intercepted or require removal as part of the works will be inspected by an ecologist prior to the works commencing.

### **Monitoring and Inspection**

The Environmental Manager will inspect the implementation of high visibility fencing and signage near the vegetation clearing boundaries. The inspection will be undertaken daily during clearing activities.

### **Reporting**

A suitably qualified ecologist will report on the results of Pre-clearing Survey prior to clearing works commencing.

This will be issued to the project team, with the details of this report to be used for input into relevant project documentation, such as sensitive area mapping.

The outcomes of the clearing process will be recorded, including a count of trees and their species to assist with the calculation the 2:1 offset as required by CoA E187.

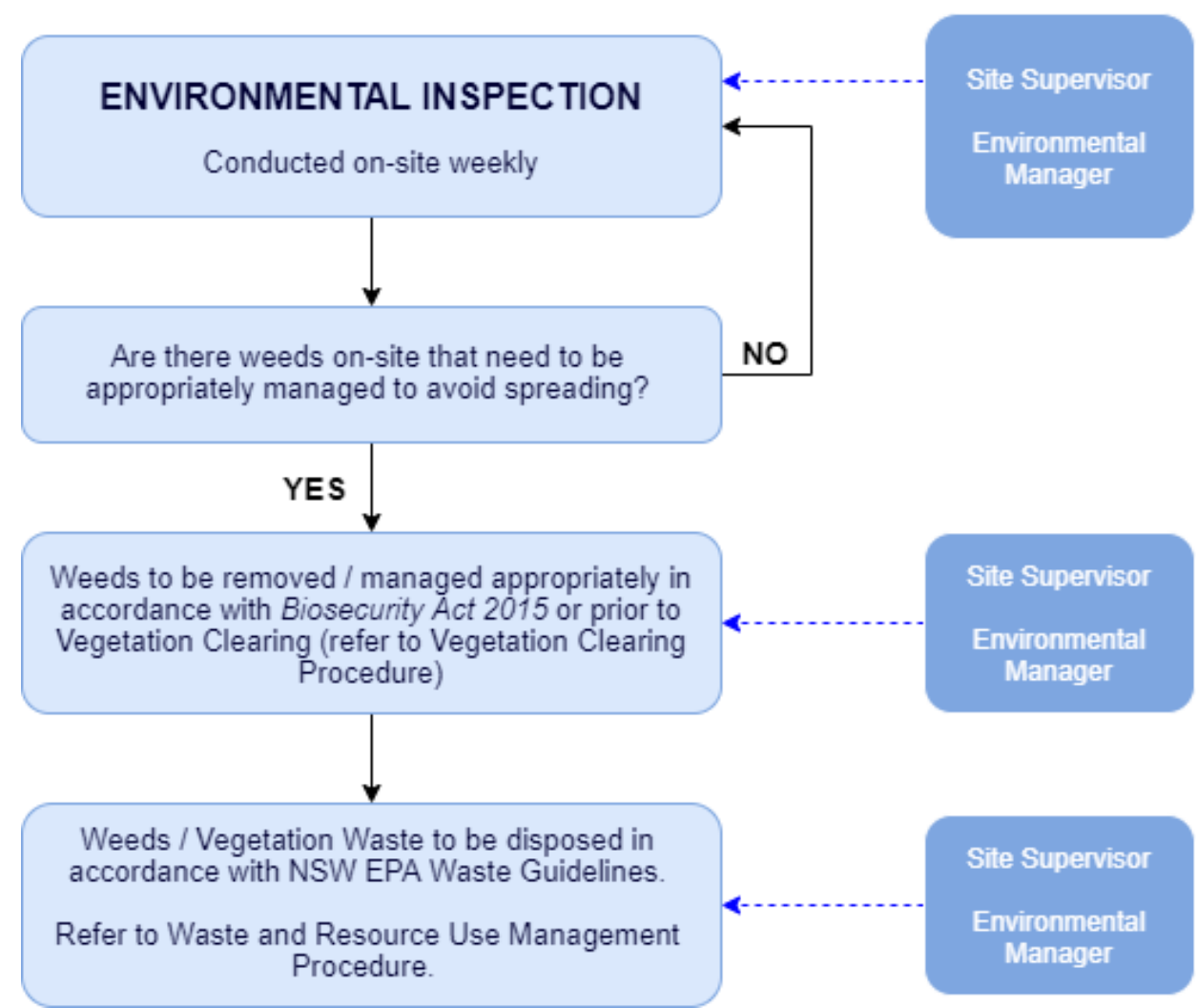
### **Unexpected Finds**

The Unexpected Species Find Procedure included in *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) will be followed if threatened ecological communities, flora or fauna species, not previously identified, are identified in the vicinity of the noise barrier works.

# Flora and Fauna Management Procedure

## WEED MANAGEMENT

### Weed Management Flowchart



### Purpose

This Procedure details how weeds will be managed and controlled to prevent or minimise the spread of noxious and environmental weed species, throughout the Massey to Amherst Street (M2A) noise barrier works of the project.

This Procedure has been prepared to consider *Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) and *Guide 6: Weed management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).

### Potential Impacts

The noise barrier works will be undertaken in highly urbanised areas, with little to no native vegetation, reducing the threat of weeds to biodiversity. However, this Procedure will be implemented to minimise the risk of potential introduction and spread of weeds during activities.

### Training and Inductions

All personnel will receive Environmental Inductions and ongoing training via Toolbox Talks, including the existence of any priority weeds on site and management procedures.

### Mitigation Measures

The introduction of weed species on-site will be minimised through the following:

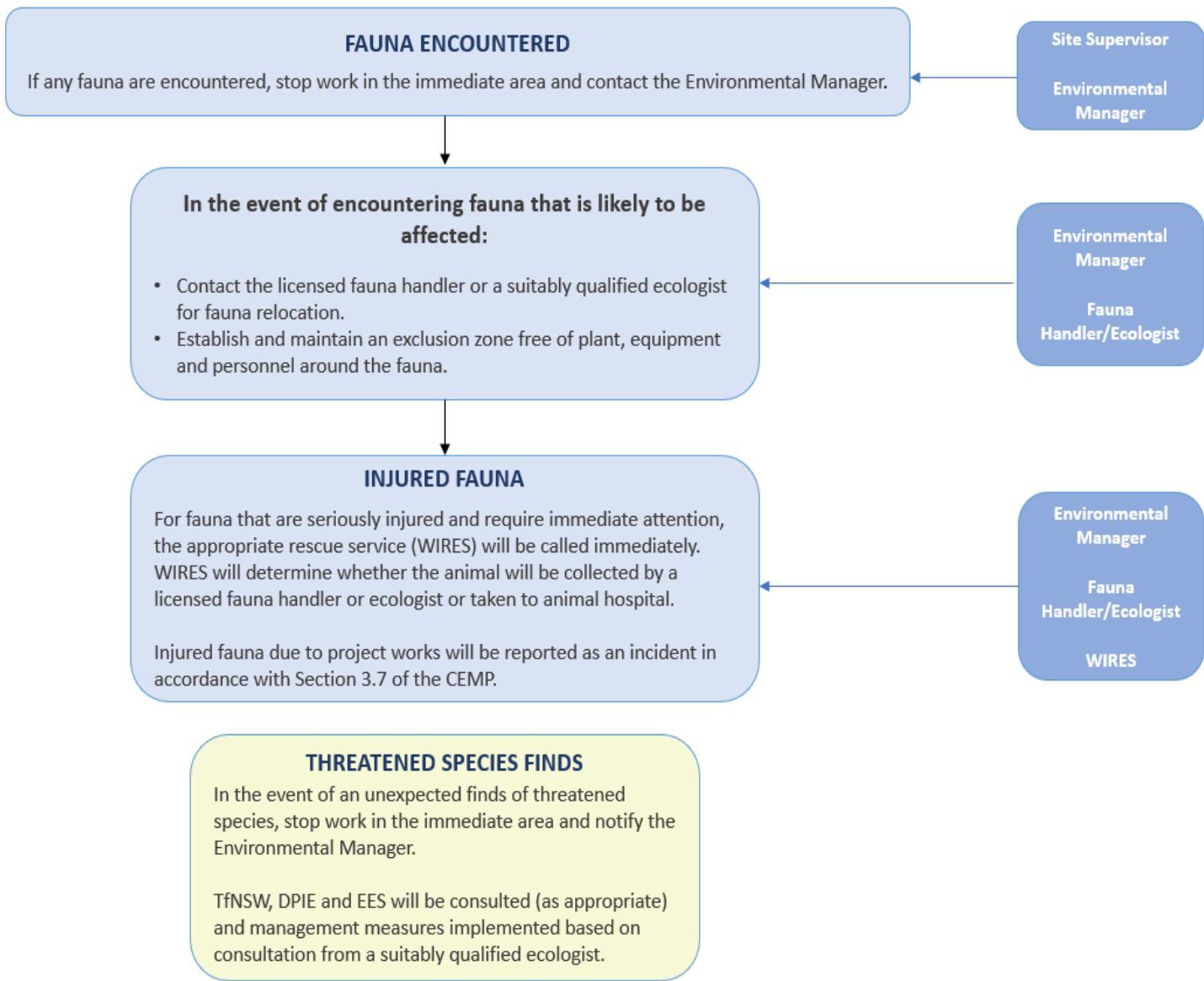
- Map and mark areas that are infested with weeds as an exclusion zone with fencing and signage to limit access by personnel and vehicles.
- Clean machinery and vehicles will be inspected prior to arriving or departing from site to minimise the likelihood of transferring any plant material and soil.
- As far as possible, ensure any soil, plants or other materials entering the site are free of weeds and pathogens.
- Securely cover loads of weed-contaminated material to prevent weed plant material falling or blowing off vehicles.
- All weed plant material and topsoil containing weed plant material will be disposed of to an appropriate waste management facility.
- Remove weeds immediately onto suitable trucks and dispose of without stockpiling where possible.
- Any use of pesticides must be in accordance with the *Pesticides Act 1999* (NSW).



# Flora and Fauna Management Procedure

## FAUNA HANDLING

Fauna Handling Management Flowchart



### Purpose

This Procedure details the effective management to minimise impacts on fauna encountered during throughout the Massey to Amherst Street (M2A) noise barrier works of the project. This Procedure applies to native and introduced species (domestic or pest) that are found on work sites, including injured, shocked, juvenile and other animals. This Procedure has been prepared to consider *Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).

### Potential Impacts

- Potential injury or mortality of fauna due to construction activities.
- Risk to health and safety of workers during the encounter of aggressive or venomous fauna.

### Training and Inductions

All personnel will receive Environmental Inductions and ongoing training via Toolbox Talks, including fauna handling procedures. Flora and fauna specific toolboxes will be conducted prior to the removal of vegetation and throughout construction.

### Mitigation Measures

In order to reduce the impact on local fauna and minimise the possibility of a fauna encounter on-site, the following mitigation measures will be implemented where possible:

- Allow fauna to leave an area without intervention as much as possible.
- All vegetation clearing will be conducted in accordance with the Vegetation Clearing Procedure.
- All hollow bearing trees will be identified by the Environmental Manager and documented on the environmental control maps (ECM) (or similar control).
- Temporary fauna fencing may be installed to reduce the chances of injury from construction equipment, especially where there is a high risk of mobile threatened fauna species entering the work site.
- Where hollow dependent native fauna are found using existing hollows, compensatory tree hollows that are appropriate for the species should be provided prior to removing the tree hollows and prior to the release of the hollow dependent fauna unless the removed tree hollows can be relocated and installed on the same day they are removed.

### Handling of Fauna

1. If any fauna is encountered, stop work in the immediate area and notify the Environmental Manager.
2. No animals are to be handled by site personnel. A licensed fauna handler or suitably qualified ecologist must be contacted to handle all fauna (refer to the flowchart for fauna handling management). All site personnel and/or subcontractors are to be excluded from the vicinity.
3. If the animal is a threatened species that is not identified in the EIS, the Environmental Manager will be notified immediately. TfNSW, EES and DPIE will be consulted (as appropriate) and management measures will be implemented based on the consultation from a suitably qualified ecologist.

## Fauna Release

Animals will only be released at a time and place that is suitable to the species and provides it with a likely chance of survival (i.e., release should not increase the risk of stress or predation to the species). Release will not take place during periods of heavy rainfall.

A licensed fauna handler or suitably qualified ecologist must be contacted to release all fauna (refer to the flowchart for fauna handling management). All site personnel and/or subcontractors are to be excluded from the vicinity.

A suitably qualified ecologist is to identify and assess suitable release sites.

### For native fauna (other than snakes or bats)

If the fauna is not injured, the licensed fauna handler or suitably qualified ecologist will release the fauna into a suitable area in accordance with the following procedures:

1. Release fauna into pre-determined habitat identified for fauna release.
2. Release fauna into similar habitats, as near as possible to their capture location.
3. If the species is nocturnal, release will be carried out at dusk if practicable.

If the fauna is injured, the appropriate rescue service will be called immediately (refer to the flowchart for fauna handling management).

Tree hollows approved for removal are to be salvaged (preferably prior to the felling of the tree) and relocated to appropriate locations on the same day the tree hollows are removed and prior to the release of any native fauna found using the tree hollows. Where it is not possible to salvage the existing tree hollow compensatory tree hollows which are appropriate to the fauna species must be provided prior to removing the tree hollows and prior to the release of the hollow dependent fauna.

### For domestic animals (i.e., dogs and cats)

If the animal is not aggressive, the Environmental Manager in consultation with the Communication Manager will arrange for the animal to be returned to its owner (if details are provided on the animal's collar). If there are no details, the animal will be taken to the local council animal shelter.

If the animal is aggressive, the Environmental Manager will arrange for the local council animal control officer to collect the animal.

If the animal is injured and not aggressive, the Environmental Manager will take the animal to the nearest vet.

## Monitoring and Recording

The Environmental Manager will monitor and record on the fauna interactions, including the following information:

- Species.
- Whether the species is hollow dependent, and the provision of compensatory trees hollows prior to release.
- Location and time captured.
- Location and time released.
- Behaviour and condition upon release.
- Details of any injury or deaths that occurred.
- Contact details and location of licensed fauna handler or vet if the animal was transferred into their care.

Fauna that are injured due to the project works will be reported as an incident in accordance with TfNSW's Environmental Incident Classification and Reporting Procedure as identified in Section 3.7 of the CEMP.

# Appendix B4 Soil and Water Management Procedure

# Appendix B4

## Soil and Water Management Procedure

Western Harbour Tunnel and Warringah Freeway Upgrade

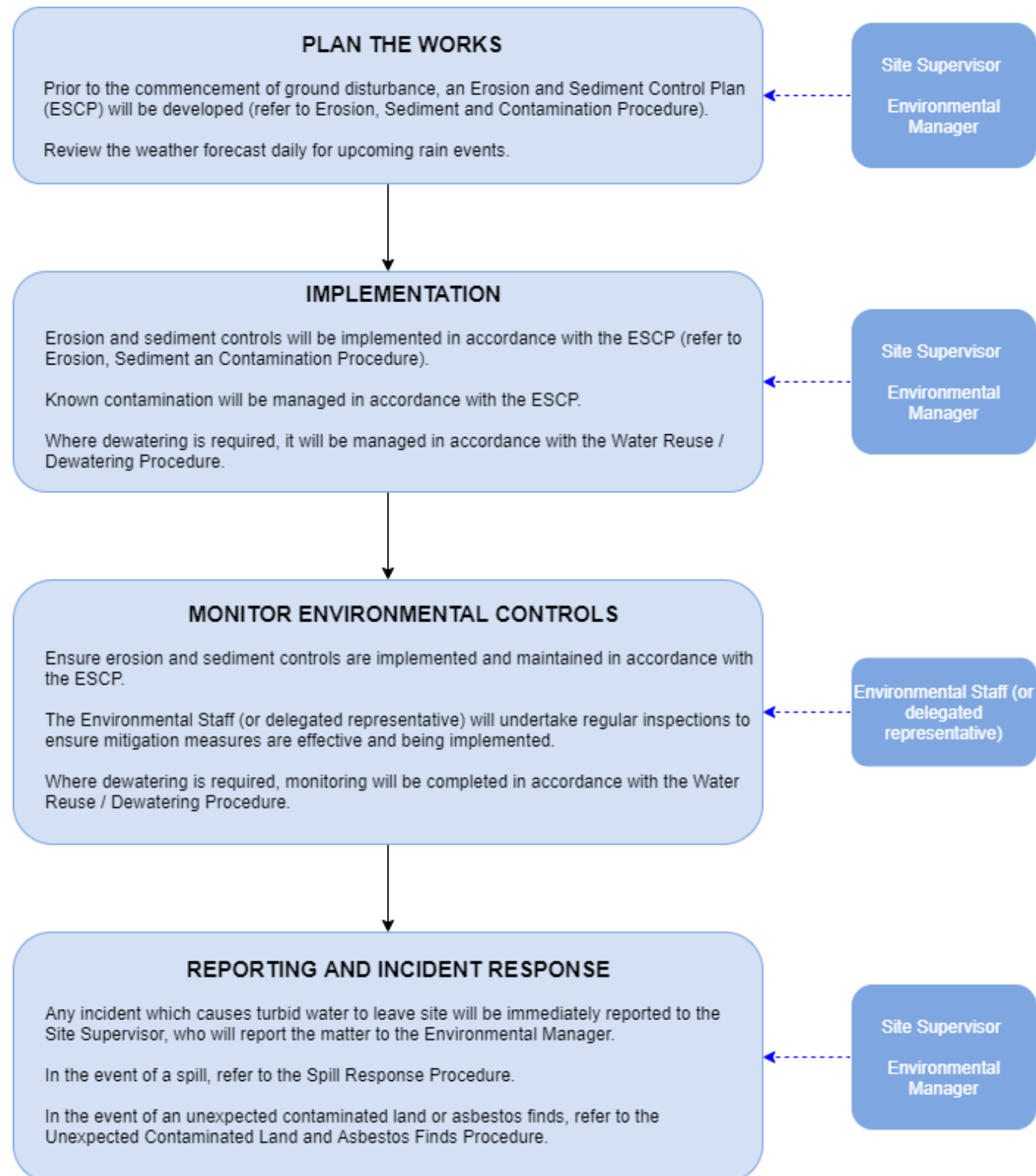
Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

November 2021

THIS PAGE LEFT INTENTIONALLY BLANK

# Soil and Water Management Procedure

## SOIL AND WATER MANAGEMENT OVERVIEW PROCEDURE



### Purpose

This Procedure has been prepared in lieu of a Sub-plan due to the low risks associated with the environmental aspects of the Project. This Procedure describes effective management, monitoring and event response procedures which will be implemented to mitigate soil and water impacts associated with construction of the Massey to Amherst Street (M2A) noise barrier works of the project.

This Procedure has been prepared to consider Conditions of Approval (CoA) E114, E123, E124, Revised Environmental Management Measures SG5, SG6, SG11, SG23, WQ1 and WQ2.

This Procedure addressed the specific environmental performance outcomes for soil and water, as outlined in Appendix A2 of the Construction Environmental Management Plan (CEMP).

### Potential Impacts

- Potential for soil contamination as a result of construction activities (including storage and use of chemicals)
- Potential for pollutants, sediments or contaminated runoff to enter stormwater systems during excavation works and from stockpiles
- Sediment tracking onto public roads from construction vehicles, generating dust and impacting traffic safety
- Encountering contaminated soil or water (including acid sulfate soils and groundwater) during works
- Leaks or spillage of fuels, oil and grease from construction plant and equipment.

### Training and Inductions

All personnel will receive Environmental Inductions and ongoing training via Toolbox Talks, including erosion and sediment control management, contaminated land management, dewatering, spill response and unexpected contaminated land finds.

### Mitigation Measures

Refer to environmental control measures as outlined in the flowchart on Page 4.

### Monitoring

- The Site Supervisor or Environmental Manager (or delegated representative) will visually monitor the effectiveness of soil and water controls during construction activities, on a daily basis, prior to and following rainfall events. Weather monitoring is to be conducted by the Site Supervisor to identify weather conditions and controls will be in place prior to wet or windy weather to prevent turbid runoff.
- As part of the environmental inspections, the Environmental Manager (or delegated representative) will inspect soil and water controls onsite recording their effectiveness and any actions that need to be raised. Records and inspections will be maintained in accordance with Sections 3.9 and 3.10 of the CEMP.

### Reporting

- Any incident which causes contamination of soil or water, or results in offsite discharge of water that has not been approved is to be immediately reported to the Site Supervisor. The Site Supervisor will report the matter to the Environment Manager.



- Complaints related to soil and water will be managed in accordance with the Community Communication Strategy. Appropriate corrective actions will be undertaken to reduce emissions in a timely manner.

# Soil and Water Management Procedure

## EROSION, SEDIMENT AND CONTAMINATION MANAGEMENT

### Erosion and Sediment Control Plan (ESCP)

An ESCP will be developed for the work site prior to the commencement of ground disturbance. The ESCP will outline appropriate erosion and sediment controls to minimise water pollution and maintain existing water quality of surrounding surface watercourses. The ESCP will be developed in accordance with *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom, 2004) and *Managing Urban Stormwater: Soils and Construction Volume 2* (Department of Environment and Climate Change, 2008). The ESCP will detail:

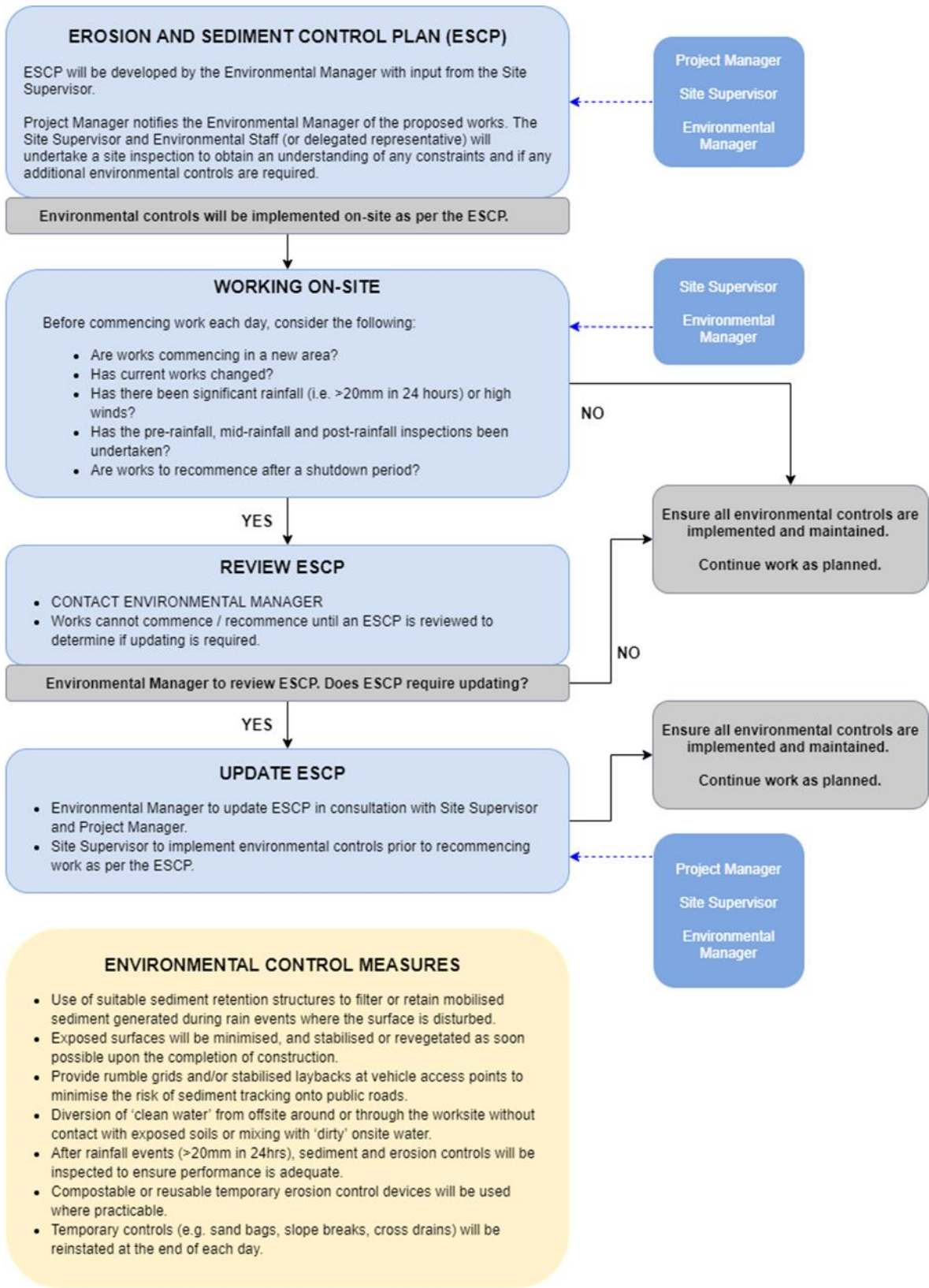
- Required erosion and sediment control measures for the site
- Overview of construction activities and their locations if they have the potential to impact on stormwater flows and groundwater
- Location of discharge points
- Details of temporary stockpiles, location and management.

The Environmental Manager (or delegated representative) will undertake site inspections on a weekly basis, and prior to and following rainfall events including a review of erosion and sediment controls on-site, ensuring all controls are undamaged, functional, adequate and installed as per the ESCP. A soil conservation specialist will be engaged by both TfNSW and the Contractor for the duration of construction of the project to provide advice regarding erosion and sediment control including review of ESCPs. A G38 Hold Point will be released by the SPA Environment Manager prior to any ground disturbance.

The ESCP will be updated to reflect the current site conditions as required. All reviews and amendments will be conducted by the Environmental Manager in consultation with the Site Supervisor.

### Minimising Water Use

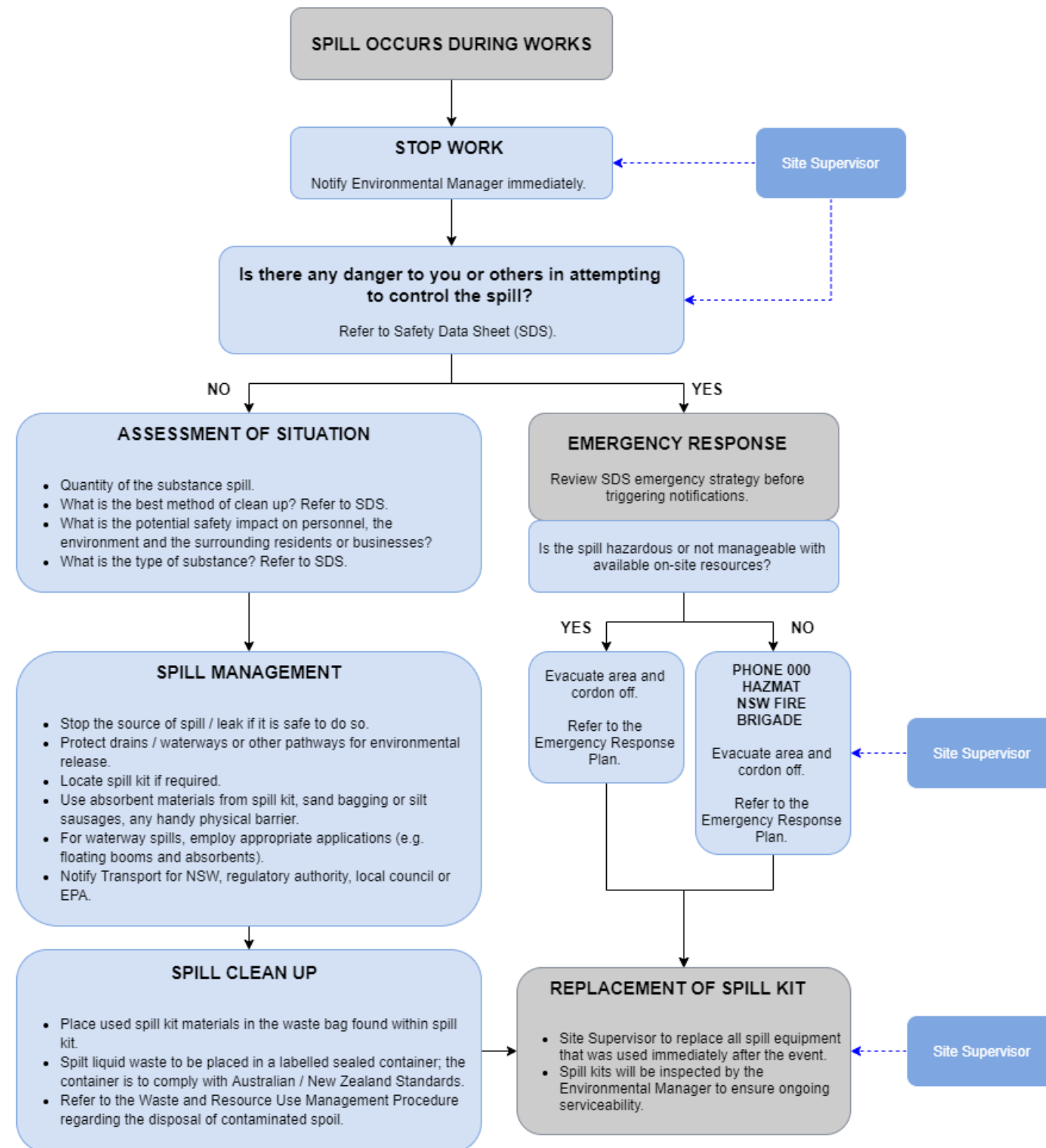
- Where feasible and reasonable, construction water will be sourced from non-potable sources
- Water efficient controls, fixtures and fittings will be in place for temporary facilities
- Where possible, use water efficient construction methods and equipment.



# Soil and Water Management Procedure

## SPILL RESPONSE PROCEDURE

### Spill Response Flowchart



### Spill Prevention

#### Spill Response Procedure

- In the event of a spill, this Spill Response Procedure will be implemented
- Appropriate security measures will be implemented to prevent unauthorised access by the public to the work site
- Fuel, chemical storage and handling areas will be clearly identified with signage
- Fuel, chemical storage and handling areas will be regularly checked for signs of spills and ensure the capacity of secondary containment is maintained
- Bunds must have 110% capacity of the total volume of liquids stored (Australian Standard AS 1940-2004: The storage and handling of flammable and combustible liquids)
- Hazardous substances will be stored onsite in lockable containers, in their original receptacles only
- All hazardous substances will be clearly labelled and have Safety Data Sheets available nearby
- All hazardous substances will be stored and managed in accordance with *the Storage and Handling of Dangerous Goods Code of Practice* (WorkCover NSW, 2005) and Hazardous and Offensive Development Application Guidelines
- An up-to-date register of hazardous substances will be kept onsite at all times
- Hazardous substance use that could result in a spill will not be carried out near drainage or stormwater lines and, wherever possible, will be conducted within defined bunds. Where practical, small bunds will be provided on site to provide temporary storage for small containers at the point of use.
- Spill kit and fire response equipment will be located where chemicals are stored and where refuelled plant are operated or maintained. If refuelling is undertaken on site it will be in a designated area away from drainage lines. All refuelling activities will be supervised.
- All spills or leakages will be immediately contained and cleaned up, ensuring waste material is appropriately disposed
- Used packages (drums and containers) and containers storing waste liquids must be sealed and disposed of in accordance with the Waste and Resource Use Management Procedure
- Plan and execute the works so as to minimise the possibility of pollution of the site and adjoining areas by chemicals, dangerous goods and other potential contaminants.

#### Incident Management

- Incidents are managed in accordance with Section 3.7 of the CEMP. The investigation will include a review of events leading up to the incident and implement improved practices as required, with findings reported to TfNSW.
- Corrective actions may include monitoring groundwater and/ or nearby surface waters for possible contamination if required and spills are considered to be substantial.
- In accordance with Part 5.7 the *Protection of the Environment Operations Act 1997*, should the incident be deemed to have resulted in or potential for material environmental harm, or the associated clean-up costs exceed \$10,000, the Environmental Manager or Project Director will notify the relevant authorities.



# UNEXPECTED CONTAMINATED LAND AND ASBESTOS FINDS PROCEDURE

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

October 2021

THIS PAGE LEFT INTENTIONALLY BLANK

**List of emergency and key contacts**

Position	Name	Phone
EPA pollution hotline		131 555
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		(02) 9391 9000
SafeWork NSW		131 050
North Sydney Council		(02) 9936 8100
24 hour community information line		1800 931 189
SPA Environmental Manager	Daniel Lidbetter	0427 768 613
SPA Community Manager	Amanda Muir	0499 542 816
SPA Project Manager	Jason Nisbet	0418 693 964
SPA Superintendent	John Cosgrave	0419 717 529
Environmental Representative	Maurice Pignatelli	0407 493 176
Transport for NSW Representative (Greater Sydney Project Office)	Richard Peterson	0429 227 775
Transport for NSW Environmental Representative (Motorways)	Rob Owens	0435 578 294
Suitably qualified Contaminated Land Consultant	Michael Stacey	0406 861 835

## Roles and responsibilities

### SPA Site supervisor

- Ensure this Unexpected Contaminated Land and Asbestos Finds Procedure is implemented throughout construction
- Stop work immediately upon becoming aware of a suspected unexpected contamination find
- Inform Environment Manager of unexpected find
- Assist Environment Manager in recording details of unexpected finds
- Work with Environment Manager to develop a plan for managing and/or remediating the unexpected find
- In coordination with the Environment Manager, implement the plan for the management and/or remediation of the unexpected find
- Ensure asbestos removalist (if required) are appropriately licenced
- If required, treat ASS on site to neutralise potential impact to environment
- Recommence work following approval from the Environment Manager
- Prior to any waste being removed from site ensure the waste been classified in accordance with the NSW EPA Waste Classification requirements

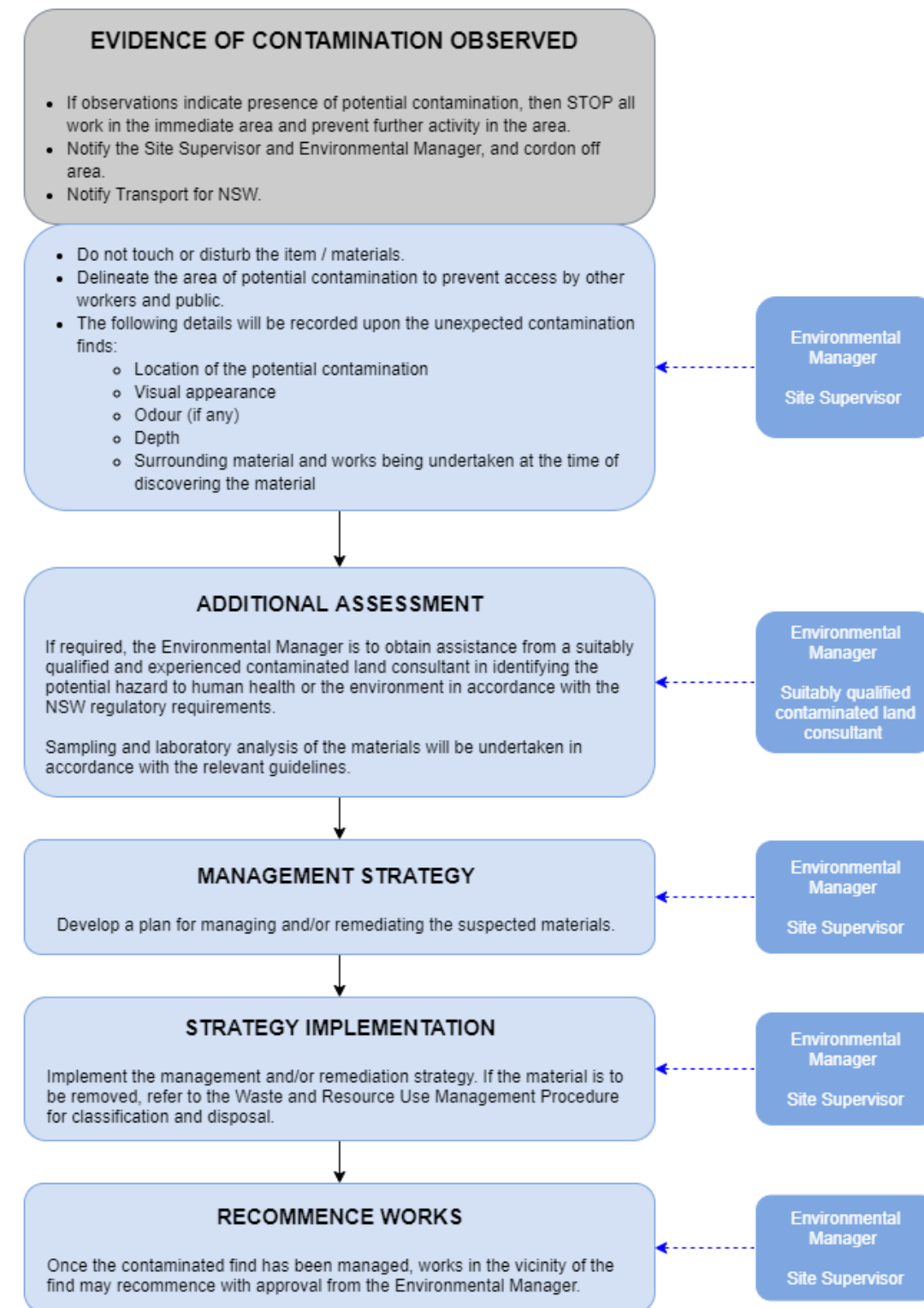
### SPA Environment Manager

- Ensure this Unexpected Contaminated Land and Asbestos Finds Procedure is implemented throughout construction
- Record details of unexpected find
- Engage suitably qualified contaminated land consultant following unexpected find
- Assist suitably qualified contaminated land consultant in the investigation and assessment of unexpected find
- Work with Site Supervisor to develop a plan for managing and/or remediating the unexpected find
- Advise Site Supervisor of appropriate ASS treatment method to neutralise any potential threat to the environment
- In coordination with the Site Supervisor, implement the plan for the management and/or remediation of the unexpected find
- Engage licenced asbestos removalist if required
- Following successful management of the unexpected finds, issue the Site Supervisor with approval to recommence work.

### Suitably Qualified Contaminated Land Consultant

- Identify the potential hazard to human health and/or the environment in accordance with applicable legislative requirements
- Undertake sampling of unexpected finds for laboratory analysis
- Undertake waste classification of any waste to be removed from site in accordance with the NSW EPA Waste Classification requirements
- Issue asbestos clearance certification (if required)

## Unexpected Finds Procedure



The Unexpected Finds Procedure for Contamination must be followed should unexpected contamination or asbestos (or suspected contamination) be excavated or otherwise discovered. Any contamination or asbestos encountered during works must be managed in accordance with the requirements of section 105 of the *Contaminated Land Management Act 2008*.

### Likelihood of contamination

The following indicates the presence of potentially contaminated material; where material is uncovered which displays some or all of these characteristics, stop works and notify the Environment Manager:

- Unusual odour from soils that are not detected in other similar areas
- Discolouration or staining of soil or rock
- Seepage of unusual liquids from soil or rock
- Unusual odours, sheen or colour on groundwater and/or surface water
- Unusual metal objects
- Unexpected underground storage tanks, buried drums or machinery etc.
- Presence of waste or rubbish above or below ground
- Potential asbestos containing material

Where these factors are identified, the material is considered to be possibly contaminated and the flowchart is to be followed.

### Asbestos

An unexpected asbestos find occurs when asbestos containing materials (ACM), not identified in the Asbestos Register, are found on site. In the event of an unexpected asbestos find, the below steps are to be followed along with the flowchart:

1. The area is to be demarcated, works in the area to cease and workers warned
2. Notify the Environmental Manager and Site Supervisor.
3. The storage of the soil and potential asbestos should be undertaken to ensure the material remains damp with dust suppression or covered where water cannot be accessed.
4. Arrange for testing of the suspected ACM and monitoring of the area (if required)
5. An asbestos removalist is to be engaged to provide recommendations to treat the area, as required
6. A clearance certificate is required from the asbestos removalist to confirm that the area has been made safe.

### Acid Sulfate Soils

The EIS indicated that there is high probability of ASS occurrence within Sydney Harbour and Rozelle Bay. The critical utility works are unlikely to be undertaken within these known areas of ASS.

If detailed investigations determine high-risk ASS, then it will be identified on relevant Sensitive Area Plans and should works require impacts to ASS, the works will be undertaken in accordance with this procedure.

If ASS is encountered, possible management strategies include:

- Modifying the work to avoid the area of ASS.
- Delineation and removal of material to a suitably licenced facility.
- Onsite treatment to neutralise the ASS, which could include the application of lime. The storage of this material should ensure that potential contamination cannot leave site or cross contaminate other materials on site.

The management of ASS includes appropriate erosion and sediment controls to minimise the potential for pollution to waters.

Any material to be removed off-site will be classified in accordance with the NSW EPA Waste Classification requirements. Should any potentially contaminated material be required to be stockpiled on site it will be in accordance with the Stockpile Management Protocol.

NB: DPIE approved CoA E123 Rev 2 to be inserted here

# Appendix B5 Heritage Management Procedure

# Appendix B5

## Heritage Management Procedure

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

October 2021



THIS PAGE LEFT INTENTIONALLY BLANK

# Heritage Management Procedure

## Purpose

This Procedure details the effective management measures that will be implemented to minimise impacts to Aboriginal and non-Aboriginal heritage during the Massey to Amherst Street (M2A) noise barrier works.

This Procedure has been prepared to consider the Conditions of Approval (CoA) E50, E57, E58, E59, E60 to E62 (only if an unexpected artefact or relic is discovered that would trigger these conditions), E63 and E64, and Revised Environmental Management Measures (REMM) AH5, AH6 and NAH10 to NAH12. The Unexpected Heritage Finds and Human Remains Procedure has been developed in consideration of Roads and Maritime Services *Standard Management Procedure: Unexpected Heritage Items* (RMS 2015).

This Procedure addressed the specific environmental performance outcomes for heritage, as outlined in Appendix A2 of the Construction Environmental Management Plan (CEMP).

## Training and Inductions

All personnel will receive Environmental Inductions and ongoing training via Toolbox Talks, including Aboriginal and non-Aboriginal heritage management measures. Non-Aboriginal historical heritage awareness training will be provided for site personnel prior to commencement of works. The training will communicate potential and actual heritage items that may be impacted during the works, and the procedure required to be carried out in the event of discovery of historical heritage materials, features or deposits, or the discovery of human remains. Cultural and historic heritage awareness training will be carried out for personnel engaged in work that may impact heritage items before commencing works.

## Non-Aboriginal Heritage

### Potential Impacts

Table 1 outlines the heritage items and conservation areas that exist in the vicinity of the noise barrier works (refer to EIS Figure 14-4 and Appendix J Non-Aboriginal Heritage).

Table 1 Heritage items / conservation areas in the vicinity of the noise barrier works

Heritage item / conservation area	Listing	Heritage significance	Potential impact
Cammeray Conservation Area at Cammeray	<ul style="list-style-type: none"><li>North Sydney LEP 2013</li><li>Register of the National Estate</li></ul>	Local	The noise barrier works will be undertaken, 270 m away from the Cammeray Conservation Area. It is unlikely that the works will impact the heritage significance of Cammeray Conservation Area as construction activities would not result in vibration that would impact this area
Heritage House (I0002) at 11 Armstrong Street, Cammeray	<ul style="list-style-type: none"><li>LEP Heritage Item (DPIE, 2017)</li></ul>	Local	The noise barrier works will be undertaken, approximately 50 m from the Heritage House I0002. It is unlikely that the works will impact the heritage significance of the Heritage House as construction activities would not result in vibration that would impact this property
Heritage House (I0023) at 280 West Street, Cammeray	<ul style="list-style-type: none"><li>LEP Heritage Item (DPIE, 2017)</li></ul>	Local	The noise barrier works will be undertaken, approximately 60 m from the Heritage House I0023. It is unlikely that the works will impact the heritage significance of the Heritage House as construction activities would not result in vibration that would impact this property

Heritage item / conservation area	Listing	Heritage significance	Potential impact
Tarella, Cammeray	<ul style="list-style-type: none"><li>State Heritage Register</li><li>North Sydney Local Environmental Plan 2013</li><li>Register of the National Estate</li><li>National Trust of Australia (NSW) Register</li></ul>	State	The noise barrier works will be undertaken, approximately 180 m from Tarella. It is unlikely that the works will impact the heritage significance of the Tarella property, Cammeray as construction activities would not result in vibration that would impact this property

The EIS does not identify any additional areas of terrestrial archaeological potential within the study area for the noise barrier works.

## Mitigation Measures

To minimise potential impacts on non-Aboriginal heritage during noise barrier works, the following management measures will be implemented:

- The location of known non-Aboriginal heritage items and conservation areas in the vicinity of the works are shown on the sensitive area plans (Appendix A6 of the CEMP). Their location will be communicated to all site personnel prior to the commencement of works.
- If at any time during the works, potential historical heritage materials, features and/or deposits or possible human skeletal material (remains) are encountered during investigations, work will cease and the Unexpected Heritage Finds and Human Remains Procedure will be followed. The Environmental Manager will be notified and will notify the Department of Premier and Cabinet (Heritage) (02 9228 5555) and/or NSW Police (000) (human remains) if required. An investigation will be carried out by a suitably qualified archaeologist to identify measures to minimise impacts on the find before work resumes.
- Impacts on non-Aboriginal heritage related to vibration will be managed through the Noise and Vibration Management Sub-plan (NVMP). The Construction Noise and Vibration Impact Statement (CNVIS) also includes an assessment of potential vibration impacts.

## Reporting

- In accordance with CoA E62, in the event an unexpected artefact or relic is discovered a Final Excavation Report will be prepared and submitted to Heritage NSW and North Sydney Council

## Aboriginal Heritage

### Potential Impacts

The noise barrier works are not expected to impact on any items of Aboriginal heritage. Online Aboriginal Heritage Information Management System (AHIMS) searches revealed no recorded Aboriginal heritage items within 50 metres of the noise barrier work sites. The works are not located in or near any waterways and would not have the potential to impact any submerged items of Aboriginal heritage.

No features or areas of potential archaeological remains are located within the vicinity of the works.

The noise barrier works will be carried out in accordance with the requirements of the RTA Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI).

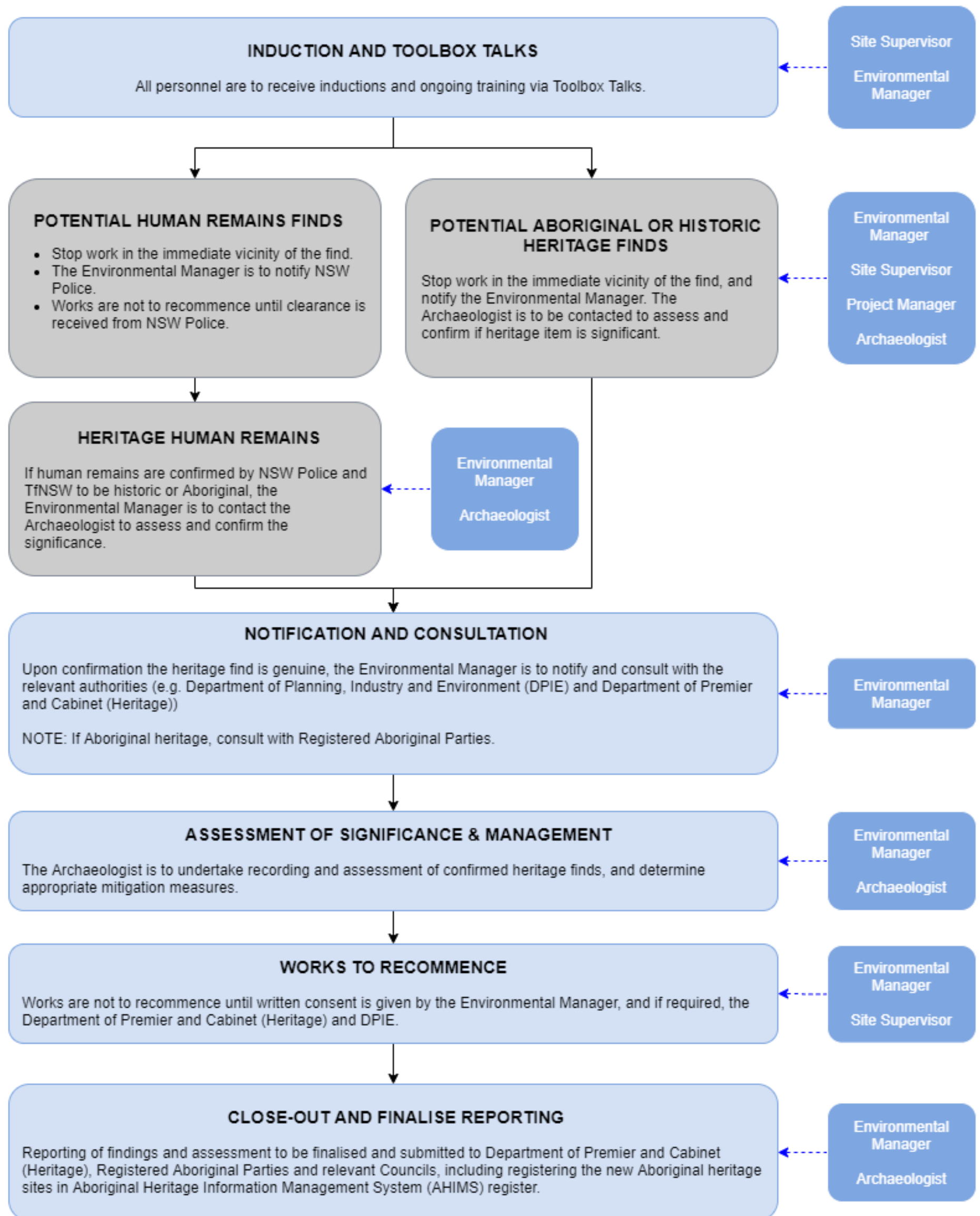
#### **Mitigation Measures**

If potential or actual Aboriginal heritage items are uncovered during the works, all works in the vicinity of the affected area will cease and the TfNSW Aboriginal Cultural Heritage Advisor will be contacted immediately to provide specialist heritage advice, before works recommence. The Unexpected Heritage Finds and Human Remains Procedure will be followed. Where required, new discovered Aboriginal heritage sites will be registered in the online AHIMS register.

Take all reasonable steps so as not to harm, modify or otherwise impact Aboriginal objects except as authorised by the approval (SSI 8863).

# Heritage Management Procedure

## UNEXPECTED HERITAGE FINDS AND HUMAN REMAINS PROCEDURE



# Appendix B6 Air Quality and Odour Management Procedure

# Appendix B6

## Air Quality and Odour Management Procedure

Western Harbour Tunnel and Warringah Freeway Upgrade

Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

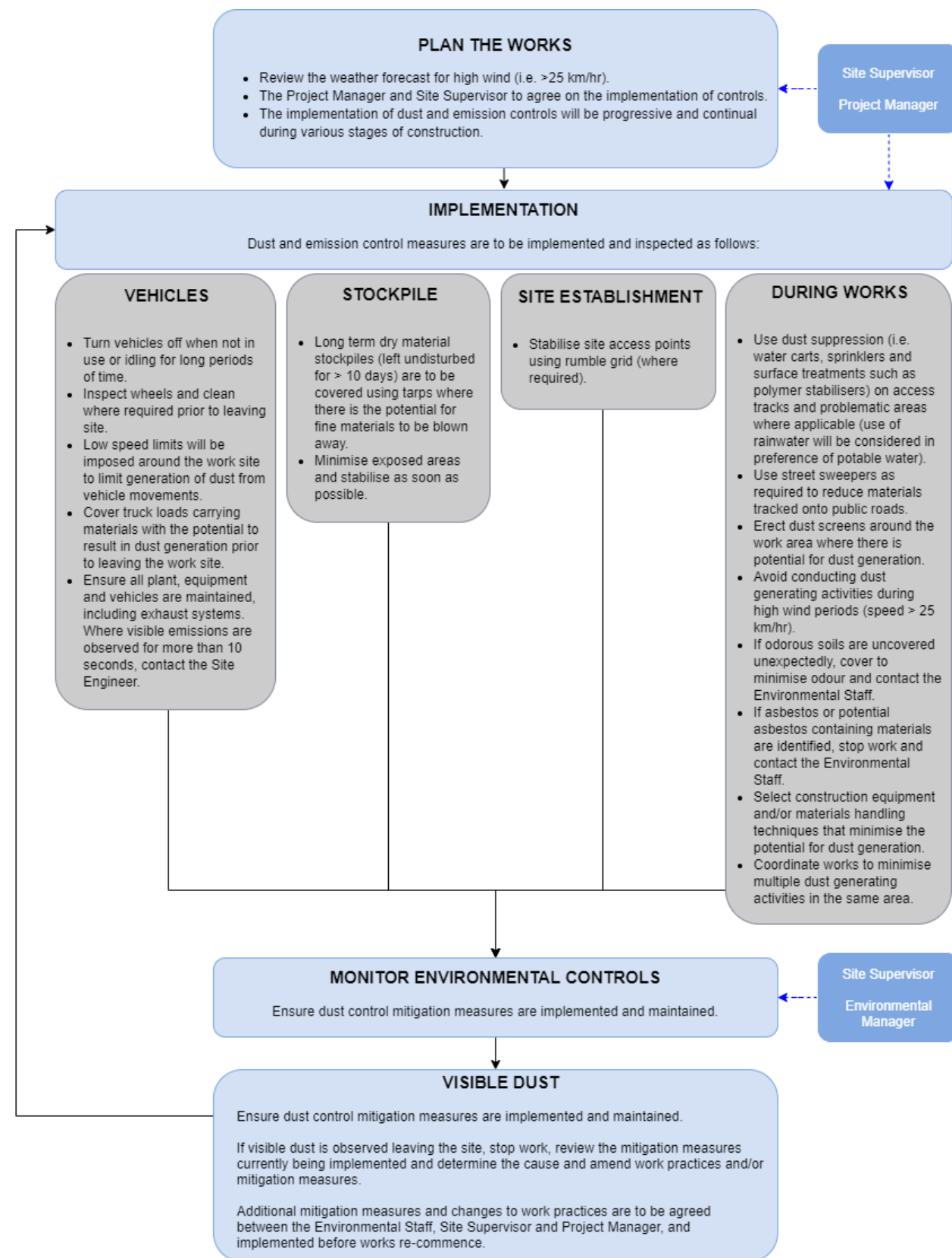
October 2021

THIS PAGE LEFT INTENTIONALLY BLANK



# Air Quality and Odour Management Procedure

## Air Quality and Odour Management Flowchart



## Purpose

This Procedure details the effective management practices, which will be implemented to minimise the emission of dust, odour and other air pollutants during the Massey to Amherst Street (M2A) noise barrier works of the project.

This Procedure has been prepared to consider with the Conditions of Approval (CoA) E1 and Revised Environmental Management Measure (REMM) AQ1 and AQ2.

This Procedure addresses the specific environmental performance outcomes for air quality, as outlined in Appendix A2 of the Construction Environmental Management Plan (CEMP).

## Potential Impacts

- The works at M2A has the potential to only generate minor amounts of dust. Activities that may generate dust impacts include cutting of the rock face to create slots for the noise wall columns, pile auguring and Landscaping Works. As these activities will occur adjacent to the residents on Massey Street, Jenkins Road and Armstrong Streets, a well planned and executed approach is required to ensure dust impacts are minimised. If uncontrolled, the dust and vehicle emissions can cause:
  - Community nuisance and lead to human health (respiratory issues).
  - Damage to personal and public property. This may lead to extensive cleaning requirements and community complaints.
- Dust and vehicle emissions can result in odours that may impact sensitive receivers.

## Training and Inductions

All personnel will receive an Environmental Induction and ongoing training via Toolbox Talks, including air quality management measures.

## Mitigation Measures

Generic mitigation measures are outlined in the flowchart. In addition to the generic mitigation measures, specific mitigations that will be applied include:

- During cutting of the slots/recess into the rock face, water will be applied at the cutting face to minimise the generation of dust
- Task observations will be made by the environmental manager (or their delegate) during piling and landscaping works. Water sprays will be available if further dust suppression is required

## Inspecting and Recording

- The Site Supervisor will visually monitor construction activities (including dust generating activities, emissions from plant equipment and any excessive odours) to ensure dust and emission controls are effective.
- Weather monitoring is to be conducted by the Site Supervisor to identify weather conditions which may result in dust generation i.e. dry, hot and windy conditions. Adjustment or management of dust generating activities during unfavourable weather conditions will be considered, where possible.
- As part of the environmental inspections, the Environmental Manager (or designated representatives) will inspect dust and plant emission controls onsite, recording their effectiveness and any actions that need to be addressed.



- Records and inspections will be maintained in accordance with Sections 3.9 and 3.10 of the CEMP.

### **Reporting and Incident Response**

- Any exceptional incident which causes dust/emissions, either on-site or near the site is to be immediately reported to the Site Supervisor. The Site Supervisor will report the matter to the Environment Manager.
- Dust and air quality complaints will be managed in accordance with the Community Communication Strategy. Appropriate corrective actions, if required, will be taken to reduce emissions in a timely manner.

# Appendix B7 Waste and Resource Use Management Procedure

# Appendix B7

## Waste and Resource Use Management Procedure

Western Harbour Tunnel and Warringah Freeway Upgrade

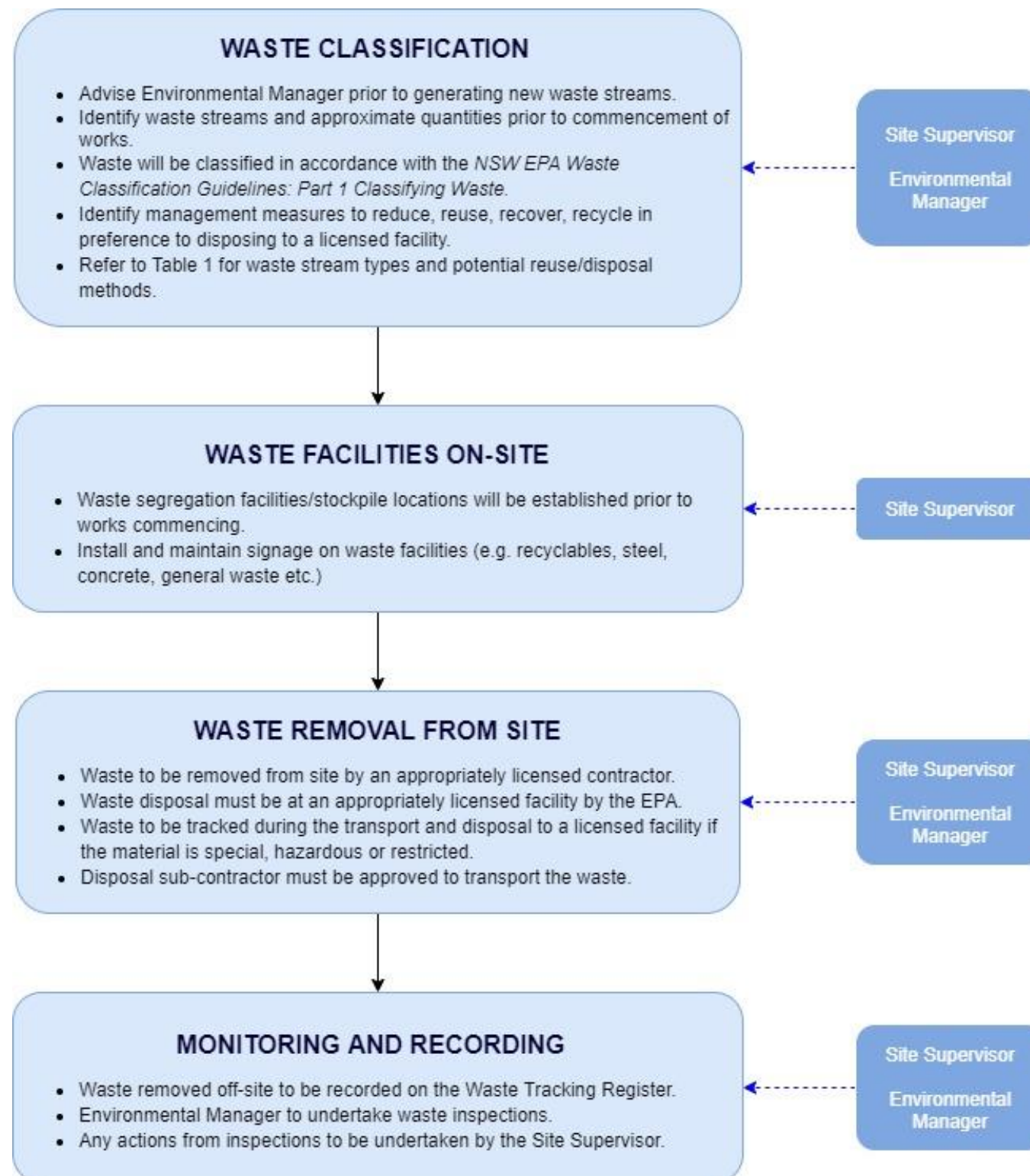
Stage 1C Early and Enabling Works – Massey to Amherst Street (M2A)

October 2021

THIS PAGE LEFT INTENTIONALLY BLANK

# Waste and Resource Use Management Procedure

## Flowchart for Waste Management



## Purpose

This Procedure details effective management and monitoring procedures related to the storage, handling, treating, reuse, recycling and/or lawfully disposal of waste generated during the Massey to Amherst Street (M2A) noise barrier works of the project.

This Procedure has been prepared to consider the Conditions of Approval (CoA) E201, E202, E203 and E205, and Revised Environmental Management Measures (REMM) WM1, WM2, WM3, WM4, SG7 and SG8.

This Procedure addressed the specific environmental performance outcomes for waste and resources, as outlined in Appendix A2 of the Construction Environmental Management Plan (CEMP).

## Potential Impacts

- Excessive volumes of waste directed to landfill from the inadequate collection, segregation, classification and disposal of waste.
- Contamination of soil, surface and/or groundwater from the inappropriate storage, transport and disposal of liquid and solid waste.
- Waste not placed in appropriate bins resulting in litter around the work sites and potentially enter the environment outside of the work sites boundaries.
- Odour and dust created from incorrect waste storage at work sites.

## Training and Inductions

All personnel will receive Environmental Inductions and ongoing training via Toolbox Talks relating to waste and resource use issues.

## Relevant Legislation and Guidelines

- Protection of the Environment Operations Act 1997*
- Protection of the Environment Operations (Waste) Regulation 2014*
- Waste Avoidance and Resource Recovery Act 2001*
- NSW Waste and Resource Recovery Strategy 2014-21 (EPA 2014)*
- NSW Government Resource Efficiency Policy (GREP)*
- Waste Classification Guidelines (EPA 2014)*
- Management of Wastes on Roads and Maritime Services Land (RMS 2014)*
- Technical Guide: Management of road construction and maintenance wastes (RMS 2016)*
- Technical Direction: Legal offsite disposal of RMS Waste (RMS 2015)*
- Technical Direction: Coal tar asphalt handling and disposal (RMS 2015)*
- Stockpile Site Management Guideline (RMS 2011)*
- RMS Waste Fact Sheets EFS-701 to EFS-709 (RMS 2015)*

### Waste Management Hierarchy

Waste management will be undertaken in accordance with the resource management hierarchy principles established under the *Waste Avoidance and Recovery Act 2001*. Resources will be managed according to the following hierarchy (refer to Figure 1):

- Waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced through design, efficient construction methodologies and management.
- Where avoiding or reducing waste is not possible, waste must be re-used, recycled or recovered.
- Where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.



Figure 1 Waste hierarchy (NSW EPA 2017)

### Mitigation Measures

Specific mitigation measures for waste management and resource use are as follows:

- Waste (including rock cuttings) is to be classified in accordance with the *NSW EPA's Waste Classification Guideline* (refer to Table 1)
- The import, storage, treatment, processing, reprocessing or disposal of waste will comply with the conditions of the applicable Environmental Protection Licence (EPL) for the CSSI, or in accordance with a NSW EPA Resource Recovery Exemption or Order
- Minimise waste generation where practical (e.g. minimising packaging)
- Avoid the production of hazardous waste, by avoiding the procurement and use of hazardous chemicals where alternatives are available and minimise the risk of spills and leaks through implementation of adequate controls
- Liquid waste will be stored so as to prevent or control accidental releases to air, soil, and water resources in the work area
- Notify the Environmental Manager prior to generating new waste streams
- Worksites will be free of litter and good standards of housekeeping will be maintained throughout noise barrier works. Regular inspections will be undertaken by the Site Supervisor and Environmental Manager to ensure a high standard is maintained

- Where spoil is to be stockpiled, stockpiles will be managed and segregated to avoid cross contamination
- Waste classified as 'restricted waste', 'special waste' or 'hazardous waste' in accordance with NSW EPA guideline, will be carefully segregated at demarcated and contained locations
- Haulage sub-contractors will be appropriately licenced to transport the classified waste type
- Waste will only be exported to a site licensed by the EPA or to any other place that can lawfully accept the storage, treatment, processing, reprocessing or disposal of the classified waste type. Prior to waste being taken to a waste facility, the Environmental Manager will review and approve the proposed waste facility
- All hazardous substances will be stored and managed in accordance with the *Storage and Handling of Dangerous Goods Code of Practice* (WorkCover NSW, 2005) and *Hazardous and Offensive Development Application Guidelines*.
- Material will be stockpiled in accordance with the Stockpile Management Protocol (refer to Appendix A10 of the CEMP)
- Where feasible and reasonable construction materials will be sourced with a preference for Australian materials and prefabricated products with low embodied energy, in accordance with the project Sustainability Policy (refer to Appendix A5 of the CEMP). Where feasible this will include:
  - Procurement of low embodied energy construction materials
  - Investigating options to incorporate cement replacement materials during construction.

### Waste Stream Classification

Table 1 Waste stream disposal and classification

Waste stream	Classification	Potential recovery/reuse	Disposal
Clean spoil	Excavated Natural Material (ENM)	<ul style="list-style-type: none"><li>• Where possible, all suitable ENM materials will be reused on-site</li></ul>	<ul style="list-style-type: none"><li>• Excess ENM materials will be transferred to the appropriately approved sites under ENM resource recovery order or exemption</li></ul>
Rubble, rock, sand, asphalt, road base, concrete	General Solid Waste (non-putrescible)	<ul style="list-style-type: none"><li>• Collected in designated collection areas and reused as much as practically possible</li></ul>	<ul style="list-style-type: none"><li>• Unsuitable mixed materials will be transferred to appropriately approved waste facilities</li></ul>
Green waste	General Solid Waste (non-putrescible)	<ul style="list-style-type: none"><li>• On-site reuse as mulch</li></ul>	<ul style="list-style-type: none"><li>• Excess green waste will be disposed to an appropriately approved waste facility</li><li>• Off-site reuse as mulch under the mulch resource recovery order or exemption</li></ul>
General recyclables (glass, plastics, cans, paper, cardboard)	General Solid Waste (non-putrescible)	<ul style="list-style-type: none"><li>• N/A</li></ul>	<ul style="list-style-type: none"><li>• Disposal for recycling to approved waste facility</li></ul>
Metal waste / off cuts (i.e. steel reinforcement)	General Solid Waste (non-putrescible)	<ul style="list-style-type: none"><li>• On-site reuse of off cuts where possible</li></ul>	<ul style="list-style-type: none"><li>• Return for recycling to supplier or other facility</li></ul>
Construction/building waste (timber, bricks, wiring waste / off cuts)	General Solid Waste (not putrescible)	<ul style="list-style-type: none"><li>• On-site reuse of off cuts where possible</li></ul>	<ul style="list-style-type: none"><li>• Return for recycling to supplier or other facility</li></ul>
Waste oil	Liquid Waste	<ul style="list-style-type: none"><li>• N/A</li></ul>	<ul style="list-style-type: none"><li>• Liquid waste will be clearly identified and stored separately from other waste materials for selective disposal.</li></ul>



Waste stream	Classification	Potential recovery/reuse	Disposal
			<ul style="list-style-type: none"> <li>A licensed waste collection contractor would collect the liquid wastes generated on site and dispose to appropriately approved liquid waste facilities.</li> </ul>
Asbestos	Special Waste (Asbestos Waste)	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Handle and disposed in accordance with relevant legislation, codes of practice and Australian standards. These include the following: <ul style="list-style-type: none"> <li><i>Contaminated Land Management Act 1997</i></li> <li>Work Health and Safety Act 2011 (NSW)</li> <li>Code of Practice for the Safe Removal of Asbestos 2nd Edition (National Occupational Health and Safety Commission (NOHSC) 2005a)</li> <li>Code of Practice for the Management and Control of Asbestos in Workplaces (NOHSC 2005b)</li> <li>Protection of the Environment Operations (Waste) Regulation 2014 (NSW) – clause 42 special requirements relating to asbestos waste</li> <li>National Environment Protection (Assessment of Site Contamination) Measure 1999</li> <li>AS2601:2001 Demolition of Structures</li> <li>TfNSW Waste Fact Sheet 5 – Asbestos Waste.</li> </ul> </li> <li>Storage of the soil and potential asbestos should be undertaken to ensure the material remains damp with dust suppression or covered where water cannot be accessed.</li> <li>Asbestos material will be appropriately transported and disposed of at a licensed waste facility</li> <li>Asbestos to be managed in accordance with the Unexpected Contaminated Land and Asbestos Finds Procedure.</li> </ul>
General mixed waste	General Solid Waste (non-putrescible)	<ul style="list-style-type: none"> <li>Volume of mixed waste will be minimised through segregation</li> </ul>	<ul style="list-style-type: none"> <li>Return for recycling to supplier or other facility</li> </ul>
PVC waste / off cuts (i.e. piping, electrical conduits)	General Solid Waste (non-putrescible)	<ul style="list-style-type: none"> <li>On site reuse will be practiced where possible</li> </ul>	<ul style="list-style-type: none"> <li>Return for recycling to supplier or other facility</li> </ul>

## Monitoring and Inspection

The Environmental Manager will undertake regular inspections of the site to ensure waste and recycling management practices are being implemented.

## Reporting

Waste (including spoil) removed from the site will be tracked using a Waste Tracking Register. This register will be completed by foreman/site engineer at the site, and will capture the following information:

- Date transported
- Haulage contractor
- Material type
- Waste classification
- Quantity
- Waste receipt location
- Truck registration
- Docket numbers.

Receipts for waste transfer and disposal will be retained and checked to ensure waste is taken to the correct, licenced facility. These appropriate records and disposal dockets will be retained for audit purposes. A copy of the waste facility's EPL will also be retained to verify that the waste facility can lawfully accept the waste being disposed.