Transport Roads & Maritime Services

Construction Environmental Management Plan

Western Harbour Tunnel and Warringah Freeway Upgrade SSI-8863

Stage 2 – Warringah Freeway Upgrade

Transport for NSW

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Construction Environmental Management Plan

Western Harbour Tunnel and Warringah Freeway Upgrade SSI-8863

Stage 2 – Warringah Freeway Upgrade

January 2022

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Document control

Approval

Title	Warringah Freeway Upgrade Construction Environmental Management Plan
Endorsed by Environment Representative	Maurice Pignatelli
Signed	
Dated	
Approved on behalf of TfNSW by	Rob Owens
Signed	
Dated	
Approved on behalf of CPB Contractors / Downer Joint Venture by	Steven Clark
Signed	
Dated	

Version control

Revision	Date	Description	Approval
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B	01/10/2021	Response to address TfNSW comments	Steven Clark
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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	Royal North Shore Hospital Royal North Shore Hospital, Reserve Road ST LEONARDS NSW 2065	(02) 9926 7111
SafeWork NSW		131 050
North Sydney Council		(02) 9955 2309
Willoughby City Council		(02) 9777 1000
24 hour community information line		1800 931 189
Construction Environmental Manager	Howard Chemney	0410 542 009
Project Manager	Steven Clark	0420 977 416
Superintendent	Anthony Ryan	0429 377 297
Environmental Representative	Maurice Pignatelli	0407 493 176
Acoustic Advisor	Larry Clark	0417 133 871
TfNSW Representative	Tony Sheppard	0411 205 178
TfNSW Environmental Representative	Rob Owens	0435 578 294

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Glossary/Abbreviations

Abbreviation	Expanded text
AA	Acoustic Advisor
AQMP	Air Quality and Odour Management Sub-plan
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, material stockpile area and car parking facilities. Note: where an approved management plan contains a stockpile management protocol, a material stockpile area located within the construction boundary is not considered to be an ancillary facility.
ASEMP	Ancillary Site Establishment Management Plan
ASS	Acid Sulfate Soils
CCS	Community communication strategy
CEMP	Construction Environmental Management Plan
CEMS	Contractors Environmental Management System
CLMP	Contaminated Land Management Plan
Compliance audit	Verification of how implementation is proceeding with respect to a Construction Environmental Management Plan (CEMP) (which incorporates the relevant approval conditions).
CSSI	Critical State Significant Infrastructure
CUT	Critical utility installation, relocation and protection works
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
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). The principles of Ecologically sustainable development and outlined in Clause 7(4), Schedule 2 the *Environmental Planning and Assessment Regulation 2000* (NSW).
EESG	Environment, Energy and Science Group
EIS	Environmental Impact Statement
EMM	Environmental Management Measure as outlined in the project EIS documentation.
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.

Abbreviation	Expanded text
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment.
Environmental 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 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 principal point of advice in relation to all questions and complaints concerning environmental performance.
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ERG	Environmental Review Group – generally comprising representatives of TfNSW, Environmental Representative, Project delivery team, regulatory authorities (DPIE, EPA) and councils (North Sydney Council, Willoughby City Council). The ERG will be maintained for the duration of the Project and will meet regularly and undertake environmental inspections. The role of the ERG is to work collaboratively with the project team to provide proactive advice on environmental management issues on the Project.
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental work method statement
FFMP	Flora and Fauna Management Sub-plan
Hold point	Is a verification point that prevents work from commencing prior to approval from TfNSW
HMP	Heritage Management Sub-plan
ICNG	*Interim Construction Noise Guidelines* (Department of Environment and Climate Change, 2009)
Minister, the	Minister for Planning and Public Spaces
MCoA	NSW Minister's Conditions of Approval for SSI-8863
NML	Noise Management Level
NVMP	Noise and Vibration Management Sub-plan

Abbreviation	Expanded text
Non-compliance	Failure to comply with the requirements of the Project approval or any applicable licence, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation.
OOHW	Out of Hours Works
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
PESCP	Progressive Erosion and Sediment Control Plan
PIRMP	Pollution Incident Response Management Plan
Principal, the	TfNSW
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
Project, the	Warringah Freeway Upgrade
REMM	Revised Environmental Management Measure as outlined in the Project RtS
Roads and Maritime	Roads and Maritime Services (now TfNSW)
RtS	Response to Submissions Report
SAP	Sensitive Area Plan
SSI	State Significant Infrastructure
SWMP	Soil and Water Management Sub-plan
TfNSW	Transport for New South Wales
TTAMP	Traffic, Transport and Access Management Sub-plan
WFU	Warringah Freeway Upgrade
WHT	Western Harbour Tunnel
WRMP	Wase and Resource Management Plan

1 Introduction

1.1 Background

The Western Harbour Tunnel and Warringah Freeway Upgrade Project comprises a new motorway tunnel connection across Sydney Harbour, and an upgrade of the Warringah Freeway to integrate the new motorway infrastructure with the existing road network and to enable the future connection of the Beaches Link and Gore Hill Freeway Connection project.

The Warringah Freeway Upgrade Project (the Project) extends from the northern end of the Sydney Harbour Bridge to Willoughby Road, and will optimise traffic flow, reducing the number of merge points along with introducing a southbound bus lane. The upgrade will also improve Ridge Street and Ernest Street bridges.

The Environmental Impact Statement (EIS) was prepared and finalised in January 2020 to assess the impacts of construction and operation of the Project and was placed on public exhibition between 29 January and 30 March 2020. A Response to Submissions Report (RtS) was prepared and finalised in September 2020.

The Western Harbour Tunnel and Warringah Freeway Upgrade Project is classified as State Significant Infrastructure under Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and Clause 94 of the State Environmental Planning Policy (Infrastructure) 2007. The Project was declared Critical State Significant Infrastructure (CSSI) under Section 5.13 under the EP&A Act and Clause 16 of the State Environmental Planning Policy (State and Regional Development) 2011.

The Western Harbour Tunnel and Warringah Freeway Upgrade Project was approved by the Minister for Planning and Public Spaces on 21 January 2021 (CSSI 8863).

1.2 Purpose of this CEMP

This CEMP and Sub-plans have been prepared to outline and describe how the CPB Contractors and Downer Joint Venture (CPB Downer JV) will, during the construction of the Warringah Freeway Upgrade component of the Western Harbour Tunnel and Warringah Freeway Upgrade project, comply with the NSW Minister for Planning and Public Spaces' conditions of approval (MCoA). Additionally, it outlines how CPB Downer JV will minimise the environmental risks and achieve environmental outcomes on the project by providing a structured approach to ensure appropriate Revised Environmental Management Measures (REMMs) and controls are implemented.

An overview of the Project is provided in Section 1.3, while a detailed description of the Project is provided in Chapter 5 of the EIS.

This CEMP was prepared in accordance with:

- *Environmental management guidelines* (NSW Government, Edition 4 – December 2019)
- *Environmental Management Plan Guideline - Guideline for Infrastructure Projects* (Department of Planning, Industry and Environment, April 2020)
- The MCoA
- CPB Contractors' Management System (CMS) which incorporates the Environmental Management System (EMS)
- *TfNSW QA Specification G36* (as amended for the Project) (G36); and
- *AS/NZS ISO 14001*.

This CEMP addresses the environmental management requirements applicable to Stage 2 of the Warringah Freeway Upgrade Project as detailed in the Staging Report – Western Harbour Tunnel and Warringah Freeway Upgrade (SSI 8863) – October 2021 Rev 1.

The purpose of the CEMP is to provide a structured approach to the management of environmental issues during construction of the Project. Implementing this CEMP will ensure that the Project meets regulatory and policy requirements, including TfNSW's requirements and the MCoA, in a systematic manner. The REMMs and specific TfNSW QA Specifications (G36, G38 and G40) have been captured in the Compliance Tracking Register and with details on which relevant Sub-plans they will be monitored and tracked by.

The requirements of the Project approval, REMMs, specific TfNSW QA Specifications and mitigation measures and where they are met in the CEMP and aspect specific Sub-plans are contained in Appendix A1. The MCoA and REMMs relevant to the preparation of the CEMP and associated Sub-plans is shown in Table 1-1 and Table 1-2.

Table 1-1 CoA requirements for the CEMP

Note that where relevant, aspect-specific MCoA are addressed in the relevant Sub-plan and have not been repeated in the table below.

MCoA No.	Condition Requirements	Document Reference
General		
A1	The Proponent must carry out the CSSI in accordance with the terms of this approval and generally in accordance with the: (a) Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement – Volumes 1A-B and 2A-J (dated January 2020) (the EIS); and (b) Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report (dated September 2020) (the RtS).	Appendix A1 – Legal requirements and compliance tracking register
Construction Environmental Management Plan		
C1	A Construction Environmental Management Plan (CEMP) must be prepared having regard to the *Environmental Management Plan Guideline for Infrastructure Projects* (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.	Section 1.2, 1.4, 3.1
C2	The CEMP must provide: (a) a description of activities to be undertaken during construction (including the scheduling of construction); (b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	(a) Section 1.3, Table 1-3 (b) Section 1.5, Section 3.2.2, Appendix A3 (c) Section 3.2.1 and Section 3.9

MCoA No.	Condition Requirements	Document Reference
	(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 3.2.3
	(d) details of how the activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1; and (ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition;	(e) Section 3.99 (f) Section 3.8 and Section 3.10
	(e) an inspection program detailing the activities to be inspected and frequency of inspections;	(g) Section 3.10
	(f) a protocol for managing and reporting any: (i) incidents; and (ii) non-compliances with this approval or statutory requirements;	(h) Section 1.5, Appendix B1 – B6 (i) Section 3.3.1
	(g) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	(j) Section 3.5
	(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;	(k) Section 3.13
	(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; (k) for periodic review and update of the CEMP and all associated plans and programs; and (l) the outcomes of consultation with government agencies in accordance with Condition A5.	(l) Section 3.7 Consultation Report included as an Appendix in each relevant Sub-plan

MCoA No.	Condition Requirements			Document Reference
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.			This CEMP
C4	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.			Section 4
	Required CEMP Sub-plan		Relevant government agencies to be consulted for each CEMP Sub-plan	
	(a)	Traffic, transport and access	Relevant council(s)	Appendix B1
	(b)	Noise and vibration	NSW Health, relevant council(s)	Appendix B3
	(c)	Flora and Fauna	DPI Fisheries, DPIE Water, EESG, and relevant council(s)	Appendix B2
	(d)	Air quality and odour	NSW Health, and relevant council(s)	Appendix B6
	(e)	Soil and surface water	DPIE Water, EESG, EPA, Sydney Water (if Sydney Water's assets are affected) and relevant council(s)	Appendix B4
	(f)	Groundwater	DPIE Water, EESG, EPA, Sydney Water (where it is proposed to discharge groundwater into Sydney Water's assets) and relevant council(s)	Not applicable to WFU
	(g)	Maritime Heritage	Heritage NSW and relevant council(s)	Not applicable to WFU
	(h)	Non-Aboriginal Heritage	Heritage NSW and relevant council(s)	Appendix B5
	(i)	Aboriginal Cultural Heritage	Heritage NSW	Appendix B5

MCoA No.	Condition Requirements			Document Reference
	(j)	Dredging and Disposal Management Plan	EPA, DPI Fisheries, Port Authority of NSW (including Harbour Master)	Not applicable to WFU
C5	The CEMP Sub-plans must state how: (a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved; (b) the mitigation measures identified in the documents listed in Condition A1 will be implemented; (c) the relevant terms of this approval will be complied with; and (d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.			Appendices: B1 to B6
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			Appendices: B1 to B6
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.			This CEMP Section 3.2.4

MCoA No.	Condition Requirements			Document Reference
Construction Monitoring Programs				
C11	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:			Section 3.9
	Required Construction Monitoring Programs		Relevant government agencies to be consulted for each Construction Monitoring Program	
	(a)	Noise and Vibration Monitoring Program	EPA	Appendix B3
	(b)	Air Quality (including Odour) Monitoring	EPA	Appendix B6
	(c)	Surface Water Monitoring Program	DPIE Water, (Sydney Water if any Sydney Water assets are impacted), EPA	Appendix B4
	(d)	Groundwater Monitoring Program	DPIE Water, EPA	Not applicable to WFU
C12	Each Construction Monitoring Program must provide: (a) details of baseline data available; (b) details of baseline data to be obtained and when; (c) details of all monitoring of the project to be undertaken; (d) the parameters of the project to be monitored; (e) the frequency of monitoring to be undertaken; (f) the location of monitoring; (g) the reporting of monitoring results and analysis results against relevant criteria; (h) details of the methods that will be used to analyse the monitoring data;			An outline of monitoring programs is contained in Section 3.9. Details for each Construction Monitoring Program for this condition is contained in the applicable management Sub-plan

MCoA No.	Condition Requirements	Document Reference
	(i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicate unacceptable project impacts; (j) a consideration of SMART principles; (k) any consultation to be undertaken in relation to the monitoring programs; and (l) any specific requirements as required by Conditions C13 to C16.	
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
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
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
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
C21	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.	Section 3.9.2

MCoA No.	Condition Requirements	Document Reference
	Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.	

Table 1-2 REMMs requirements for the CEMP

Note that where relevant, aspect-specific REMMs are addressed in the relevant Sub-plan and have not been repeated in the table below.

REMMs No.	Condition Requirements	Document Reference
General		
CNV1	A Construction Noise and Vibration Management Plan will be developed for the project	Appendix B3
SG10	The Construction Waste Management Plan for the project will include procedures for handling and storing potentially contaminated substances	Appendix B4

This CEMP is the overarching document in the environmental management system for the Project that includes a number of management documents. It is applicable to all staff and sub-contractors associated with the construction of the Project.

1.3 Project description

The Western Harbour Tunnel and Warringah Freeway Upgrade project is being constructed in three stages:

- Stage 1 – Early and Enabling Works:
    - Stage 1A – Critical utility installation, relocation and protection (CUT)
    - Stage 1B – Cammeray Golf Course adjustment works
    - Stage 1C – Massey to Amherst noise wall
    - Stage 1D – Western Harbour Tunnel construction power and utilities
    - Stage 1E – Maritime Heritage – relocation of historic vessels *M.V. Cape Don* and *Baragoola*
- Stage 2 - Warringah Freeway Upgrade project (the Project and subject of this document):
- Stage 3 - Western Harbour Tunnel project (WHT).

The WHT and WFU Project is described in detail in Chapter 5 of the EIS. In summary, the project would comprise:

- A new crossing of Sydney Harbour involving twin 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 and from the Western Harbour Tunnel (the WFU). This would also include some infrastructure required to integrate the future Beaches Link and Gore Hill Freeway Connection project to reduce ongoing disruption to the Warringah Freeway.

This CEMP applies to the Warringah Freeway Upgrade (Stage 2) component of the project, the key features of which include:

- Upgrade and reconfiguration of the Warringah Freeway from immediately north of the Sydney Harbour Bridge through to Willoughby Road at Naremburn
- Upgrades to interchanges at Falcon Street in Cammeray and High Street in North Sydney
- New and upgraded pedestrian and cyclist infrastructure
- New, modified and relocated road and shared user bridges across the Warringah Freeway
- Connection of the Warringah Freeway to the portals for the Western Harbour Tunnel mainline tunnels and the Beaches Link tunnels, which would consist of a combination of trough and cut and cover structures
- Upgrades to existing roads around the Warringah Freeway to integrate the project with the surrounding road network
- Upgrades and modifications to bus infrastructure, including relocation of the existing bus layover along the Warringah Freeway, and improvements to the geometry and connectivity of the existing southbound bus lane
- Other operational infrastructure, including surface drainage and utility infrastructure, signage, tolling, lighting, CCTV and other traffic management systems

Construction works for the Warringah Freeway Upgrade component of the Project are anticipated to commence in the second quarter of 2021 and will finish in the second quarter of 2025. Work schedule is detailed in Table 1-3. Construction works hours are detailed in Section 3.6.

The Warringah Freeway Upgrade component of the project is shown on Figure 1-1.

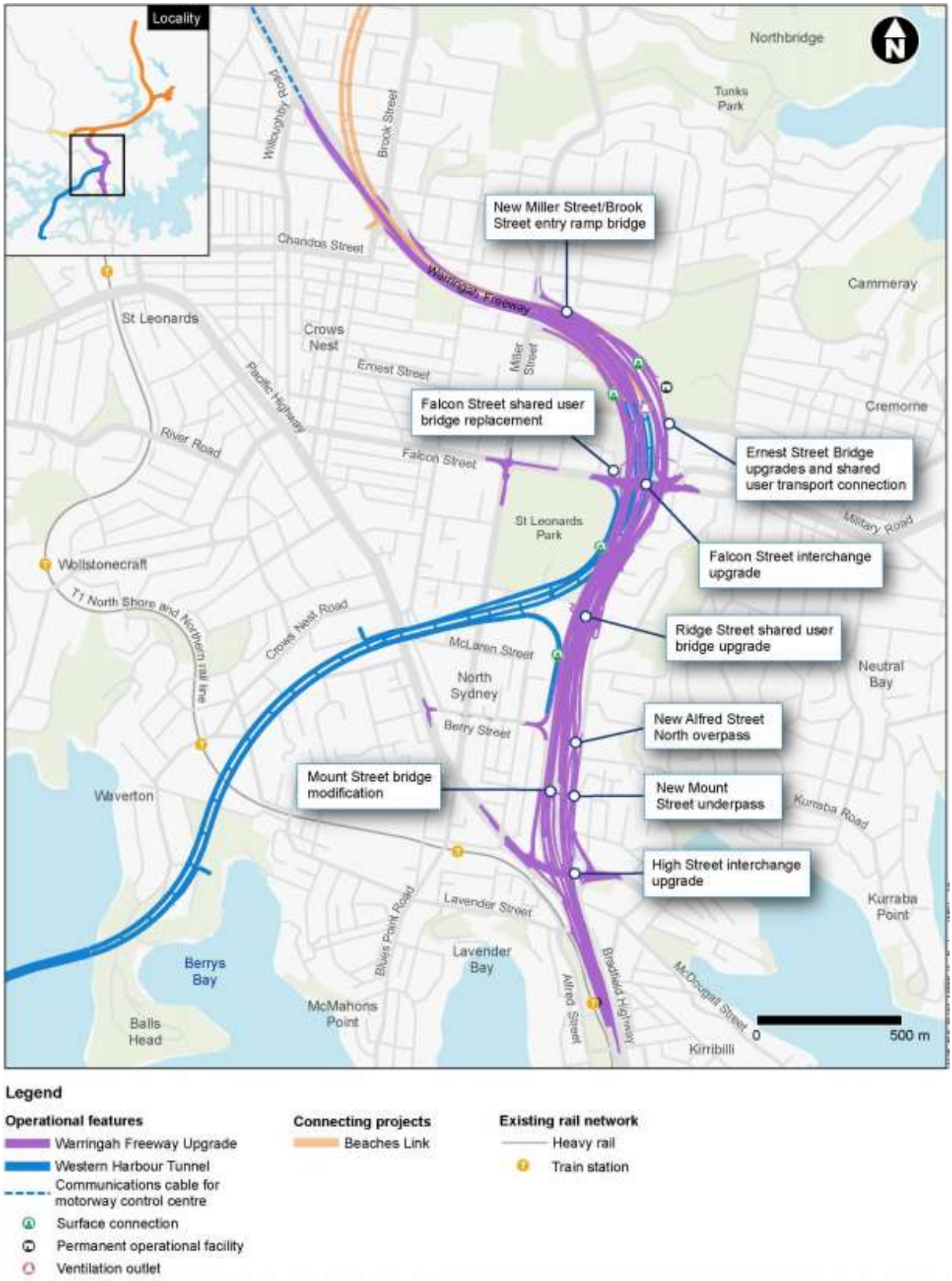

Figure 1-1 Key features of the Warringah Freeway Upgrade component of the project

1.4 Scope of the CEMP

This CEMP and Sub-plans were prepared in accordance with TfNSW Specification G36 and the *Environmental Management Plan Guideline – Guideline for Infrastructure Projects* (DPIE, April 2020). They are also consistent with AS/NZS ISO 14001.

In particular, this CEMP:

- Describes the Project in detail, including activities to be undertaken and relative timing.
- Addresses the requirements of the MCoA, the EIS, the REMMs listed in the RtS and EIS and applicable guidance and legislation
- Provides specific mitigation measures and controls that can be applied on-site to avoid or minimise negative environmental impacts
- Provides specific mechanisms for compliance with applicable policies, approvals, licences, permits, consultation agreements and legislation
- Describes the environmental management related roles and responsibilities of personnel
- States objectives and targets for issues that are important to the environmental performance of the Project
- Outlines a monitoring regime to check the adequacy of controls as they are implemented during construction.

The Legal and Compliance Tracking checklist in Appendix A1 demonstrates how this CEMP complies with the environmental requirements.

This CEMP provides for the environmental management of construction activities for the WFU and the use of temporary construction ancillary facilities.

This CEMP addresses the environmental management requirements applicable to Stage 2 of the Warringah Freeway Upgrade Project as detailed in the Staging Report – Western Harbour Tunnel and Warringah Freeway Upgrade (SSI 8863) – October 2021 Rev 1.

1.4.1 Construction works

Construction activities for the WFU include:

- Earthworks
- Bridgeworks
- Construction of retaining walls
- Construction and installation of stormwater and cross drainage
- Pavement works and linemarking
- Utilities installation and relocation
- Installation of road furniture, lighting, signage and noise barriers
- Portal construction

1.4.1.1 Earthworks

Earthworks include bulk excavation, excavation for new pavement or pavement widening, and placement and compaction of general fill and select fill. Excavation work would generally be carried out using excavators.

Where earthworks are required, excavated material would be loaded directly into trucks and removed from site or stockpiled for future reuse on the Project.

It is expected that excavated material would consist of a combination of:

- Virgin excavated natural material
- Roadbuilding materials from within existing road corridors, such as concrete and asphalt.

Material required for filling and compaction works would typically be imported to construction support sites as this material is required to have specific engineering properties.

Fill material imported to site would be placed directly from trucks and would be spread with a grader and/or excavator and compacted using vibratory rollers. Watercarts would be used to add moisture during compaction and control the generation of dust.

1.4.1.2 Bridgeworks

Bridgeworks required for the Project include:

- New, modified and widened road bridges at:
    - High Street in North Sydney
    - Mount Street in North Sydney
    - Falcon Street in North Sydney
    - Ernest Street in Cammeray
- New underpasses beneath Mount Street in North Sydney and Ernest Street in Cammeray
- New overpass bridges at:
    - Alfred Street North connection to Mount Street and High Street in North Sydney
    - Brook Street/Miller Street on ramp to Warringah Freeway southbound in Cammeray
- Construction of new and upgraded shared user bridges at Ridge Street and Falcon Street in North Sydney, and Ernest Street in Cammeray. Demolition of existing structures at Ridge Street and Falcon Street would be required.

The construction of new bridges would require the implementation of detours or lane closures along the Warringah Freeway, typically for short-term periods (for example nights or weekends), to allow the bridgeworks to be constructed in a safe and efficient manner. The majority of demolition works for bridge modification works would also need to be carried out at night.

1.4.1.3 Retaining walls

The type of retaining wall required would depend on the location and the ground conditions and would be determined during detailed design development. The type of retaining wall will also consider the urban design principles and objectives developed for the Project. The type of retaining wall could include:

- Piled retaining wall – generally used in areas where the face of the retaining wall is within an area of softer ground that has been excavated or is to be excavated
- Reinforced soil wall – used where retaining walls would be constructed in areas of fill
- L-shape retaining wall – used where retaining walls are lower in height and reinforced soil walls are not suitable for structural and/or geometric reasons
- Soil nail retaining wall – used in areas with stable ground conditions and installed to provide additional stabilisation and support other project structures, such as bridge abutments.

The method for constructing retaining walls would vary depending on the type of wall required but could include:

- Demolition of existing retaining wall structures (if required)
- Excavation
- Piling, installation of concrete footings, provision of structural support (ie rock anchors or soil nails)
- Shotcreting
- Drainage at the base or behind the retaining wall

- Installation of either pre-cast or cast in-situ panels or segments
- Backfilling of the retaining walls and architectural finishes.

1.4.1.4 Stormwater drainage

The Project will require construction of new drainage infrastructure and alterations to existing drainage infrastructure, including:

- Construction of new pits, pipes and culverts for the surface roads
- Adjustment of existing pits to suit new road alignments on existing surface roads
- Alterations to the existing drainage infrastructure near tunnel connections to the Warringah Freeway
- Upgrade of the two existing box culverts which cross beneath the Warringah Freeway between ANZAC Park and the Cammeray Golf Course site
- Upgrade or capacity improvements of other cross drainage structures which cross underneath the Warringah Freeway
- Upgrade and capacity improvements to the drainage pipelines along the on and off ramps connecting the Warringah Freeway with the existing culvert crossing near Brook Street at Cammeray/Crows Nest.

Stormwater drainage will generally consist of precast concrete pipes or culverts which will be placed in trenches that will then be backfilled with select material that meets engineering specifications. Where pipes and culverts need to be installed under existing roadways, underboring or pipejacking may be used to avoid the need to trench across live traffic lanes (where this work cannot be feasibly carried out in stages across existing carriageways). In this instance, a trench will be excavated to one side of the roadway, and the drainage pipes installed by drilling horizontally underneath the roadway. Floodwalls would be constructed to prevent the ingress of water into the tunnels during significant storm events.

1.4.1.5 Road pavement works

In areas where existing road pavements will be widened, pavements will be constructed to consist of similar pavement types to the existing road, and to meet Transport for NSW design standards.

Construction of areas of new surface roads will generally consist of flexible or rigid pavements. Flexible pavements generally comprise the installation of an upper asphalt base layer (including an asphalt wearing course), placed on a granular or concrete sub-base. Installation of the sub-base pavement layer will involve the placement of material using trucks, excavators and graders, and compacted by vibratory rollers. A sprayed bitumen seal will be sprayed onto this layer of material, and aggregate will then be spread and rolled on top of the sprayed bitumen to create a waterproof seal.

Asphalt would be laid on top of the aggregate. Hot asphalt material will be transported to site in trucks from an off-site batching plant. Asphalt would be unloaded into paving machines, which will spread the asphalt to the required thickness. The asphalt surface is then compacted and cooled.

Rigid pavements generally comprise a concrete base (this may also include an asphalt wearing course), placed on a granular sub-base or concrete sub-base. The base or sub-base could be constructed using concrete pavers or they could be formed, with fixed forms set at the required pavement levels. Reinforcement would also be placed if required by the design. The concrete will be poured directly from agitator trucks into the concrete paver or into the forms.

Existing road pavements will be modified to integrate with the Project where required. This may require milling and resurfacing of the existing pavements to tie-in with new road surfaces. These works are often required to be carried out at night when traffic numbers are reduced to enable the required lane closures.

Shared user path and cycleway pavements would be constructed to consist of similar pavement types to the existing paths, and to meet Transport for NSW design standards.

1.4.1.6 Surface finishing works

Surface finishing works would be carried out towards the completion of construction and would include:

- Linemarking of new road pavement
- Installation of directional signage and other roadside furniture
- Final landscape treatments and rehabilitation works.

1.4.2 Construction works applicable to Stage 2 WFU

Construction activities for the Stage 2 WFU include:

- Assessment and installation of at-property treatments and noise walls to mitigate construction noise from the project
- Site preparation works including clearing of vegetation, installation of temporary fencing and hoarding, installation of environmental controls including erosion and sedimentation controls
- Establishment and operation of ancillary facilities at High Street south (WFU2), High Street north (WFU3), Arthur Street east (WFU4), Berry Street east (WFU5), Ridge Street east (WFU6), Merlin Street (WFU7), Cammeray Golf Course (WFU8) and Rosalind Street (WFU9) and Northern Hub (NH1)
- Operation of ancillary facilities at High Street south (WFU2), High Street north (WFU3), Arthur Street east (WFU4), Berry Street east (WFU5), Ridge Street east (WFU6), Merlin Street (WFU7), Cammeray Golf Course (WFU8), Rosalind Street (WFU9) and Northern Hub (NH1)
- Preparation of the Cammeray Golf Course construction support site for the benefit of the WHT works and proposed BL works
- Utility installation, relocation and protection (in addition to the CUT stage works), including new and relocated drainage and installation of Intelligent Transport System (ITS):
    - Underbore and service relocation from Ernest Street through Cammeray Avenue to Rosalind Street
    - ITS node construction (move from Ernest Street to Rosalind)
    - Northbound verge ITS trenching works (between Ch2800- Ch3050)
- CCTV and cleaning of existing drainage structure
- Construction of retaining walls, including excavation, piling, installation of concrete footings, provision of structural support (ie rock anchors or soil nails), shotcreting, drainage structures, installation of panels and backfilling of retaining wall structure
- Construction of the new Ridge Street Pedestrian Bridge, including localised excavation, piling, concrete works, roadworks, installation of bridge spans, stairs and ramp and demolition works
- Bridge modifications and widening works to the Mount Street bridge and Falcon Street bridge and entry and exit ramps including installation of traffic barriers, concrete works, installation of structural steel, installation of drainage, asphalting and line marking
- Realignment of traffic including demolition of existing barriers, rock walls, drainage, lighting and signage, asphalting works
- Construction of the bridge over Alfred Street exit ramp including excavation and concrete works
- High Street bridge widening and ramps including piling and concrete works

- Bulk earthworks for the widening of the Warringah Freeway into the Cammeray Golf Course, including the micro tunnel for the Green Park drainage pipe (1500mm diameter) from the (proposed) Beaches Link compound
- Construction of Warringah Freeway southbound bus lanes including piling and concrete works
- Construction of the Mount Street (North Street) and Ernest Street (Cammeray) underpasses including excavation, piling and concrete works.
- Construction of the inner carriage way:
  - Directional sign removal and relocation to Ernest Street
  - Rock excavation and piling for the WHT cut and cover structure
- Demolition and construction of footpaths at the Falcon and Miller Street intersection
- Installation of stormwater drainage
- Upgrade or capacity improvements of other cross drainage structures which cross underneath the Warringah Freeway
- Upgrade and capacity improvements to the drainage pipelines along the on and off ramps connecting the Warringah Freeway with the existing culvert crossing near Brook Street at Cammeray/Crows Nest
- Upgrading local and arterial roads connecting to the Warringah Freeway Upgrade
- Road pavement works
- Installation of shared user paths and cycleways
- Surface finishing works such as linemarking and the installation of directional signage and other roadside furniture
- Final landscape treatments and rehabilitation works
- Testing and commission works
- Site clean-up and demobilisation including the reinstatement of construction support sites, post construction condition surveys, removal of construction-related signage, and the removal of construction-related environmental controls and traffic management infrastructure

Note: The Soil and Water Sub-plan will be updated to include the management of discharge water from cut and cover works prior to the construction of the Western Harbour Tunnel and Beaches Link cut and cover portals.

Table 1-3 Works Schedule

Activity	Start	Finish
Establishment works	Mar-22	Jul-22
Cammeray Golf Course	Jun-22	Jan-23
Ernest St bridge	Oct-22	Jul-23
High Street bridge and on-ramp	Oct-22	Sept-24
Falcon St bridge	Sept-22	Sept-24

Activity	Start	Finish
Berry St North	Sep-22	Sep-23
Ridge St North	Sep-22	Mar-23
Ventilation outlet and Ernest St Bridge	Oct-22	Jul-25
Beaches Link Portal Tie-in works	Oct-22	Nov-25
Western Harbour Tunnel Tie-in	Oct-22	May-26
Cammeray Golf Course (Beaches Link Portal works)	Oct-22	Aug-25
Carriageway works	Sept-22	Jan-26
ITS Cabling, Testing and Commissioning	Dec-22	Dec-24

1.4.3 Construction ancillary facilities

Temporary construction ancillary facilities for construction of the WFU will include sites required to support activities such as surface earthworks, bridgeworks, construction of retaining walls, utilities relocation and protection works, noise barrier construction, traffic staging, installation of motorway facilities, installation of stormwater drainage, and pavement construction.

Construction support sites identified in Section 6.7 of the EIS are:

- WFU1 - Blue Street (this is construction support site is not planned to be used by CPB Downer JV during the Project)
- WFU2 - High Street south
- WFU3 - High Street north
- WFU4 - Arthur Street
- WFU5 - Berry Street east
- WFU6 - Ridge Street east
- WFU7 - Merlin Street
- WFU8 - Cammeray Golf Course
- WFU9 - Rosalind Street east.

An additional site not listed in the EIS which has been identified as a temporary construction support site:

- NH1 - Northern Hub support compound (this site is assessed against the requirements of MCoA A16 in Appendix E of the ASEMP.

The locations of these sites are shown in Figure 1-2, Figure 1-3 and Figure 1-4 and key features are outlined in Table 1-4 through to Table 1-12.

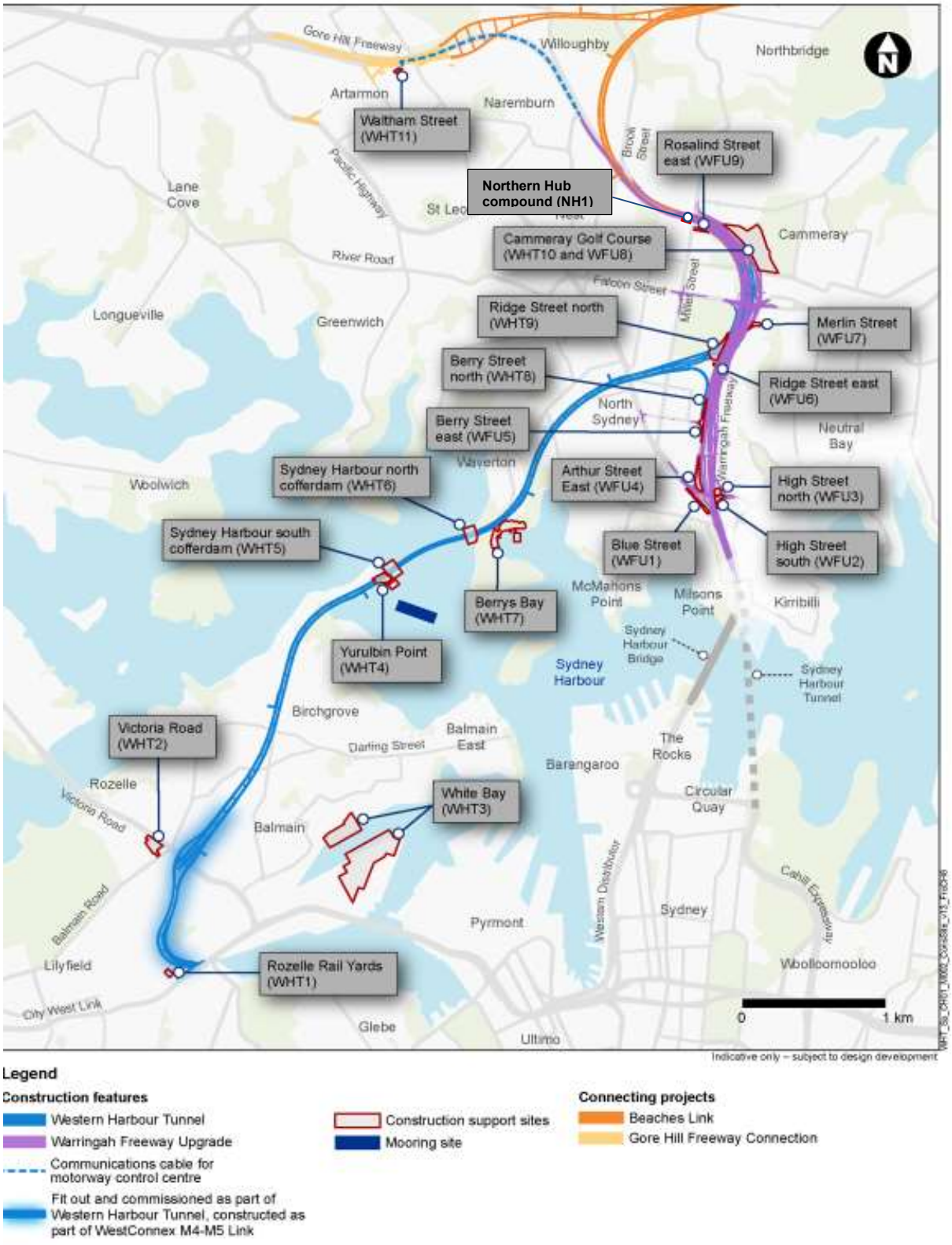

Figure 1-2 Overview of the construction support sites

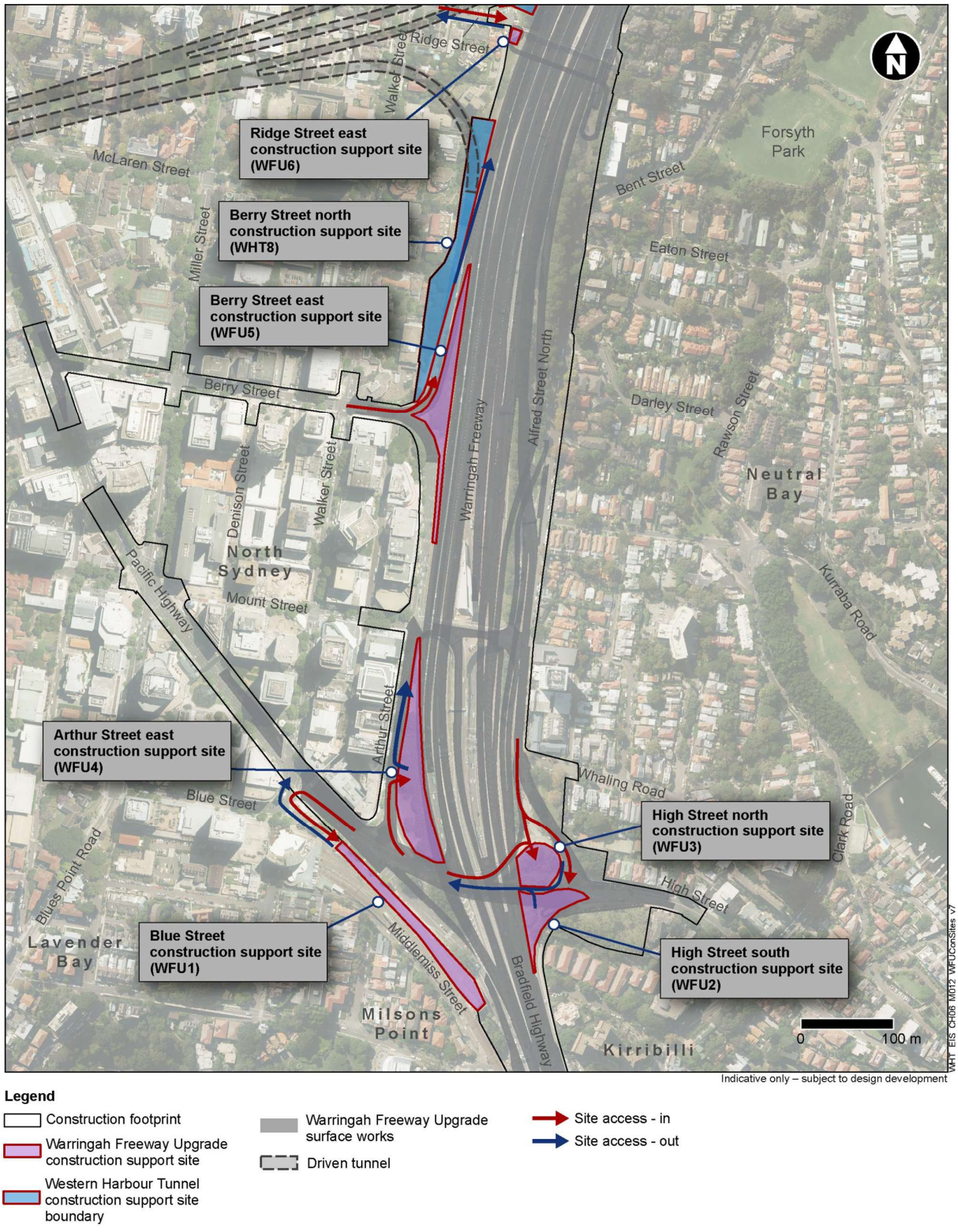

Figure 1-3 Warringah Freeway Upgrade construction support sites (Map 1)

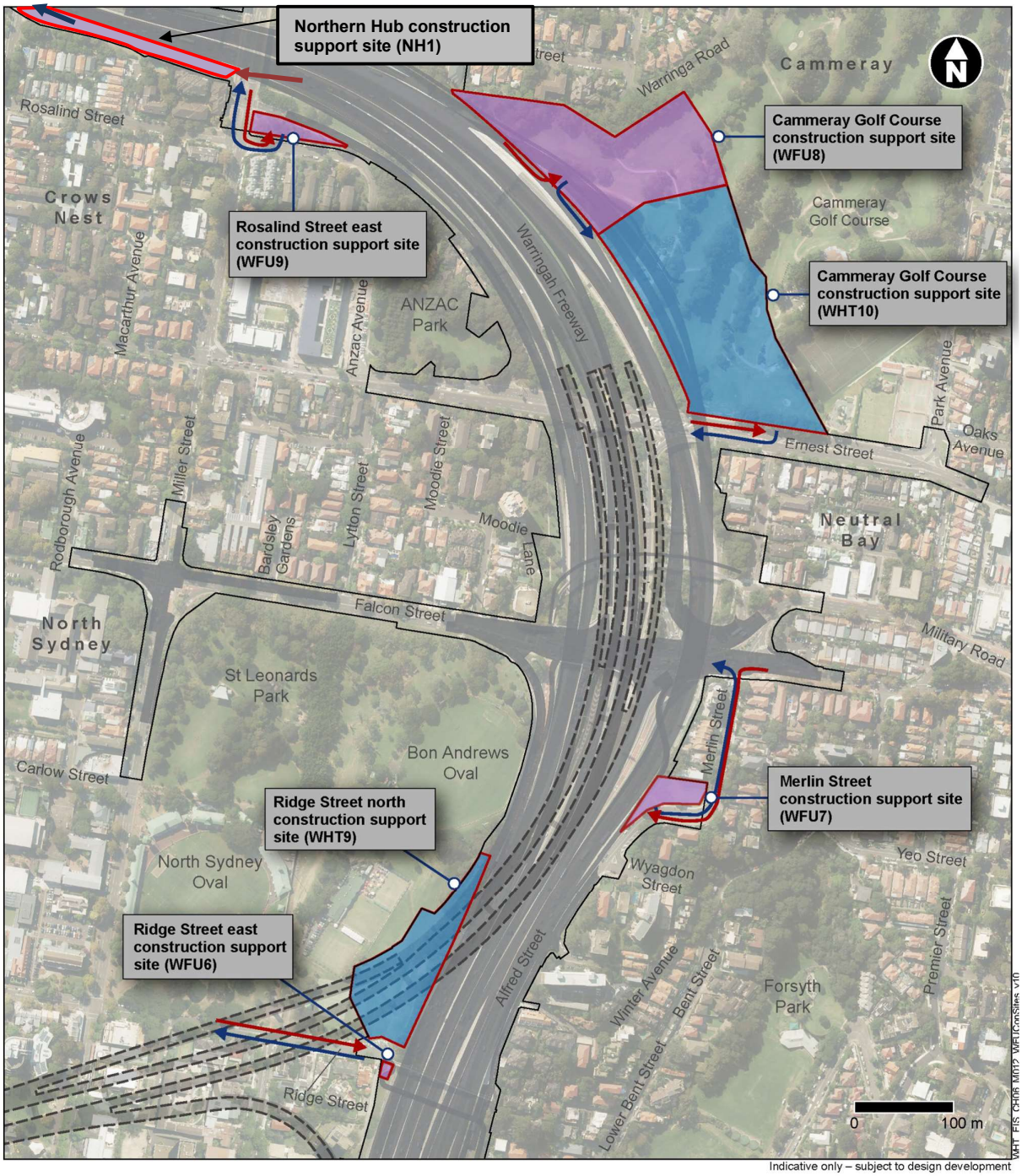

Figure 1-4 Warringah Freeway Upgrade construction support sites (Map 2)

WFU2 - High Street south

The High Street south construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-4 Key features of the High Street south construction support site (WFU2)

Key features	Summary
Site area	2100 m^2
Site description	The High Street south construction support site is located within the Warringah Freeway corridor at North Sydney on land bound by the Cahill Expressway to the west and south, the High Street off ramp to the east, and High Street to the north. The construction support site currently consists of a mixture of planted native vegetation and maintained grass verges. The nearest residential receivers are located 40 metres north of the construction support site on High Street and 60 metres south on McDougall Street.
Key activities	The construction support site will be used to support construction activities for the High Street interchange upgrade, including bridge and surface works, as well as for the widening and surface works in the southern portion of the Warringah Freeway Upgrade.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg bridgeworks and surface works) supported by this site would require out of hours work.
Access arrangements	Access in and out of the site will be via High Street.

WFU3 - High Street north

The High Street south construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-5 Key features of the High Street north construction support site (WFU3)

Key features	Summary
Site area	1800 m^2
Site description	The High Street north construction support site is located within the Warringah Freeway corridor at North Sydney on land bound by Alfred Street North/Cahill Expressway to the west and High Street to the north, south and east. The construction support site currently consists of a mixture of planted vegetation and maintained grass verges. The nearest residential receivers are located 40 metres east of the construction support site on High Street and 60 metres south on Whaling Street.
Key activities	The construction support site will be used to support construction activities for the High Street interchange upgrade, including bridgeworks, as well as for the widening and surface works in the southern portion of the Warringah Freeway Upgrade.

Key features	Summary
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg bridgeworks and surface works) supported by this site would require out of hours work.
Access arrangements	Access in and out of the site will be via Alfred Street North to the north or Pacific Highway via High Street to the west.

WFU4 - Arthur Street east

The Arthur Street east construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-6 Key features of the Arthur Street east construction support site (WFU4)

Key features	Summary
Site area	5100 m^2
Site description	The Arthur Street east construction support site is located within the Warringah Freeway corridor at North Sydney and is bound by the Warringah Freeway to the east, Arthur Street to the west, Mount Street to the north and High Street in the south. The construction support site currently consists of a mixture of planted vegetation and maintained grass verges. The Meriton Suites North Sydney Hotel and Serviced Apartments is located across the road from the construction support site on Arthur Street.
Key activities	The construction support site will be used to support construction activities for the widening of the Warringah Freeway, and local road and intersection works along and near Arthur Street.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg bridgeworks and surface works) supported by this site would require out of hours work.
Access arrangements	Access in and out of the site will be via Arthur Street to the west. Pedestrian access for construction workers will be provided from Arthur Street.
Other considerations	Flooding of the construction site may occur during storms which result in the surcharge of the existing stormwater drainage system which control surface runoff to the west.

WFU5 - Berry Street east

The Berry Street east construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-7 Key features of the Berry Street east construction support site (WFU5)

Key features	Summary
Site area	3200 m^2
Site description	The Berry Street east construction support site is located within the Warringah Freeway corridor at North Sydney on land bound by the Warringah Freeway to the east, Arthur Street and Berry Street/Warringah Freeway on ramp to the west and Doris Fitton Park to the south along Arthur Street to the west. The site slopes heavily from the west down towards the Warringah Freeway and comprises a mixture of planted vegetation and maintained grass verges. High density residential apartments are located to the north-west of the construction support site (Ridgemont Apartments) on the opposite side of Berry Street.
Key activities	The construction support site will be used to support construction activities for the widening of the Warringah Freeway and surface road works associated with the Berry Street on ramp to the Western Harbour Tunnel.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg surface works) supported by this site would require out of hours work.
Access arrangements	Access in and out of the site will be via Berry Street to the west and vehicles exiting the site will be able to travel north via an access onto the Warringah Freeway.
Other considerations	The site would be subject to relatively shallow overland flow at its northern and southern ends during storms which would result in the surcharge of the existing stormwater drainage system which controls surface runoff to its west.

WFU6 - Ridge Street east

The Ridge Street east construction support site will be used for the duration of works associated with the Ridge Street shared user bridge.

Table 1-8 Key features of the Ridge Street east construction support site (WFU6)

Key features	Summary
Site area	300 m^2
Site description	The Ridge Street east construction support site is located within the Warringah Freeway corridor at North Sydney on land bound by the Warringah Freeway to the east, residential properties on Ridge Street to the south and west and St Leonards Park to the north. The construction support site currently consists of a combination of vegetated and paved surfaces. The closest residential properties are next to the southern and western boundaries of the construction support site along Ridge Street.

Key features	Summary
Key activities	The construction support site will be used to support construction activities for the demolition of the existing Ridge Street pedestrian bridge and construction of an upgraded Ridge Street shared user bridge.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg bridgeworks) supported by this site would require out of hours work.
Access arrangements	Access in and out of the site will be via Ridge Street to the north. Pedestrian and cyclist access across the Warringah Freeway will be maintained via the old bridge, until the new upgraded crossing is completed.
Other considerations	Up to 12 parking spaces on Ridge Street may be removed to provide suitable access to the Ridge Street construction support sites. Note that this also includes access to WHT site WHT9.

WFU7 - Merlin Street

The Merlin Street construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-9 Key features of the Merlin Street construction support site (WFU7)

Key features	Summary
Site area	1700 m^2
Site description	The Merlin Street construction support site is located in Neutral Bay on the eastern side of Warringah Freeway within Merlin Street Reserve (owned by Transport for NSW). The site is bound by residential properties to the north, Merlin Street to the east, Alfred Street to the south and McIntosh Lane and Warringah Freeway to the west. The site slopes from north-west to south-east towards Merlin Street and is covered in a mixture of planted native vegetation and areas of maintained lawn. A public footpath runs along the east and south of Merlin Street reserve and an electrical substation is located on the southern boundary. The nearest residences are located next to the construction support site along Merlin Street to the north, and Wyagdon Street to the south.
Key activities	The construction support site will be used to support construction activities for the realignment of Alfred Street North and construction of the new southbound bus lane bridge off Falcon Street.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg bridgeworks and surface works) supported by this site would require out of hours work.

Key features	Summary
Access arrangements	The site will be accessed via Military Road and Merlin Street. Some construction works associated with the construction of the new southbound bus lane bridge will result in temporary disruptions to access to the residential property at 1 McIntosh Lane.

WFU8 - Cammeray Golf Course

The Cammeray Golf Course construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-10 Key features of the Cammeray Golf Course construction support site (WFU8)

Key features	Summary
Site area	18,000 m^2
Site description	The Cammeray Golf Course construction support site is located within the north-west portion of the Cammeray Golf Course, next to the Warringah Freeway at Cammeray. The construction support site is bound by residential properties to the north, Cammeray Golf Course to the east, Warringah Freeway to the west and the Cammeray Golf Course construction support site (WHT10) (for the Western Harbour Tunnel) to the south. The construction support site currently consists of an operational nine-hole golf course. The golf course will remain operational during construction. The nearest residences are located to the north of the construction support site on Warringah Road and Morden Street and along the eastern edge of Cammeray Golf Course on Park Avenue.
Key activities	The construction support site will act as the main construction compound for the Warringah Freeway Upgrade. It will support the use of the other Warringah Freeway Upgrade construction support sites, and will also provide a temporary bus layover area during the construction period when the existing Warringah Freeway bus layover area is removed and relocated.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg bridgeworks and surface works) supported by this site would require out of hours work.
Access arrangements	Two access points will be established at the site: • Western access will be directly off the southbound lanes of Warringah Freeway • Southern access will be directly off Ernest Street.

Key features	Summary
Other considerations	Planted native vegetation occurring within an exclusion zone along the north-western perimeter of the site must not be removed. Willoughby Creek is located downstream and to the north-east of the support site. Flat Rock Creek and Quarry Creek may also be potentially impacted. The site may be subject to very shallow sheet flow during heavy rainfall events, principally due to runoff generated from within its extent. Cammeray Park (including Golf Course), Cammeray is listed in North Sydney Local Environmental Plan as being of local heritage significance. Up to ten parking spaces on Ernest Street may be removed to provide suitable access to the Cammeray Golf Course construction site.

WFU9 - Rosalind Street east

The Rosalind Street east construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-11 Key features of the Rosalind Street east construction support site (WFU9)

Key features	Summary
Site area	1300 m^2
Site description	The Rosalind Street east construction support site is located within the Warringah Freeway corridor at Cammeray. The site is bound by the Warringah Freeway northbound off ramp at Miller Street to the north and east, Rosalind Street to the south and Miller Street to the west. The site is situated on flat land and comprises a mixture of planted native vegetation and maintained grass verges. The nearest residential receivers are located to the south on Rosalind Street.
Key activities	Construction of the northern portion of the Warringah Freeway Upgrade, as well as local road and intersection upgrades and changes near Miller Street and Amherst Street.
Hours of construction	General site activities would be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays). Some construction activities (eg surface works) supported by this site would require out of hours work.
Access arrangements	The site will be accessed via Miller Street (to the east) and then Rosalind Street to the south. No access to the site will be permitted via Anzac Avenue.
Other considerations	Up to ten parking spaces may be removed to provide suitable access to the construction support site.

NH1 - Northern Hub

The Northern Hub construction support site will be used for the duration of construction of the Warringah Freeway Upgrade.

Table 1-12 Key features of the Northern Hub construction support site (NH1)

Key features	Summary
Site area	3168 m^2
Site description	The Northern Hub construction support site is located within the Warringah Freeway corridor at Cammeray. The site lies along the north bound verge and inner Brook Street exit lane of the Warringah Freeway from Miller Street to a point approx. 50m east of West Street adjacent to St. Thomas Rest Park. The site is situated along a maintained grass verge and existing Warringah Freeway with no planted native vegetation. The nearest residential receivers are located along Metcalf Street behind an existing noise wall and between Edwin, Rosalind and Miller Streets overlooking the Warringah Freeway.
Key activities	Construction of the northern portion of the Warringah Freeway Upgrade.
Hours of construction	General site activities, including site establishment, will be carried out during standard construction hours (7am to 6pm Monday to Friday, 8am to 1pm Saturday and no construction works on Sundays or public holidays).
Access arrangements	Vehicle access and egress will be via the Warringah Freeway. Pedestrian access will be available via a stair access adjacent to the West Street bridge.
Other considerations	Elevated demountables (crib sheds and offices) will be positioned in front of the Metcalf Street noise barriers and St Thomas Rest Park along the Warringah Freeway to allow work vehicle parking beneath. Only ground level demountables will be positioned along the Freeway immediately west of Milletv Street.
Note: An assessment against the requirements of MCoA A16 with regards to the Northern Hub construction support site (not previously assessed in the EIS) is included in Appendix F of the ASEMP.	

1.5 Environmental Management System overview

This CEMP is CPB Downer JV's primary management plan for a suite of environmental management documents. It provides a structured and systematic approach environmental management.

The primary purpose of the suite of documentation is to:

- Ensure compliance with all applicable environmental laws, obligations and approvals
- To minimise environmental impacts.

The environmental management Sub-plans supporting this CEMP, which address requirements of the relevant MCoA and other measures identified in the CSSI assessment documentation include:

- Traffic, Transport and Access Management Sub-plan (TTAMP)
- Flora and Fauna Management Sub-plan (FFMP)
- Noise and Vibration Management Sub-plan (NVMP)
- Soil and Water Management Sub-plan (SWMP)

- Heritage Management Sub-plan (HMP)
- Air Quality and Odour Management Sub-plan (AQMP)
- Contaminated Land Management Sub-plan
- Waste and Resource Management Sub-plan

An overview of the Project EMS documents, and their relationships is illustrated in Figure 1-5.

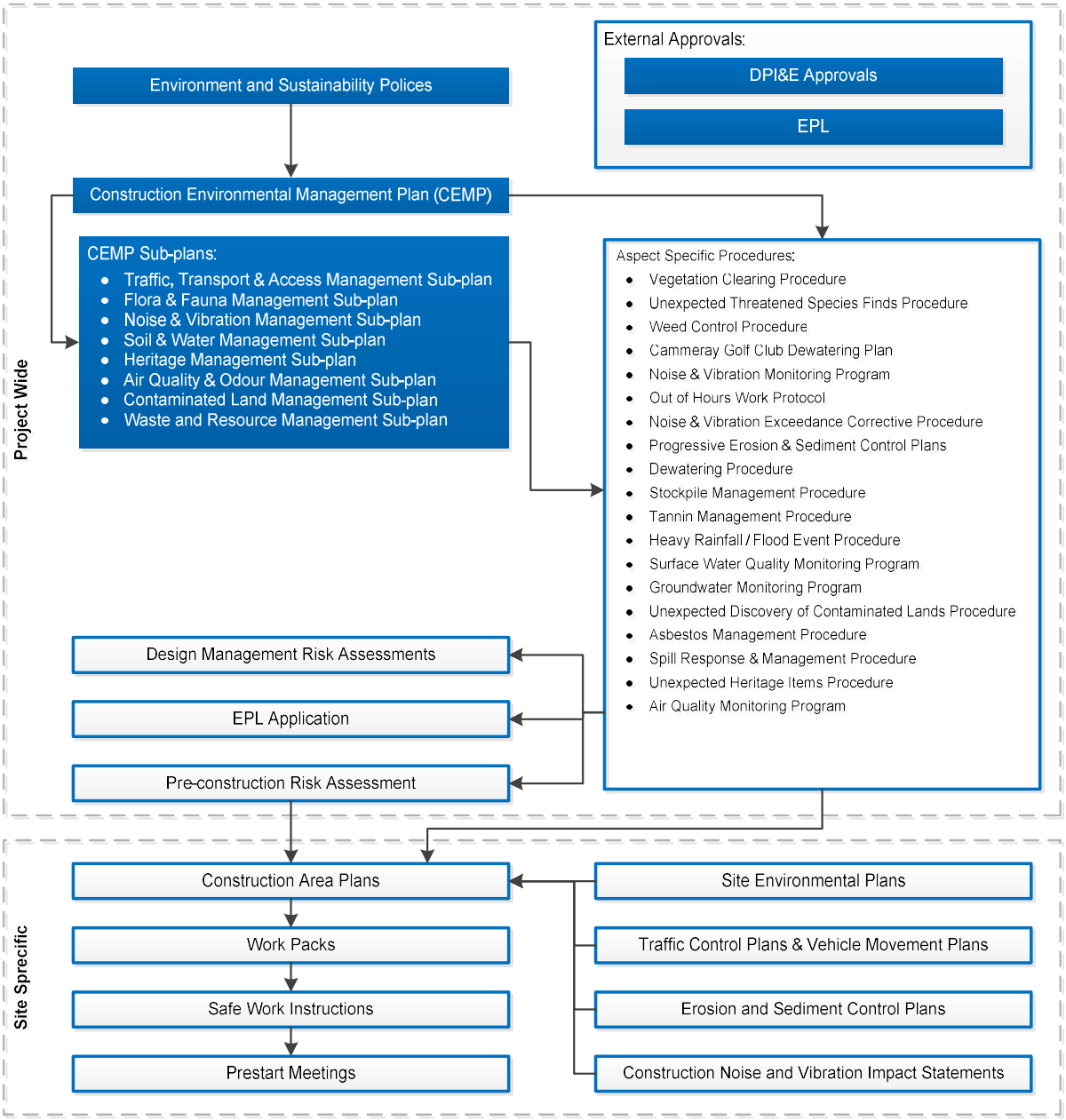

Figure 1-5 Overview of environmental management system documents

This CEMP provides the system to manage and control the environmental aspects of the Project during pre-construction and construction. It identifies all requirements applicable to activities described in Section 1.4.2, and also provides the overall framework for the system and procedures to ensure environmental impacts are minimised, and that legislative and other requirements are fulfilled.

The strategies defined in this CEMP have been developed with consideration of the Project approval requirements, safeguards and mitigation measures presented in the EIS and approval documents.

This CEMP establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the Project on the environment.

This CEMP and Sub-plans will be provided to TfNSW for approval prior to commencing construction.

In addition to the CPB Downer JV Project Management Plan, other Project Plans that interface with the CEMP include:

- Construction Management Plan
- Design Management Plan
- Quality Management Plan
- Safety and Health Management Plan
- Communications Strategy.

The interface with these plans is summarised in Figure 1-6 below.

This CEMP is based on the requirements of CPB Contractors' CMS and the requirements of the CSSI approval. The CMS integrates the EMS and is certified to *AS/NZS ISO 14001:2015 Environmental management systems – requirements with guidance for use*.

The CMS has been developed and implemented to ensure a consistent approach to Project delivery, and comprises the following components:

- **Policies** – statements of strategic intent and commitment. They define the mandatory requirements CPB Downer JV expects at all levels of the Project organisation when working within the framework of the CPB Contractors CMS. Refer to Appendix A3 for the CPB Contractors' Environment Policy and CIMIC Group Ltd (the CPB Contractors parent company) Sustainability Policy. Both policies will be displayed on the Project website and at Project site offices and communicated to staff and other interested parties via inductions and ongoing awareness programs.
- **Project Management Plan** – The Project Management Plan outlines how the Project will be managed and supported by a suite of functional management plans.
- **Procedures and Work Instructions**, which specify how to undertake and control specific activities. They define roles and accountabilities and list the tools or knowledge documents to be used. Where appropriate and approved by the respective business unit functional manager, Project specific procedures are produced to reflect specific Project circumstances.
- **Tools** – pre-formatted documents such as forms and templates that are required to be completed as part of a Procedure.
- **Knowledge documents** – reference material which provides context, additional information or guidance to a Policy or Procedure.
- **Business Applications** – Business Applications are the software tools used to manage our business and support operations.

The above components have been incorporated into this CEMP to align with the CMS.

1.5.1 Environmental Planning

Environmental management is embedded throughout the construction planning phases. Construction planning commences with the development of the Project Management Plan and functional management plans, which includes the environmental management plan (this CEMP). Figure 1-6 provides a summary of the construction planning phases for the CPB Downer JV.

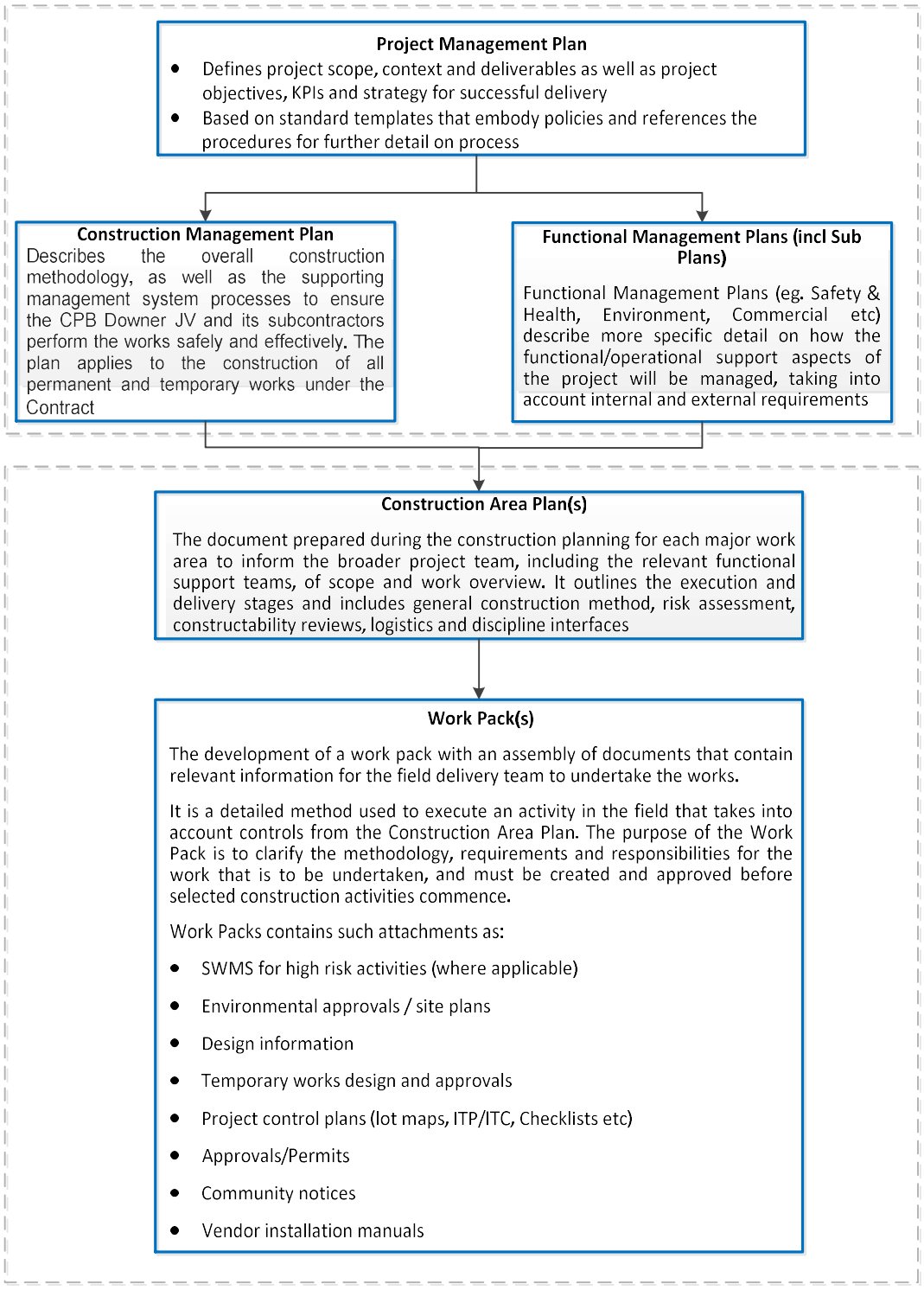

Figure 1-6 Construction planning overview

2 Endorsement and approval

The CEMP and Sub-plans (including monitoring programs required by C11) will require endorsement by the ER and approval by TfNSW and the Planning Secretary prior to commencement of construction. As per Clause C3 of the MCoA, the CEMP must be endorsed by the Environmental Representative 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. In line with MCoA A35 and A36, the Planning Secretary requires notification of the commencement of construction and each stage of construction or operation at least one month prior.

The CEMP Sub-plans in Table 2-1 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 of the MCoA.

Table 2-1 Relevant government agencies to be consulted for each CEMP Sub-plan

Required CEMP Sub-plan	Relevant Government Agencies
a. Traffic, transport and access	Relevant council(s)
b. Noise and vibration	NSW Health, relevant council(s)
c. Flora and fauna	DPI Fisheries, DPIE Water, EESG, and relevant council(s)
d. Air quality and odour	NSW Health, and relevant council(s)
e. Soil and surface water	DPIE Water, EESG, EPA, Sydney Water (if Sydney Water's assets are affected) and relevant council(s)
f. Groundwater	DPIE Water, EESG, EPA, Sydney Water (where it is proposed to discharge groundwater into Sydney Water's assets) and relevant council(s)
g. Non-Aboriginal Heritage	Heritage NSW and relevant council(s)
h. Aboriginal cultural heritage	Heritage NSW

The CEMP will be made available to all personnel and subcontractors via the project document control management system. Copies of the CEMP and Sub-plans will be placed on the Project's website. The document is uncontrolled when printed.

Registered copies will be distributed to:

- TfNSW
- Project Director
- ER
- AA (NVMP only)
- Construction Manager
- Environmental Manager
- Community Relations Manager.

3 Environmental Management Plan

3.1 Preparation and availability of the CEMP

The CEMP for the Project has been prepared in accordance with the *Environmental Management Plan Guideline for Infrastructure Projects* (Department of Planning, Industry and Environment, 2020) and the CPB Contractors environmental policy. It incorporates all requirements of the CSSI assessment documentation and all relevant licences, permits and approvals for the Project.

The environmental policy is in Appendix E3 displayed on the Warringah Freeway Upgrade Project website and at the site office, and communicated to staff and other interested parties via inductions and ongoing awareness programs.

3.2 Planning

3.2.1 Environmental Risk Assessment Workshop

An environmental risk assessment workshop was held on 28 September 2021 for the Project and reviewed the following activities:

- Site establishment
- Construction staging and traffic management
- Noise and vibration management and out of hour works (OOHW) strategies
- Soil and water management
- Heritage management
- Air quality management
- Flora and fauna management, including the Cammeray Golf Course dam dewatering
- Contaminated land and waste management
- Light spill
- Environmental Work Method Statement (EWMS) requirements for high-risk activities

The environmental risk assessment workshop involved members of the TfNSW delivery team, the CPB Downer JV construction team, the ER, AA and representatives from North Sydney Council, DPIE (partial attendance – Project Overview only) and EPA (partial attendance – Project Overview only).

Each activity was assessed to identify the relevant steps in the activity and the associated environmental hazards, initial risk levels, mitigation measures and to avoid, manage and/or minimise the risks and residual risks. Each of these items were documented in the Aspects and Impacts Register (Appendix A2). Where residual risk is assessed as high, or if required under the Contract Specification, an EWMS will be developed for that activity (refer to Section 3.2.5 below).

Where relevant, the requirements from the Roads and Maritime Environmental Specifications, MCoA and Revised Environmental Management Measures (REMMs) will be incorporated into the environmental risk assessment, particularly in developing the agreed activity specific site controls.

Appendix A2 contains a list of environmental aspects and impacts including those identified in the risk assessment workshop.

The environmental risk assessment will be reviewed every six months and will be incorporated into this CEMP to ensure continuing relevancy.

3.2.2 Regulatory requirements and compliance

Legislation

A register of legal and other requirements for the Project is contained in Appendix A1. This register is maintained as a checklist. This register will be reviewed at regular intervals, such as 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 subcontractors where necessary through toolbox talks, specific training and other methods detailed in Section 3.45 of this CEMP.

Approvals, permits and licences

A number of approvals permits and licences have been obtained for the Project. Appendix A1 contains a register of all relevant environmental approvals, permits and licences. The register will be maintained by the construction Environmental Manager and will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least quarterly as part of the management review.

The EIS recognised that the following approvals and licences are required for the Project:

- An environment protection licence (EPL) for road construction and road tunnel emissions under Chapter 3 of the *Protection of the Environment Operations Act 1997 (NSW)*. In accordance with section 5.24 of the *Environmental Planning and Assessment Act 1979 (NSW)*, such a licence cannot be refused for an approved project and is to be substantially consistent with any approval under Division 5.2.

A copy of the EPL will be included on the CPB Contractors website.

- In accordance with MCoA A2, all necessary licences, permits and approvals required for the development of the Project will be obtained and maintained as required throughout the life of the Project. No condition of the Project Approval removes the obligation for TfNSW or the CPB Downer JV to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 5.23 of the EP&A Act.

Compliance tracking

The Project Approval and REMMs are contained in the Compliance Tracking Program in Appendix A1 and provide a reference to where each requirement is addressed by this CEMP or other Project documentation.

3.2.3 Environmental objectives and targets

As a means of assessing environmental performance during construction of the Project, environmental objectives and targets have been established. These objectives and targets have been developed with consideration of key performance outcomes for each key issue, as specified in the EIS. The objectives and targets are consistent with the Project environmental policy and will assist in monitoring whether the commitments of the policy are being met.

The performance of the Project will be monitored against the objectives and targets. 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.

Environmental objectives and targets for the Project are based on the project performance outcomes outlined in Chapter 28, Section 28.6 of the EIS and are incorporated into relevant environmental management Sub-plans. These objectives and targets have been incorporated into the Aspects and Impacts Registers included in Appendix A2. A summary of performance outcomes is provided in Table 3-1 below. The effectiveness of implementation of the associated measurement tools will monitored through Project audits undertaken at least annually.

Table 3-1 Environmental objectives and targets

Objective	Target	Measurement tool
Construction of the Project in accordance with environmental approvals	• Full compliance with statutory approvals	• Audits (at least annually) • Construction compliance reporting • Management reviews (at least monthly)
Compliance with all legal requirements	• No regulatory infringements (PINs or prosecutions)	• No formal regulatory warning • Audits (at least annually) • Construction compliance reporting • Management reviews (at least monthly)
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001	• Address non-conformances and corrective actions within specific timeframes	• Audits (at least annually) • Management reviews (at least monthly)
Continuously improve environmental performance	• Develop and maintain a program of ongoing environmental training • Capture lessons learnt from environmental incidents to minimise repeat issues • Encourage and reward innovation and effort throughout the workforce	• Construction compliance report • Management reviews (at least monthly) • ER inspections and action reports • Outcomes of ERG meetings
Ensure all environmental management measures are effectively implemented	• Nil non-conformances in relation to implementation of the CEMP and sub-plans	• ER inspections and action reports • Results of external and internal audits and site inspections
Consultation – The project is developed with meaningful and effective engagement during project delivery	• Disseminate regular project updates and other information through the project website and other tools identified in the Community Communication Strategy • Record and respond to complaints in a timely and appropriate manner, and within the timeframe specified in the Community Communication Strategy, to ensure all	• Review complaints register • Construction compliance report • Audits (at least annually) • Outcomes of ERG meetings

Objective	Target	Measurement tool
	stakeholders' concerns are managed effectively and promptly	
Transport and Traffic – • Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts • The safety of transport system customers is maintained • Impacts on network capacity and the level of service are effectively managed • Works are compatible with existing infrastructure and future transport corridors.	• Minimise impacts to local streets from loss of parking, road closures and heavy vehicle movements during construction • Minimise impacts to road network efficiency during construction • Enable access to properties to be maintained during construction • Maintain pedestrian and cyclist safety along surface roads near the project	• Review complaints register • Construction compliance report • Audits (at least annually) • Job safety and environmental observations
Air Quality - The project is 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	• Provide effective management of dust, odour and other emissions during construction	• Results of external and internal audits and site inspections • ER inspections and action reports
Health and Safety – • The project avoids or minimises adverse health impacts arising from the works • The project avoids, to the greatest extent possible, risk to public safety	• Incidents and crashes and risks to public safety are minimised • Establishment and operation of ancillary facilities and construction sites protect road users and public • Construction avoids, to the greatest extent possible, risk to public safety • Hazardous materials within project areas are managed to protect human health	• Review complaints register • Construction compliance report • Audits (at least annually) • Job safety and environmental observations
Noise and Vibration (Amenity) – Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise	• Comply with the relevant criteria from the NSW Noise Policy for Industry (2017) • Minimise increases in road traffic noise, where possible • Include effective management of construction noise and vibration	• Review complaints register • Construction compliance report • Audits (at least annually)

Objective	Target	Measurement tool

adverse impacts on acoustic amenity	in accordance with relevant guidelines
	• Minimise surface activity and associated noise at tunnelling sites
	• Minimise impacts to the local community by:
	  ○ Controlling noise and vibration at the source
	  ○ Controlling noise and vibration on the source to receiver transmission path
	  ○ Controlling noise and vibration at the receiver
	  ○ Implementing practicable and reasonable measures to minimise the noise and vibration impacts of construction activities on local sensitive receivers	

Noise and Vibration (Structural) - Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage	• Controlling vibration at the source • Controlling vibration on the source to receiver transmission path • Implementing practicable and reasonable measures to minimise vibration impacts of construction activities on structures • Carrying out building/structure condition surveys for properties (and heritage assets) within the zone of influence of tunnel settlement prior to the commencement of construction	• Results of external and internal audits and site inspections • ER and AA inspections and action reports
Biodiversity	• Where practicable, vegetation clearance would be minimised	• Results of external and internal audits and site inspections • ER inspections and action reports
Socio-economics, land use and property - The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses , including maintenance of appropriate access to properties and	• Minimise impacts to businesses during construction	• Review complaints register • Construction compliance report • Audits (at least annually

Objective	Target	Measurement tool
community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure		
Water (Hydrology) – • Long term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised • The environmental values of nearby, connected and affected water sources, groundwater and dependent ecological systems including estuarine and marine water (if applicable) are maintained (where values are achieved) or improved and maintained (where values are not achieved) • Sustainable use of water resources	• Consider opportunities for reuse of treated water during construction • Environmental values of nearby, connected and affected water sources are improved and/or maintained	
Water (Quality) - The project is constructed in a manner that protects the NSW Water Quality Objectives where they are being achieved, and contributes to the achievement of the Water Quality Objectives 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).	• Water discharged from construction sites meets discharge criteria that has been developed in consideration of the NSW Water Quality Objectives	• Results of external and internal audits and site inspections • ER inspections and action reports • Monitoring

Objective	Target	Measurement tool
Flooding - Construction of the Project avoids or minimises the risk of, and adverse impacts from, infrastructure flooding or flooding hazards	• Construction is carried out in a manner that minimises the potential for adverse flooding impacts, through staging of works and the implementation of environmental management measures • Construction support sites and construction sites are laid out such that flows are not significantly impeded • Maintain or reduce flood levels within and adjacent to the alignment	• Results of external and internal audits and site inspections. • ER inspections and action reports
Soils – • The environmental values of land, including soils, subsoils and landforms, are protected • 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	• Erosion and sediment controls are implemented and comply with *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom 2004) and Volume 2D (DECC 2008) • ASS are managed in accordance with good practice measures • Contamination is managed to protect environmental values and human health	• Results of external and internal audits and site inspections. • Job safety and environmental observations • ER inspections and action reports
Heritage - The construction 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.	• Minimise impacts on heritage items during construction • Minimise damage to features of heritage conservation significance from vibration • Impacts on heritage are managed in accordance with relevant legislation, including the *Environmental Planning and Assessment Act 1979, the Heritage Act 1977*, and relevant guidelines.	• Results of external and internal audits and site inspections. • ER inspections and action reports
Sustainability - Conservation of natural resources is maximised.	• Sustainability considerations are integrated throughout construction	
Waste - 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	• Clean spoil is recycled or reused either onsite or off-site where feasible and reasonable • Off-site waste re-use is managed in accordance with relevant NSW Environment Protection Authority	• Audits, construction compliance reporting, management view. • ER inspections and action reports

Objective	Target	Measurement tool
that protects environmental values.	resource recovery exemptions and requirements • Waste is disposed of at appropriately licensed facilities.	• No formal regulatory warnings

In addition to the above, the performance targets listed in Table 3-2 have been identified to meet CPB Contractors' EMS requirements:

Table 3-2 Lead and lag indicators for the Project

Key performance indicators	Target	Timeframe	Actions to be taken	Accountability
Leading Indicators				
Job safety and environmental observations	Four observations conducted per month by Supervisors to Project Director	Each month	Four observations to be performed by each member of the leadership team per month	Project leadership team
Completion of inspections	100% of scheduled inspections of environmental controls occur weekly	Weekly	Inspections of environmental controls to be identified, scheduled and conducted	Site managers
Lagging Indicators				
Class 1, 2 environmental incidents	Zero	Ongoing	Implementation of the CEMP	Project Director
ER stop work recommendations	Zero	Ongoing	Work in accordance with all approvals and plans	Project Director
Compliance audits (internal) Schedule	No major non-compliance	Ongoing	Consistent application of plans	Project Director

Key performance indicators	Target	Timeframe	Actions to be taken	Accountability
Compliance audits (External) from Environmental Representative, the Independent Verifier and Client	No major non-compliance	Ongoing	Consistent application of plans	Project Director

3.2.4 Hold Points

A Hold Point is a verification point that prevents work from commencing prior to approval from TfNSW. The list of scheduled Hold Points which apply to the TfNSW G36, G38 and G40 specifications for environmental management are contained in the Compliance Tracking Program in Appendix A1 (Tables A1-5, A1-6 and A1-7 respectively). A hold point has been established in the Compliance Tracking Register to ensure that in accordance with MCoA C10, construction work will not commence until the CEMP and CEMP subplans applicable to this stage of works has been approved by the Planning Secretary with the relevant plans submitted at least one month before the commencement of construction or an applicable stage.

3.2.5 Environmental Work Method Statement and Sensitive Area Plans

Environmental work method statements (EWMSs) are prepared to manage and control all high-risk activities and others that have the potential to negatively impact on the environment. EWMSs will be prepared prior to the commencement relevant construction activities in conjunction with relevant site management personnel (and where required, relevant agencies) and will incorporate relevant mitigation measures and controls, including those from relevant management Sub-plans. They also identify key procedures to be used concurrently with the EWMS. EWMSs are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

EWMSs will be prepared progressively in the lead up to and throughout construction in consultation with relevant members from the Project team, and concurrence provided by the TfNSW Environmental Manager.

EWMSs for activities identified as having high environmental risk will undergo a period of consultation with stakeholders and authorities prior to approval. A list of upcoming/future EWMS will be provided to Environmental Review Group (ERG) participants during regular meetings for consultation.

EWMSs will be prepared for high risk activities including those outlined in the EIS and those identified through the Environmental Risk Assessment Workshop (refer to Section 3.2.1 above). As a minimum, EWMSs will be prepared for the following activities:

- Site Establishment and Enabling Works
- Clearing and grubbing
- Working in Environmentally Sensitive Areas
- Activities that generate high levels of noise and/or vibration
- Earthworks including stockpile management stockpiling
- Embankment foundation treatment including compressible foundation treatments
- Activities that generate high levels of noise and/or vibration
- Site Remediation of Contaminated Materials
- Bridge Construction
- Culvert Construction
- Cammeray Golf Club Basin dewatering and relocation
- Construction and operation of concrete wash out areas

The EWMS will include at least the following elements:

- Description of the work activity, including any plant and equipment to be used
- Outline of the sequence of tasks for the activity, including interfaces with other construction activities
- Identification of any environmental and/or socially sensitive areas, sites or places
- Identification of potential environmental risks/impacts due to the work activity
- Mitigation measures to reduce the identified environmental risk, including assigned responsibilities to site management personnel
- Process for assessing the performance of the implemented mitigation measures.

All construction personnel and sub-contractors 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.

A register of EWMS will be maintained in Appendix A4.

The Project traverses environmentally and socially sensitive areas. To assist pre-construction planning and on-site construction management a Sensitive Area Plan (SAP) will be prepared prior to the commencement of construction. The SAP will be prepared in stages as the works progress in each precinct.

A copy of the SAP must be submitted to the TfNSW for approval at least 21 days prior to commencement of construction.

SAPs will be reviewed monthly, or when there is a significant change in work activities, updated as necessary and re-issued quarterly.

A copy of the SAP will be provided in Appendix A5.

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.

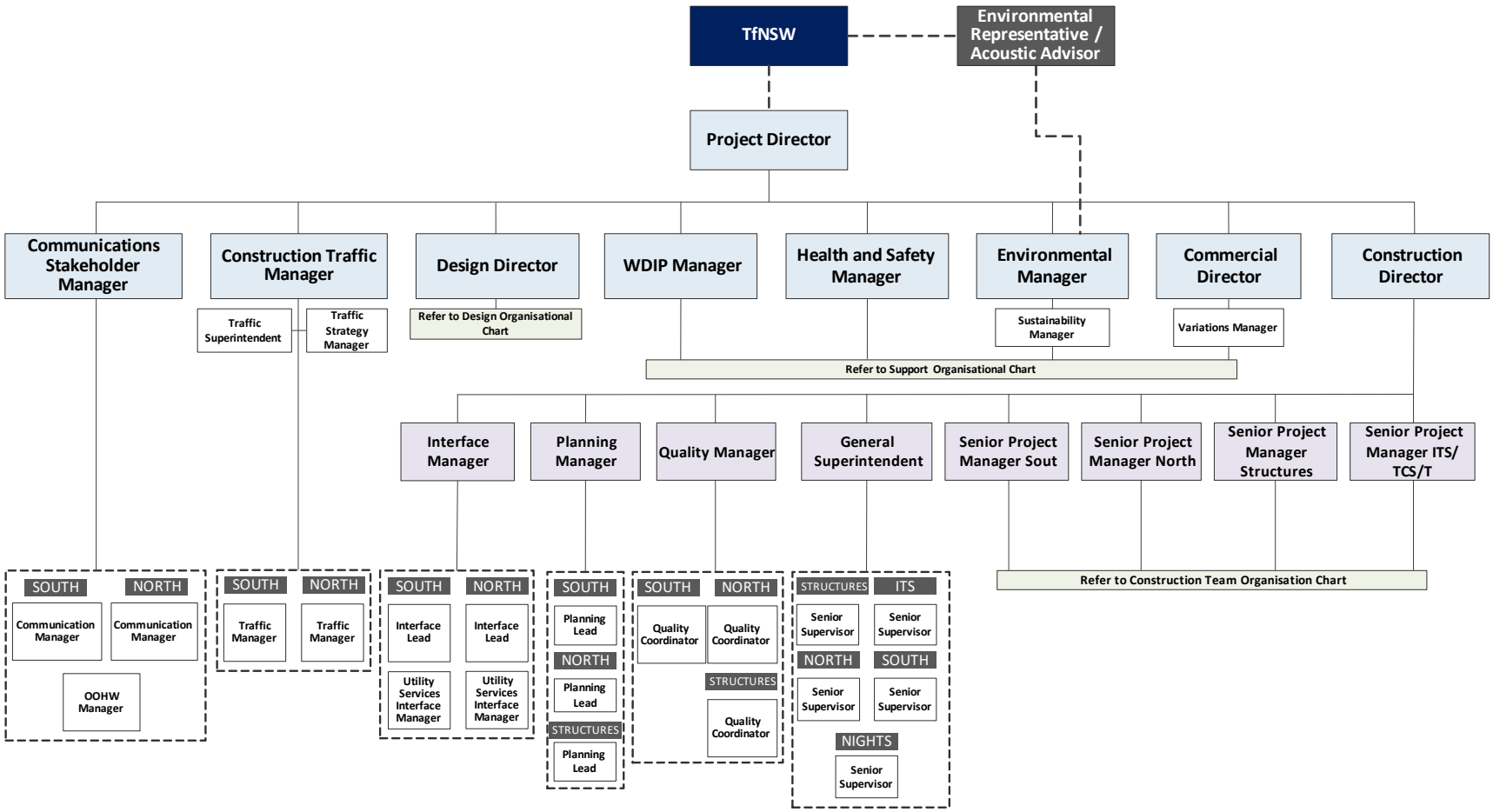

Figure 3-1 Management structure

3.3.1 Roles and responsibilities

Environmental Representative

The environmental responsibilities of the Environmental Representative (ER) include, but are not limited to 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 this approval
- Consider and recommend to TfNSW 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 MCoA 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 this approval and if so:
    - (i) 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
    - (ii) 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 of Planning, Industry and Environment (DPIE) for information or are not required to be submitted to the Planning Secretary/DPIE)
- Regularly monitor the implementation of the documents listed in MCoA A10, A17, C1, C4 and C11 to ensure implementation is being carried out in accordance with the document and the terms of this approval
- As may be requested by the Planning Secretary, help plan or attend audits of the development commissioned by DPIE including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under MCoA A38
- 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 MCoA A19
- Consider any minor amendments to be made to the ASEMP, 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 the CSSI 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 CSSI approval
- Prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report
- Assess the impacts of activities as required by the Low Impact Works definition.

Acoustic Advisor (AA)

The independent Acoustic Advisor (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 Project Planning Approval.

The responsibilities of the Acoustics Advisor are outlined in MCoA A29 – 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 CSSI approval relating to noise and vibration
- Consider and recommend, to TfNSW, 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 CSSI approval and, should they be consistent with the terms of the 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 CSSI approval to ensure implementation is in accordance with what is stated in the document and the terms of the CSSI approval
- Notify the Planning Secretary of noise and vibration incidents in accordance with MCoA A43 and A45
- In conjunction with the ER, the AA must:
    - As may be requested by the Planning Secretary or Community Complaints Mediator (required by MCoA 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 TfNSW and the community in relation to the noise and vibration performance of the CSSI, follow the procedure in the Communication Strategy (required by MCoA B2) to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary
    - Consider relevant minor amendments made to the ASEMP, 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
    - 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.

TfNSW Environmental Manager

The environmental 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 in accordance with the Roads and Maritime Division 5.2 Environmental Assessment Procedure

- Monitor the environmental performance of the Project in relation to TfNSW requirements
- Provide guidance and where appropriate, monitor compliance with DPIE post approval document submission requirements.

TfNSW Representative

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

- Evaluate and advise on compliance with TfNSW environmental requirements
- Review and approve any environmental management plans for the Project or related activities that are not required to be approved by the Planning Secretary.

CPB Downer JV Project Manager

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

- Ensure all works comply with relevant regulatory and Project requirements, including compliance with the approvals, EPL, REMMs, TfNSW specifications
- Ensure the requirements of this CEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements
- Endorse and support the Project environmental policy attached at Appendix A3
- Liaise with TfNSW, Environmental Representative 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 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 is likely to occur.

CPB Downer JV Construction Manager

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

- Plan construction works in a manner that avoids or minimises impact to environment
- Ensure the requirements of this CEMP are fully implemented
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements
- Support the Construction Environmental Manager in achieving the project environmental objectives
- Ensure environmental management procedures and protection measures are implemented
- Ensure all Project personnel attend an induction prior to commencing works
- Liaise with TfNSW, Environmental Representative and other government authorities as required
- Stop work immediately if an unacceptable impact on the environment is likely to occur.

CPB Downer JV Superintendent

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

- Communicate with all personnel and sub-contractors regarding compliance with the CEMP and site-specific environmental issues
- Ensure all site workers attend an environmental induction prior to the commencement of works
- Ensure environmental risk assessment of upcoming works are completed prior to commencement onsite
- Co-ordinate the implementation of the CEMP
- Co-ordinate the implementation and maintenance of pollution control measures
- Identify resources required for implementation of the CEMP
- Support the Construction Environmental Manager in achieving the project environmental objectives, including on ground implementation of the EWMS, Work Packs 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 resources
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Construction Manager and Construction Environmental Manager.

CPB Downer JV Construction Environmental Manager

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

- Advise on environmental matters specified in TfNSW specifications, the environmental assessment documents, EPL and any other approval/licence/permit
- Overall responsibility for the implementation of environmental matters on the Project
- Development, implementation, monitoring and updating of the CEMP and Sub-plans in accordance with ISO14001
- Report to the Construction Project Manager and other senior managers on the performance and implementation of the CEMP
- Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented
- Ensure environmental risks of the WFU 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 and update all environmental licences, approvals and permits as required
- Liaise with the ER, AA, TfNSW Environment Manager (or delegate) and approval authorities as required and provide responses to requests to close out actions or requests as appropriate
- Manage environmental document control, reporting, inductions and training

- Manage environmental reporting within the CPB Downer JV 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
- Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed
- Oversee site monitoring, site inspections, audits and site checklists
- Manage all sub-contractors 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
- Review and approve PESCP in consultation with the Project Soil Conservationist, Superintendent , Site Engineers and other relevant site personnel
- Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel
- Notify TfNSW and relevant authorities in the event of an environmental incident and manage close-out of these
- 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, Construction Manager and Superintendent
- Record and provide written reports to the Construction Manager of non-conformances or corrective actions with the CEMP. This may include the need to implement additional, or revise existing, mitigation measures
- Assist all site staff with issues concerning Project environmental matters
- Assist in identifying environmental risks and advise the Construction Manager of any requirements to avoid or minimise impacts
- Manage the day-to-day environmental elements of Construction
- Assist the Communications Manager to resolve environment-related complaints.

CPB Downer JV Environmental Coordinator

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

- Assist in preparing the CEMP (including any future revisions) in accordance with all relevant requirements
- Develop PESCP in consultation with the soil conservationist, superintendent, site engineers, foreman and other relevant site personnel, as required
- Undertake site inspections, carry out monitoring activities and complete site checklists
- Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed
- Manage the day-to-day environmental elements of construction
- Record and provide written reports to the Construction Environmental Manager of non-conformances or corrective actions with the CEMP. This may include the need to implement additional, or revise existing, mitigation measures
- Assist in identifying environmental risks

- Stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken by the Construction Manager or site construction staff to avoid or minimise impacts
- Provide reports to the Construction Environmental Manager on any major issues resulting from the Project
- Assist all site staff with issues concerning Project environmental matters
- Assist in developing training programs regarding environmental requirements and deliver where required, including delivery of the environmental component of toolbox talks
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Construction Manager, Superintendent and Construction Environmental Manager.

CPB Downer JV Communications Manager

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

- Ensure that all community consultation activities are carried out
- Report any environmental issues to the Construction Environmental Manager raised by stakeholders or members of the community
- Communicate general Project progress, performance and issues to stakeholders including the community
- Be available for contact by residents and the community at all reasonable times to answer any questions and to address any concerns in relation to Construction
- Maintain the 24 hour complaints hotline
- Maintain the Consultation Manager Database with all details of complaints and communications

CPB Downer JV 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 Construction Environmental Manager.

CPB Downer JV 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 Site / Project 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, Construction Manager, Superintendent or Construction Environmental Manager.

CPB Downer JV wider project team (including sub-contractors)

The environmental responsibilities of the wider project team (including sub-contractors) 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, Construction Manager, Superintendent or Construction Environmental Manager.

3.4 Selection and management of subcontractors

The Construction Environmental Manager, or delegate, will participate in the tender assessment and selection process where it is deemed necessary due to associated environmental risks. CPB Downer JV will be responsible for the environmental performance of the sub-contractor. CPB Contractors will specify environmental requirements and responsibilities to sub-contractors in the contract documentation.

All sub-contractors are required to work in accordance with the approved CEMP.

All sub-contractors are required to attend Project and/or site inductions where the requirements and obligations of the CEMP are communicated. A record of all sub-contractors inducted will be maintained as part of the Project induction and training register.

A standard monitoring form will be developed that will be used to assess:

- The sub-contractor's general work practices
- The effectiveness of the sub-contractor's environmental protection measures
- The sub-contractor's compliance with the requirements of this CEMP
- The maintenance of environmental measures.

All environmental documentation submitted by contractors will be subject to review and approval by CPB Downer JV staff to ensure compliance with TfNSW contract requirements, the MCoA and EPL before works may begin.

Environmental requirements and responsibilities are to be specified to sub-contractors in the contract documentation. As part of the selection process, consideration will also to be given to their past environmental performance.

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 construction Environmental Manager will coordinate the environmental training in conjunction with other training and development activities (eg 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. This is to ensure all personnel involved in the Project are aware of the requirements of the CEMP and to ensure the implementation of REMMs.

Short-term visitors to site undertaking inspections / entering the site (such as regulators) will be required to undertake a visitors induction and be accompanied by inducted personnel at all times.

Temporary visitors to site for purposes such as deliveries will be required to be accompanied by inducted personnel at all times.

The construction Environmental Manager (or delegate) will conduct the environmental component of the site inductions.

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

- Relevant details of the CEMP including purpose and objectives
- Requirements of due diligence and duty of care
- Conditions of environmental licences, permits and approvals
- 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
- Working in or near environmentally sensitive areas and the SAPs
- Specific environmental management requirements and responsibilities
- Mitigation measures for the control of environmental issues
- Incident response and reporting requirements
- The existence of EWMS for high risk activities
- Information relating to the location of environmental constraints
- Key environmental issues
- Noise, vibration and air quality management controls
- Standard Construction hours and the process for seeking approval for out of hours works, including consultation
- Noise management measures during night works
- Location of noise, vibration and air quality sensitive receivers
- Road safety and approved access points
- Requirements to maintain surrounding property access for local residents and businesses

- Procedure for unexpected finds of contaminated land, asbestos or heritage items
- Waste minimisation principles, waste reporting and waste / recycle storage requirements
- Best practice energy efficiency and sustainability management measures and initiatives
- Complaint response and reporting.

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

The Environmental Representative will review and approve the induction program (where required) and monitor implementation.

An Induction Register is kept as part of the Safety and Health Management Plan.

3.5.2 Toolbox talks, training and awareness

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

Toolbox talks will be held to identify environmental issues and controls when works commence in a new area of the Project or a new activity commences or when environmental issues arise on site. The toolbox talk will include but not be limited to:

- A description of the activity and the area;
- Identification of the environmental issues and risks for the area (including fauna or flora); and
- Outline the mitigation measures for the works and the area affected.

Toolbox talks will include details of EWMSs for relevant personnel. Toolbox talks will also be tailored to specific environmental issues relevant to upcoming works.

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

- Erosion and sedimentation control
- Dewatering
- Hours of work
- Emergency and spill response
- Aboriginal and non-Aboriginal heritage
- Threatened species, endangered ecological communities, clearing controls and vegetation protection
- Weed management
- Dust control
- Noise
- Housekeeping and waste
- Concrete washout
- Project and clearing limits
- General procedures for site preparation prior to significant rain events
- OOHW approval processes
- Working outside of standard construction hours (including monitoring of noise and light spill)

- Dealing with members of the public and/or stakeholders
- Use of non-tonal reverse alarms

Toolbox talk attendance is mandatory and attendees are required to sign an attendance form. Records will be maintained.

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

Refresher environmental awareness training will be undertaken as required but at not less than 6 monthly intervals, based on environmental risk assessment and turnover of project personnel. Refresher training will be included on the register of environmental training.

Another way to inform construction personnel will be through the development and distribution of 'awareness notes'. These will typically take the form of a poster, booklet, or similar and will be distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. This documentation will be used to inform the broader workforce through daily pre-start meetings (see Section 3.5.3) or provides in worker crib sheds / break facilities.

The Environmental Representative will review and approve the training program (where required) and monitor implementation.

A Training Register is kept as part of the Safety and Health Management Plan.

3.5.3 Daily Pre-Start Meetings

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards 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. Daily pre-start meetings are generally succinct in nature and take approximately 10-15 minutes.

The Foreman should also ensure that any potential environmental risks or updates are communicated to the Foreman on the next shift prior to shift changeover.

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 by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start topics, dates delivered, and a register of attendees will be recorded and kept on the CPB Contractors Project Management System (PMS).

3.6 Working hours

Approved working hours on this project are:

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

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
- if continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.

In accordance with MCoA E67, 'continuously' includes any period during which there is less than one hour between ceasing and recommencing any of the work.

Due to the location and the high traffic volumes, there will be the need for ongoing out of hours work to construct the Project safely and with limited impact on the peak hour operation of the Warringah Freeway and surrounding road networks. These out of hour works will be managed in accordance with the NVMP and the Out-of-Hours Work Protocol as required by MCoA E69.

Work may be undertaken outside the hours specified in any of the following circumstances:

- Safety and Emergencies, including:
    - for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or
    - 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 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.
- Low impact, including:
    - construction that causes $L_{Aeq(15\ minute)}$ 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);
    - construction that causes $L_{AFmax(15\ minute)}$ noise levels no more than 15 dB(A) above the rating background level at any residence;
    - 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)

- 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).

- By Approval, including:
  - where different construction hours are permitted or required under an EPL in force in respect of the CSSI
  - works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by Condition E69
  - negotiated agreements with directly affected residents and sensitive land user(s).
- By Prescribed Activity, including:
  - 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
  - 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
  - works within an acoustic shed where there is no exceedance of the NMLs
  - trailer suction hopper dredging
  - along the Warringah Freeway corridor in accordance with Condition E88.

At the time of preparing this CEMP, the *Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020* is in effect. Under that order, the carrying out of any building or work on a Saturday, Sunday or public holiday is development specific.

The conditions specified for the development are that the development must:

- Be the subject of a development consent
- Comply with all conditions of the consent other than any condition that restricts the hours of work or operation on a Saturday, Sunday or public holiday, and
- For work or operation on a Saturday, Sunday or public holiday:
  - comply with the conditions of the consent that restrict the hours of work or operation on any other day as if the conditions applied to work or operation on a Saturday, Sunday or public holiday, and
  - not involve the carrying out of rock breaking, rock hammering, sheet piling, pile driving or similar activities during the hours of work or operation that would not be permitted but for this Order, and
  - take all feasible and reasonable measures to minimise noise.

The above changes to construction work hours are only applicable while the *Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020* is in

effect. Should that order cease to have effect, the construction hours would revert back to those specified in Conditions E66, E67 and E68.

Approvals for any changes will be included and attached to this CEMP in Appendix A4.

3.7 Communication

3.7.1 Internal Communication

Clear lines of communication throughout all levels and functions (eg management, staff and sub-contracted service providers), is key to minimising environmental impacts and achieving continual improvements in environmental performance.

The environmental team will meet regularly to discuss any issues with environmental management on-site, any amendments to plans that might be required or any new / changes to construction activities.

Regular meetings may also be scheduled with the Environmental Representative and relevant TfNSW environmental staff. The purpose of these meetings would be to communicate ongoing environmental performance and to identify any issues to be addressed.

In addition, environment team members will participate in toolbox talks on a regular basis. This forum will provide an opportunity for the environment team members to communicate on environmental performance, to advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

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

3.7.2 Liaison with EPA, government authorities or other relevant stakeholders

The CPB Downer JV Construction Environmental Manager has the responsibility to report on the ongoing environmental performance of the Project to TfNSW, Environmental Representative and EPA. The construction Environmental Manager will report regularly to TfNSW on progress and any key environmental matters and to the EPA through compliant reports and monthly EPL monitoring summary reports (subject to EPL requirements).

The CPB Downer JV Project Manager and the Construction Environmental Manager are 24-hour contacts. They have the authority to halt the progress of the works if necessary. They are the key emergency response personnel during an environmental site emergency.

The CPB Downer JV Construction Environmental Manager is the authorised contact person for communications with the client and the EPA on environmental matters.

TfNSW will be immediately notified of any visit to the Project by the EPA or other relevant agencies with a subsequent report prepared and submitted to TfNSW within one working day of each visit.

Each relevant government agency has been provided the opportunity to review and comment on the relevant Sub-plans related to their discipline as required by MCoA A5. Specific details and records of this consultation is contained in the Consultation Report in a relevant Appendix of the Sub-plan.

3.7.3 Environmental Review Group

CPB Downer JV will undertake a monthly Environmental Review Group (ERG) meeting and site inspection for the duration of the Project. Invited participants will include the ER, AA, relevant site personnel, TfNSW, EPA, DPIE and any other relevant agencies to be consulted in regard to the ongoing environmental management of the Project. The ERG will discuss any potential risks, compliance with Project approvals and future activity planning.

3.7.4 Community liaison and/or notification

A Community Communication Strategy (CCS) will be developed for the Project in accordance with MCoA B1 to B5 to provide mechanisms to facilitate communication between Transport for NSW, the Project Team, the Environmental Representative, the relevant councils and the local community on the construction-related and environmental matters. The CCS also addresses the key construction issues that are likely to affect community such as traffic; property access; noise and vibration; out-of-hours works; new or changed construction activities; and landscaping.

Where out-of-hours works are required, community notification will be undertaken in accordance with the CCS and the Out of Hours Work Approval Procedure.

3.7.5 Complaints management

A Complaints and Enquiries Procedure, consistent with AS 4269: Complaints Handling, will be developed for the Project, in accordance with the requirements of CoA B7.

All community inquiries and complaints related to the construction activities will be referred to the 24-hour community information line (1800 931 189). A postal address (Locked Bag 928, North Sydney, NSW 2059) and email address (whtbl@rms.nsw.gov.au) has been provided for receipt of complaints and enquiries. The telephone number, the postal address and the email address was published in newspapers circulating in the local area prior to the commencement of construction and is provided on the Project website.

Records of all complaints received will include the following details:

- Date and time of the complaint
- Method by which the complaint was made
- Any personal details of the complainant
- The nature of the complaint
- Action taken in relation to the complaint and any follow up
- If no action taken, reasons why.

This information will be included in a Complaints Register as an Appendix E of the CCS. The information contained within the register will be made available to the Minister on request.

Attempts will be made to resolve all complaints in accordance with the CCS. An initial response to complaints will be provided within 24 hours of a complaint being received. A further detailed response, including steps taken to resolve the issue(s) that lead to the complaint, will be provided within 10 days. All complaints will be closed off in the stakeholder database. At all times the stakeholder will be kept informed of when they will receive a response.

The CPB Downer JV Construction 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.

Within one working day of receiving a complaint, a written report would be provided to TfNSW, this would outline the complaint and action taken to remedy the problem. A final report which would include proposed measures to prevent reoccurrence would be submitted to TfNSW within five working days.

A Complaints Register is kept in Appendix E of the CCS.

3.8 Emergency and Incident Planning

In the event of an environmental incident, the TfNSW Environmental Incident Procedure will be implemented. The full procedure is provided in Appendix A6.

The procedure provides the TfNSW approach to:

- Types of incidents.
- Criteria for classifying of environmental incidents
- Processes, and legal requirements (eg Acts, Regulations, EPL), for reporting and notification of an environmental incident.

The procedure covers the management of events such as, but not limited to:

- Spills of fuels, oils, chemicals and other hazardous materials
- Unauthorised discharge from sediment basins or other containment devices
- Potential contamination of waterways or land
- Accidental starting of a fire or a fire breaking out of containment
- Any potential breach of legislation, including a potential breach of a condition of an EPL requirement; MCoA; or any agency permit condition
- Unauthorised dumping of waste
- Unauthorised clearing or clearing beyond the extent of the Project boundary or premises
- Inadequate installation and subsequent failure of temporary erosion and sediment controls
- Unauthorised damage or interference to threatened species, endangered ecological communities or critical habitat
- Unauthorised harm or desecration to Aboriginal objects and Aboriginal places
- Works undertaken that are not in accordance with a Project approval.

Environmental incidents that would be or have the potential to be classified as Category 1 under the Roads and Maritime's Environmental Incident Classification and Reporting Procedure, will be notified verbally immediately to the TfNSW representative and TfNSW Environmental Manager. Incident reports will be provided to TfNSW Representative and the Environmental Representative in accordance with the Procedure, including lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. All efforts will be undertaken immediately to avoid and reduce impacts of incidents and suitable controls put in place. Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident. This notification process is in addition to other regulatory incident reporting requirements, including a Pollution Incident Response Management Plan (PIRMP) required by an EPL.

In accordance with MCoA A43 and A44, 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. Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A of the MCoA i.e. a written incident notification within 7 days of becoming aware of the incident and a detailed report (to both DPI&E and any relevant public authorities as determined by the Planning Secretary) on the incident within 30 days of the incident date.

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:

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 (or such other amount as is prescribed by the regulations).

Where an incident involves a potential impact to an Aboriginal site, relevant Heritage NSW and Registered Aboriginal Parties will be notified and their input sought in closing out the incident.

All other environmental incidents, reportable events and regulatory action would be reported to TfNSW as outlined in the Roads and Maritime's Environmental Incident Classification and Reporting Procedure (see Appendix A6).

The Contractor will provide all records of the environmental incidents and regulatory action to TfNSW Project team.

3.9 Monitoring, inspections and auditing

3.9.1 Environmental inspections

Environmental inspections

Copies of all environmental inspection reports prepared by the ER, Environmental staff and experienced ecologists will be kept with the project records and closed out within the agreed timeframes. An environmental inspection checklist template is contained in Appendix A7.

Weekly and post rainfall site inspections

The CPB Downer JV Construction Environmental Manager and/or Environmental Coordinator will undertake weekly and post rainfall inspections of the work sites to evaluate the effectiveness of environmental controls. Post rainfall inspections would be undertaken after more than 10 mm of rain in a 24 hr period. The Environmental Coordinator will record inspection findings on an inspection checklist form.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form. Records will also include details of any maintenance required, the nature of the deficiency, 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.

Environmental Representative, TfNSW and ERG inspections

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

A member of the Project environment team will participate in all ER, client and ERG inspections, and records maintained. Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

Pre-work inspections

Prior to the commencement of works on each shift, an inspection will be carried out and will include a check of relevant environmental controls and resources required to ensure effective operation and maintenance. Works are not to commence unless inspections are found to be satisfactory.

The site foreman will undertake the inspections and record them in their Daily Site Report (Daily Diary).

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.

The specific Construction Monitoring Programs applicable to the Project are identified in Table 1-1 under MCoA C11. Their requirements for preparation, consultation, approval and reporting are detailed in MCoA C17-C21.

The routine monitoring requirements for required aspects required by the MCoA and REMMs are included in the relevant environmental management Sub-plans and summarised in Table 3-2 below.

Table 3-2 Summary of construction phase routine environmental monitoring required

MCoA / REMM	Description	Relevant Sub-plan or CEMP Chapter	Reporting Requirements
C11(a), C13	Noise and Vibration Monitoring Program	Appendix to NVMP	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.
C11(b)	Air Quality (including Odour) Monitoring Program	Appendix to AQMP	Monitoring data to be provided to the Proponent monthly as part of the Monthly Environmental Report. Data summary report provided to DPI&E on a six monthly basis including data from monitoring undertaken in reporting period, exceedances and management responses to any exceedances which may have occurred during reporting period
C11(c), WQ4	Surface Water Monitoring Program	Appendix to SWMP	Monitoring data to be provided to the Proponent monthly as part of the Monthly Environmental Report. Monitoring data to be provided to the Planning Secretary, DPIE Water, Sydney Water and EPA each year as part of the Annual Construction Surface Water Quality Monitoring Report (MCoA C21)
E79/ AH2	Construction vibration monitoring where activities have the potential to impact on heritage items	HMP	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.

A monitoring program / procedure (listed in the relevant Sub-plan) will address how these activities will be undertaken. The monitoring procedure will include:

- Purpose and scope
- Minimum acceptable frequency and standards listed in applicable approvals, licences and regulations
- Relevant EPA approved methods, Australian Standards or, in the absence of an Australian Standard, industry acceptable procedures
- Targets and parameters
- Processes for response to any exceedances of targets/standards
- Processes for recording and reporting results

The ER and TfNSW Representative will be advised of any construction phase non-conformances from monitoring and details reported to the Planning Secretary via the Major Projects Website within seven days after TfNSW becomes aware of the non-conformance.

Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the Project (ie are influenced by factors under the direct control of the Project, eg noise from construction equipment), the process described in Section 3.10 will be implemented. Steps in the process will include:

- An analysis of the results by the construction Environmental Manager in more detail with a view of determining possible causes for the non-conformance
- A site inspection by the construction Environmental Manager or delegate
- Advising relevant personnel of the problem
- Identifying and agreeing on actions to resolve or mitigate the non-conformance
- Implementing actions to rectify or mitigate the non-conformance.

A non-conformance Environmental Incident Report and/or Environmental Improvement Notice may be issued by the construction Environmental Manager in response to the non-conformance problem if it is found to be construction related.

The timing for any improvement will be agreed between the relevant Engineer/Superintendent and construction Environmental Manager based on the level of risk (eg a significant risk will require immediate action).

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

3.9.3 Auditing

Table 3-3 presents auditing requirements that are applicable to the Project.

Contractor internal audits

Risk based internal auditing will be undertaken generally on a six-monthly basis throughout the Project. The purpose of auditing is to verify compliance with:

- This CEMP and Sub-plans
- Approval requirements (MCoAs, REMMs)
- Any relevant legal and other requirements (eg licenses, permits, regulations, TfNSW contract documentation including G36, G38 and G40 specifications)

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

The environmental audit program will be reviewed after each audit and amended as necessary.

Independent audits

Independent auditing will be conducted in accordance with CoA A38, and the audit schedule as per the Independent Audit Requirements (DPIE, 2020).

Table 3-3 Contractor 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.	Construction Environmental Manager	Project manager, TfNSW
2	Independent audit	Verify compliance with approval and legal requirements, TfNSW specifications, construction documentation and any other commitments	Six monthly	Construction Environmental Manager	Project manager, TfNSW

3.9.4 Construction Phase Compliance tracking

A Compliance Tracking Register is included in Appendix A1.

The Compliance Tracking Register identifies specification, MCoA and REMMs and aspect-specific management measures for the project.

A summary of the required compliance reporting for the construction phase of the Project, as tracked and monitored in the Compliance Tracking Register in Appendix A1 is provided in Table 3-4.

Table 3-4 Compliance Reporting

No	Report	Requirement	Timing	Responsibility	Recipient
1	Compliance Tracking Program	G36 – 3.2.2	6 Monthly	CPB Downer JV Environmental Manager	TfNSW Representative

When a non-compliance is identified during an environmental audit, review of compliance or following an incident, the CPB Downer JV Construction Environmental Manager will raise an action in Enablon Synergy (the CPB Contractors HSE management database software) and assign the rectification and close out action to the nominated site personnel with a due date.

3.9.5 Other reporting

Prior to, during and following construction, various reports will be prepared to fulfil TfNSW's and other reporting needs, and requirements under the Project approval. Table 3-5 sets out the reporting requirements applicable to the Project, timing of the reporting, who is responsible for managing preparation of the reports and the intended recipient(s).

Additional reporting may be necessary as the works progress. In such a circumstance, Table 3-5 will be amended to reflect these changes.

Table 3-5 Reporting requirements

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental report	For incorporation in Project Monthly Reports including environmental statistics (ie incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance and key environmental issues	Within 10 working days of the end of each calendar month.	Construction Environmental Manager	TfNSW
2	EPL monthly report	Details of all non-compliances with conditions of EPL, measures taken to prevent recurrence, and details of discharges from sediment basins where water quality results exceed EPL conditions.	Within 10 working days of the end of each calendar month.	Construction Environmental Manager	EPA
3	EPL annual returns	Report on compliance with EPL.	Within 60 days of the anniversary of the EPL.	Construction Environmental Manager	EPA
4	ER inspection report	Report of site environmental performance following routine inspections.	Within seven days following the end of each month for the duration of the ER's engagement	Construction Environmental Representative	TfNSW /DPIE
5	Environmental risk assessment	Conducted for each construction stage, Project changes and significant issues.	Prior to construction during development of CEMP and as required thereafter. Reviewed six monthly	Construction Environmental Manager, Construction Manager	TfNSW

No.	Report	Requirement	Timing	Responsibility	Recipient
6	Monitoring results	Report on monitoring data recorded and potential exceedances against criteria.	As required	Construction Environmental Manager, Construction Environmental Coordinator (s)	TfNSW
7	TfNSW and/or EPA environmental inspection reports	Response to matters raised in TfNSW and/or EPA site inspections.	As required. Typically every two weeks for TfNSW inspection reports and monthly for EPA inspection reports.	Construction Environmental Manager, Construction Environmental Coordinator (s)	TfNSW /EPA
8	Acoustic Advisor reports	Report of actions and decisions for which the Acoustic Advisor is responsible.	Monthly, within seven days following the end of each month for the duration of the Acoustic Advisor's engagement	Acoustic Advisor	Planning Secretary, EPA, TfNSW
9	Independent Audit Report	Report on the findings of Independent Audits. Proponent must review and respond to each Independent Audit Report	Within two months of undertaking the independent audit site inspection	Independent auditor and TfNSW	Planning Secretary
10	Incident report	Any incidents that occur (as defined by MCoA A43 causes or threatens to cause material harm) must be notified to the Planning Secretary	Immediately after becoming aware of the incident	Construction Environmental Manager and TfNSW	Planning Secretary
11	Non-compliance notification	Any non-compliances (as defined by MCoA A45) that occur must be notified to the Planning Secretary	Within seven days after becoming aware of the non-compliance	Construction Environmental Manager and TfNSW	Planning Secretary
12	Report on need for	On becoming aware of the need for emergency work, a report detailing the	On becoming aware of the need for	Construction Environmental Manager	Acoustic Advisor,

No.	Report	Requirement	Timing	Responsibility	Recipient
	emergency work	reasons for such work is required.	emergency work		Environmental Representative, EPA , Planning Secretary
13	Waste Avoidance and Resource Recovery Report	Information related to waste generated and recycled	Annual within one-month from 1 July and actual completion date	Construction Environmental Manager	TfNSW
14	Pre & post Construction Survey Reports (E107, E109)	Undertaken on the current condition of surface and sub-surface structures identified as at risk from settlement or vibration	Prior to and within 4 months of the completion of relevant construction activities	Construction Manager	Owners of relevant structures
15	Incident Reports	An incident which causes or threatens to case material harm	Within 7 days of becoming aware of the incident	Construction Environmental Manager	DPIE
16	Detailed Incident Report	An incident which causes or threatens to case material harm	Within 30 days of the incident date.	Construction Environmental Manager	Planning Secretary and any relevant public authorities as determined by the Planning Secretary

3.10 Environmental nonconformities

Any member of the Project team may raise a non-conformance or improvement opportunity. The Quality Plan describes the process for managing non-conforming work practices and initiating corrective/preventative actions or system improvements.

The ER, TfNSW Representative or public authority may also raise a non-conformance or improvement opportunity using the same process.

A non-conformance is the failure or refusal to comply with statutory requirements and the requirements of this CEMP and supporting documentation.

For each non-conformance identified a corrective/preventative action (or actions) must be implemented. In addition any environmental management improvement opportunities can be initiated as a result of incidents or emergencies, monitoring and measurement, audit findings or other reviews. Improvement opportunities may also result in the implementation of corrective/preventative actions.

Corrective/preventative actions and improvement opportunities will be entered into the contractor's quality system database and include detail of the issue, action required and timing and responsibilities. These actions may be raised as part of a routine site inspection, ER or TfNSW

inspection, audit undertaken of the project or as a result of a compliant raised by the community or a Regulator. The record will be updated with date of close out and any necessary notes by the CPB Downer JV Construction Environmental Manager. The database will be reviewed regularly to ensure actions are closed out as required.

Non-conforming activities may be stopped, if necessary, by the construction Environmental Manager, Environmental Coordinator or Project / Site Engineer following consultation with the Construction Manager or delegate. The works will not commence until a corrective / preventative action has been closed out. The ER may also stop works in these circumstances. In such circumstances a non-conformance report must be prepared in accordance with the Quality Plan.

After becoming aware of an environmental non-compliance, CPB Downer JV 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 MCoA 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 may also include environmental non-compliances within the Environmental Representative Monthly Report.

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

Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management are also documented in the Compliance Tracking Program (see Section 3.9.4). Following corrective action, the CPB Downer JV Construction Environmental Manager, will close out the noncompliance.

3.11 Records of environmental activities

3.11.1 Environmental records

The construction Environmental Manager is responsible for maintaining all environmental management documents and records as current at the point of use. Types of documents and records include:

- All monitoring, inspection and compliance reports/records
- Correspondence with public authorities
- Induction and training records
- Reports on environmental incidents, other environmental non-conformances, complaints and follow-up action
- Community engagement information
- Minutes of CEMP and construction environmental management system review meetings and evidence of any action taken
- CEMP and Sub-plans
- EWMS.

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

3.11.2 Document control

The Contractor 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 the main site compound.

The Contractor will implement a document control procedure 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.

A register and distribution list will identify the current revision of particular documents, records or data. The Document Register is maintained in Appendix A4.

3.12 Management review

Management reviews will be undertaken as part of the continual improvement process. The reviews will be initiated by the Construction Environmental Manager and include relevant project team members and stakeholders. The purpose of the management reviews is:

- Identification of areas of opportunity for improved environmental performance
- Analysis of the causes of nonconformities and deficiencies, including those identified in environment inspections and audits
- Verification of the effectiveness of corrective and preventative actions
- Highlighting any changes in procedures resulting from process improvement.

Those reviews would be undertaken quarterly with TfNSW and the Contractor both present.

In addition, a review of the CEMP and Sub-plans will occur bi-annually.

The reviews will include:

- Consideration of the general progress of work and the level of overall environmental risk
- Consideration of monitoring, inspection and audit results
- Consideration of recent and relevant incidents and any lessons learnt
- Consideration of any new regulatory obligations
- Consideration of any recorded pollution complaints
- A review of the effectiveness of environmental controls, including. erosion and sediment controls
- Consideration of changes in operational needs such as resourcing
- Feedback from TfNSW and other relevant stakeholders.

The outcomes of environmental reviews may trigger amendments to this CEMP and related documentation, revision to the Project's environmental management system, review of the risk assessment, review of internal audit frequency, re-evaluation of the project objectives and targets, as well as, input into other project documents.

3.13 CEMP/Sub-plan revision and changes to the Project

3.13.1 CEMP Revision

A document review process ensures that environmental documentation including this CEMP is updated as appropriate for the specific works that are occurring on-site. This includes the management review process described in Section 3.112 or project changes that occur in accordance with Section 3.13.2.

Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the construction CPB Downer JV

Construction Environmental Manager or construction Environmental Coordinator to prepare the revised documents.

The revised document will then be issued to the Project Manager and the ER for endorsement of the changes. The ER can approve minor changes to the CEMP as per MCoA A27(i). Minor changes would typically include those that:

- Are editorial in nature eg staff and agency/authority name changes
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Do not compromise the ability of the Project to meet approval or legislative requirements
- Lower the level of overall environmental risk or bring the project into line with predicted risks
- Are required as a result monitoring, inspection and audit results
- Result from consideration of recent and relevant incidents and any lessons learnt
- Are required because of any new regulatory obligations
- Where a review of the effectiveness of environmental controls, including. erosion and sediment controls has identified that improvements are needed
- Are required because of changes in operational needs such as resourcing
- Are required because of feedback from TfNSW and other relevant stakeholders

Where the ER deems it necessary, the amended CEMP will be forwarded to the Planning Secretary for approval.

Revised versions of the CEMP will be made available through the processes in accordance with MCoA C2, updates to the CEMP will be made within seven days of the completion of the review or receipt of actions identified by any audit of the document and be submitted to the ER for endorsement and TfNSW for approval.

3.13.2 Changes to the Project

Refinements to the Project may result from detailed design refinements or changed circumstances throughout construction. TfNSW is required to seek formal approval from the Minister for any Project modifications and for documenting refinements that are consistent with the approved Project.

Any design changes or changes in scope of works must be communicated to the CPB Downer JV Construction Environmental Manager. The CPB Downer JV Construction Environmental Manager or construction Environmental Coordinator will then undertake an additional environmental assessment and consistency assessment in consultation with the TfNSW Environmental Manager to determine if a Project modification may be required. Where the design change or change in scope of works is determined to be consistent with the approved Project, the consistency assessment will be provided to the ER before commencement of the works in accordance with MCoA A28 (b).

Should the consistency assessment determine that a Project modification may be required, ie the impacts are of a nature and scale that it is not considered consistent with the Project approval, the ER will be informed and modification application under Section 5.25 (previously Section115ZI(2)) of the EP&A Act 1979 prepared and lodged by TfNSW to the Planning Secretary for determination.

In line with the Environmental Assessment Procedure State Significant Infrastructure (Roads and Maritime) (TfNSW 2020), Transport for NSW will approve all refinements that are deemed consistent with the Project approval, where appropriate.

4 Construction control

A number of environmental management Sub-plans support the CEMP. These documents are prepared to identify requirements and processes applicable to specific impacts or aspects of the activities described CSSI assessment documentation. They address requirements of the MCoA, REMMs and other measures identified in the environment assessment documentation.

Environmental strategies may be developed as required throughout the Project. These will also guide environmental management of potential impacts on-site.

A list of construction Sub-plans and strategies for the Project (applicable to Stage 2 of the Warringah Freeway Upgrade Project as detailed in the Staging Report as required by MCoA C2(h)),and their approval requirements, are provided in Table 4-1.

Table 4-1 Environmental management Sub-plans and strategies

Document name	Document number	Approval pathway/Consultation requirement
Traffic, Transport and access Management Sub-plan (TTAMP)	WHTBLWFU-CPBD-NWW-TF-PLN-000003	Prepared in consultation with relevant council(s) Endorsed by the ER. Submitted to the Planning Secretary for Approval
Flora and Fauna Management Sub-plan (FFMP)	WHTBLWFU-CPBD-NWW-EO-PLN-000004	Prepared in consultation with DPI Fisheries, DPIE Water, EESG and relevant council(s) Endorsed by the ER. Submitted to the Planning Secretary for Approval
Noise and Vibration Management Sub-plan (NVMP)	WHTBLWFU-CPBD-NWW-NV-PLN-000005	Prepared in consultation with NSW Health and relevant council(s) Endorsed by the ER. Submitted to the Planning Secretary for Approval
Soil and Water Management Sub-plan (SWMP)	WHTBLWFU-CPBD-NWW-WA-PLN-000006	Prepared in consultation with DPIE Water, EESG, EPA, Sydney Water (if Sydney Water's assets are affected) and relevant council(s) Endorsed by the ER. Submitted to the Planning Secretary for Approval
Heritage Management Sub-plan (HMP)	WHTBLWFU-CPBD-NWW-HE-PLN-000007	Prepared in consultation with Heritage NSW and relevant council(s) Endorsed by the ER. Submitted to the Planning Secretary for Approval

Document name	Document number	Approval pathway/Consultation requirement
Air Quality and Odour Management Sub-plan (AQMP)	WHTBLWFU-CPBD-NWW-AH-PLN-000008	Prepared in consultation with NSW Health and relevant council(s) Endorsed by the ER. Submitted to the Planning Secretary for Approval
Contaminated Land Management Sub-plan (CLMP)	WHTBLWFU-CPBD-NWW-CT-PLN-000009	Endorsed by the ER. Submitted to the Planning Secretary for information
Waste and Resource Management Sub-plan (WRMP)	WHTBLWFU-CPBD-NWW-WM-PLN-000010	Endorsed by the ER. Submitted to the Planning Secretary for information

Where a separate Sub-plan is not required, information regarding environmental management and control of specific areas is outlined in the below sections.

4.1 Contaminated land

A Contaminated Land Management Sub-plan (CLMP) has been prepared and forms Appendix B7 of the CEMP.

The CLMP outlines the mitigation and management measures that will be implemented by the CPB Downer JV to address potential impacts arising from contaminated land management during design and construction of the Project and includes an Unexpected Finds Procedure for contamination and asbestos.

4.2 Spill prevention and response

A Spill Prevention and Response Procedure has been developed in accordance with REMM SG23 to manage spill prevention and response on this Project and can be found in Appendix D of the Soil and Water Management Sub-plan. The procedure:

- Outlines where fuels, oil, herbicides are stored and how they are stored (eg bunding, storage sheds).
- Indicates spill kit locations
- Outlines activities that have a risk of spills and how this would be managed
- Describes how spills would be minimised, managed, cleaned up and reported

In addition, a PIRMP will be developed to manage spill prevention and response on the Project, as required by Part 5.7 of the POEO Act. A copy of the PIRMP will be maintained on the CPB Contractors website.

4.3 Fire safety and burning off

The following fire-fighting equipment is provided on site and in vehicles to ensure the safety of public and property:

- Fire extinguishers
    - Class A – Ordinary combustibles

    - Class B – Flammable and combustible liquids
    - Class C – Flammable gases
    - Class E – Electrically energised equipment
- Fire blankets
- Fire hoses

Total fire ban declarations and resultant work restrictions will be communicated to staff by email.

During total fire bans, the following items of plant that have the potential to discharge sparks, are fitted with spark arresters:

- Welding equipment
- Grinding equipment
- Thermal or oxygen cutting equipment
- Bitumen and tar boilers
- Hot air blowers
- Brazing equipment
- Soldering equipment

All personnel involved in welding, grinding, thermal or oxygen cutting, heating or other fire or spark-producing operations will be trained in fire prevention, safety and basic fire-fighting skills.

4.3.1.1 Non-conformances

Non-conformances will be dealt with and documented in accordance with Section 3.10 of the CEMP.

4.3.1.2 Complaints

Complaints will be recorded and addressed in accordance with Section 3.7.45 of the CEMP.

4.3.1.3 Reporting

The following reports will be prepared and submitted to TfNSW as required under the NSW Government “Waste Reduction and Purchasing Policy” and in accordance with Clause 4.11.2 and Appendix G36/F of G36:

- On or before 31 July - reporting of information relating to materials purchased and wastes generated or recycled between 1 January and 30 June of that year, and
- On 31 January – reporting of information relating to materials purchased and wastes generated or recycled between 1 July and 31 December of the previous year.
    - Additionally, in accordance with Clause 4.12.3 of TfNSW Specification G36 – Environment Protection, the contractor would prepare a Waste Avoidance and Resource Recovery Report, detailing information on wastes generate or recycled, on the following dates:
- Within one month from 1 July of the current calendar year, for the previous 12 months of the contract period, or part thereof if the contract commenced after 1 July of the previous calendar year; and/or
- At Actual Completion Date, for the final reporting period.

4.3.1.4 Audits

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental mitigation measures, compliance with this CEMP and other relevant approvals, licences and guidelines.

4.4 Use of pesticides

All herbicide use will be recorded on a herbicide application form, and copies provided to the client within 24 hours of application. All personnel managing, handling or applying pesticides must have completed appropriate training.

4.5 Light spill

The Project will be constructed and operated with the objective of minimising light spillage to surrounding properties in accordance with MCoA E163. Construction will progress in a manner that minimises visual impacts including by:

- Providing temporary screening of the construction sites and ancillary facilities
- Minimising light spill to residential properties in accordance with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces
- Providing mitigation measures as part of OOHW approvals to manage residual night lighting impacts to properties next to construction and ongoing consultation with sensitive receivers
- Regular inspections and maintenance of site hoardings around ancillary facilities and work areas

4.6 Work in environmentally sensitive areas

Clause 4.13 of G36 is addressed in Section 3.2.5 of this CEMP

4.7 Environmental incident notification and reporting

Clause 4.14 of G36 is addressed in Section 3.8 of this CEMP. The response to environmental emergencies and incidents is to be consistent with the Roads and Maritime Environmental Incident Classification and Reporting Procedure (refer to Appendix A6).

4.8 Ancillary Site facilities

An ASEMP has been developed to manage the risks on this Project. This document is developed in accordance with the MCoA. This plan applies to sites identified in the EIS, based on suitability and the likely amenity and environmental impacts. Day to day management of these sites would be in accordance with this CEMP.

The ASEMP addresses the requirements of MCoA A17, revised environmental mitigation measures listed in the EIS, TfNSW QA Specification G36 - Environment Protection and applicable guidelines and legislation.

Any Ancillary Facility not identified in the ASEMP must be assessed to determine whether it is a Minor Construction Ancillary Facility in accordance with MCoA A19 and approval must be given by the ER prior to site establishment.

Where an Ancillary Facility is not considered by the ER to be a Minor Construction Ancillary Facility in accordance with MCoA A19, the ASEMP will need to be updated (or a separate ASEMP prepared) in accordance with MCoA A17.

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

Table 4-2 outlines the applicability of MCoA requirements to the assessment and approval of Ancillary Facilities.

Table 4-2 Ancillary Facility MCoA requirements

MCoA #	Applicability	Timing	Responsibility for Approval
Ancillary Site Establishment Management Plan			
A17	Where an Ancillary Facility has not been assessed as a Minor Construction Ancillary Facility in accordance with MCoA19, the ASEMP must be updated or a new ASEMP prepared.	One month before site establishment	Planning Secretary
Use of Construction Ancillary Facilities			
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.	Construction	Planning Secretary
Minor Construction Ancillary Facilities			
A19	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 EIS or 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.	One month before site establishment	ER

4.9 Restoration of site

On completion of the works, all areas disturbed by construction activities (including the site compound, materials storage, access and haul roads) must be reinstated and restored to conditions as outlined in the post-construction land assessment and in consultation with and to meet the requirements of the relevant landowner.

- All areas disturbed by construction and not required for operation of the Project will be restored to existing condition or in accordance with the **Place, Design and Landscape Plan** (required by MCoA E177) where applicable, including:

- Site compound and stockpile sites clean-up
- Fuel and chemical/contaminated areas restoration, including spill clean-up as required
- Access and haul road restoration
- Compacted/disturbed ground restoration, including soil remediation, ripping and topsoiling of the area where applicable

- 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).
- Pathogens will be managed in accordance with *Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).

Any property access physically affected by the Project must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.

Appendix A1

Legal Requirements and Compliance Tracking Register

Warringah Freeway Upgrade

February 2022

Legal requirements

Table A1-1 Legal register

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
General					
Environmental Planning and Assessment Act, 1979	All	Comply with the conditions and other requirements or measures of the Minister for Planning and Public Spaces' approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S5.14 S5.25	Yes	Section 1.2 (Table 1.1)
Traffic and transport					
Road Rules 2014 (NSW)	Construction-related vehicle movements	Vehicles used during the construction of the project are to comply with the *Road Rules 2014 (NSW)*.		No	Appendix B1 – Traffic and Transport Management Sub Plan
Roads Act 1993 (NSW) *(Road Opening Permit and Road Occupancy Licence)*	Use of and work on/over public roads	A public road may not be opened otherwise than in accordance with the provisions of this Act. A person must not – (a) erect a structure or carry out a work in, on or over a public road, or (b) dig up or disturb the surface of a public road, or (c) remove or interfere with a structure, work or tree on a public road, or (d) pump water into a public road from any land adjoining the road, or (e) connect a road (whether public or private) to a classified road,	Part 2 Part 9	No	Appendix B1 – Traffic and Transport Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		otherwise than with the consent of the appropriate roads authority			
Noise and Vibration					
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes	Appendix B3 – Noise and Vibration Management Sub Plan
Protection of the Environment Operations Act 1997	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes	Appendix B3 – Noise and Vibration Management Sub Plan
Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020	Construction work hours	At the time of preparing this CEMP, the *Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020* is in effect. Under that order, the carrying out of any building or work on a Saturday, Sunday or public holiday is development specified. The conditions specified for the development are that the development must: - Be the subject of a development consent - Comply with all conditions of the consent other than any condition that restricts the hours of work or operation on a Saturday, Sunday or public holiday, and - For work or operation on a Saturday, Sunday or public holiday: o comply with the conditions of the consent that restrict the		Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020	Appendix B3 – Noise and Vibration Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		hours of work or operation on any other day as if the conditions applied to work or operation on a Saturday, Sunday or public holiday, and o not involve the carrying out of rock breaking, rock hammering, sheet piling, pile driving or similar activities during the hours of work or operation that would not be permitted but for this Order, and o take all feasible and reasonable measures to minimise noise. The above changes to construction work hours are only applicable while the *Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020* is in effect. Should that order cease to have effect, the construction hours would revert back to those specified in Conditions E66, E67 and E68.			
Air quality					
Protection of the Environment Operations Act 1997 (NSW)	Air pollution from operation of plant	The occupier of any premises who operates any plant in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure—	S124	No	Appendix B6 – Air Quality Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		(a) to maintain the plant in an efficient condition, or (b) to operate the plant in a proper and efficient manner.			
Protection of the Environment Operations Act 1997 (NSW)	Maintenance work on plant	The occupier of any premises who carries out maintenance work on any plant in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to carry out that work in a proper and efficient manner.	S125	No	Appendix B6 – Air Quality Management Sub Plan
Protection of the Environment Operations Act 1997 (NSW)	Deal with materials in a manner that causes air pollution	(1) The occupier of any premises who deals with materials in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to deal with those materials in a proper and efficient manner. (2) In this section— deal with materials means process, handle, move, store or dispose of the materials. materials includes raw materials, materials in the process of manufacture, manufactured materials, by-products or waste materials.	S126	No	Appendix B6 – Air Quality Management Sub Plan
Protection of the Environment	Standards of air impurities	(1) The occupier of any premises must not carry on any activity, or operate any	S128	No	Appendix B6 – Air Quality Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Operations Act 1997 (NSW)		plant, in or on the premises in such a manner as to cause or permit the emission at any point specified in or determined in accordance with the regulations of air impurities in excess of— (a) the standard of concentration and the rate, or (b) the standard of concentration or the rate, prescribed by the regulations in respect of any such activity or any such plant. (1A) Subsection (1) applies only to emissions (point source emissions) released from a chimney, stack, pipe, vent or other similar kind of opening or release point. (2) The occupier of any premises must carry on any activity, or operate any plant, in or on the premises by such practicable means as may be necessary to prevent or minimise air pollution if— (a) in the case of point source emissions—neither a standard of concentration nor a rate has been prescribed for the emissions for the purposes of subsection (1), or (b) the emissions are not point source emissions.			
Protection of the Environment Operations (Clean Air) Regulation 2010	Air impurities emitted from activities and plant	Emissions are to comply with the standard of concentration prescribed by Schedule 6 for an air impurity	Division 3	No	Appendix B6 – Air Quality Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Heritage					
Heritage Act 1977	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	Appendix B5 – Heritage Management Sub Plan
		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	Appendix B5 – Heritage Management Sub Plan
		Notify the Heritage Council on discovery of a relic	S146	Yes	Appendix B5 – Heritage Management Sub Plan
National Parks and Wildlife Act 1974	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	No	Appendix B5 – Heritage Management Sub Plan
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes	Appendix B5 – Heritage Management Sub Plan
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment.	S20	Yes	Appendix B5 – Heritage Management Sub Plan
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes	Appendix B5 – Heritage Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Water					
Water Management Act 2000 With the exception of controlled activity approvals, the *Water Management Act 2000* (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 S91A	No Under Schedule 4, Part 1, clause 2 of the *Water Management(General) Regulation 2011*, roads authorities are exempt from the requirement to hold a water access licence to take water for road construction and road maintenance.	
Water Management Act 2000	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	CEMP Appendix B4 – Soil and Water Management Sub Plan
Water Management Act 2000	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.	Appendix B4 – Soil and Water Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
				Water Management (General) Regulation 2011 (cl.38)	
Water Act 1912 Note that this Act is being progressively repealed by the *Water Management Act 2000 (NSW)* (WM Act). 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.	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water	S21B	Yes	Appendix B4 – Soil and Water Management Sub Plan
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	S112 does not apply to the Crown. TfNSW is therefore not required to obtain a licence under this provision.	Appendix B4 – Soil and Water Management Sub Plan
	Floodplains	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent land from being flooded or which can affect water flow to or from a river or lake.	91D	An exemption in relation to roads potentially applies – see clause 41E of the *Water Management Regulation 2011*.	Appendix B4 – Soil and Water Management Sub Plan
Protection of the Environment Operations Act 1997	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	Appendix B4 – Soil and Water Management Sub Plan
Contaminated material and soils					

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Protection of the Environment Operations Act 1997	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	Appendix B4 – Soil and Water Management Sub Plan Appendix B7 – Contaminated Land Management Procedure
Contaminated Land Management Act 1997	Reporting contamination	Notify the EPA if; • 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. • Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. • Contamination meets other criteria that may be prescribed by the regulations.	S60	Yes	Appendix B4 – Soil and Water Management Sub Plan Appendix B7 – Contaminated Land Management Procedure
Biodiversity					
Biodiversity Conservation Act 2016	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	Appendix B2 – Flora and Fauna Management Sub Plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Biodiversity Conservation Act 2016	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	Appendix B2 – Flora and Fauna Management Sub Plan
Biodiversity Conservation Act 2016	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	Appendix B2 – Flora and Fauna Management Sub Plan
Biosecurity Act 2015	Weeds	Manage weeds on site in accordance with the relevant Regional Strategic Weed Management Plan.	S22	Yes	Appendix B2 – Flora and Fauna Management Sub Plan
Biosecurity Regulation 2017	Pests and Diseases	Notify the presence any pest or disease listed in Schedule 1 of the *Biosecurity Regulation 2017*, within 1 working day after suspecting or becoming aware of the pest or disease.	cl.7 Schedule 1	Yes	Appendix B2 – Flora and Fauna Management Sub Plan
Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes	Appendix B2 – Flora and Fauna Management Sub Plan
Pesticides Regulation 2017	Control of weeds	Prior notice must be given 5 working days before applying pesticides near to a sensitive place	Part 5	Yes	Appendix B2 – Flora and Fauna Management Sub Plan
Waste					
Protection of the Environment Operations Act 1997	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	Part 3.2 Schedule 1	Yes	Appendix B8 - Waste and Resource Management Sub-plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		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: • Is VENM. • Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. • 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. • 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.			
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes	Appendix B8 - Waste and Resource Management Sub-plan
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes	Appendix B8 - Waste and Resource Management Sub-plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Protection of the Environment Operations (Waste) Regulation 2005	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 and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Yes	Appendix B8 - Waste and Resource Management Sub-plan
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes	Appendix B8 - Waste and Resource Management Sub-plan
General					
Protection of the Environment Operations Act 1997	Harming the environment	Do not risk harming the environment by wilfully or negligently: disposing of waste unlawfully. causing any substance to leak, spill or otherwise escape (whether or not from a container); or emitting an ozone depleting substance	S115 S116 S117	Yes	Appendix B2 – Flora and Fauna Management Sub Plan Appendix B4 – Soil and Water Management Sub Plan Appendix B6 – Air Quality Management Sub Plan
Protection of the Environment Operations Act 1997	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes	Appendix B6 – Air Quality Management Sub Plan
Protection of the Environment Operations Act 1997	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes	Section 3.8
Protection of the Environment Operations Act 1997	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to:	S47 S48	Yes	Environmental Protection Licence

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		• road construction: meaning the construction, widening or re-routing of roads if it results in the existence of 4 or more traffic lanes (other than bicycle lanes or lanes used for entry or exit) for 1 kilometres of their length in the metropolitan area, or 5 kilometres in length in any other area, where the road is classified, or proposed to be classified, as a freeway or tollway under the *Roads Act 1993 (NSW)*.			
Environmentally Hazardous Chemicals Act, 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes	
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes	Appendix B1 – Traffic Management Sub Plan Appendix B4 – Soil and Water Management Sub Plan
Pesticides Act 1999	Hazards and risks	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Yes	Appendix B2 - Flora and Fauna Management Sub-plan

Act or Statutory Instrument	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
National Greenhouse and Energy Reporting Act, 2007 and Regulations 2008	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes	Sustainability Management Plan

Note: Table A1-2 Ministers Conditions of Approval only references out to relevant sections of the CEMP or Project supporting documentation where the condition it is applicable to or is the responsibility of the CPB Dower JV works.

Table A1-2 Minister's Conditions of Approval

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
General			
A1	Project in accordance with EIS and RtS	The Proponent must carry out the CSSI in accordance with the terms of this approval and generally in accordance with the: (a) Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement – Volumes 1A-B and 2A-J (dated January 2020) (the EIS); and (b) Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report (dated September 2020) (the RtS)	Noted
A2	General	The CSSI must only be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the documents listed in Condition A1 unless otherwise specified in, or required under, this approval	Noted
A3	General	In the event of an inconsistency between: (a) the terms of this approval and any document listed in Condition A1 inclusive, the terms of this approval will prevail to the extent of the inconsistency; and (b) any document listed in Condition A1 inclusive, the most recent document will prevail to the extent of the inconsistency. ***Note:*** *For the purpose of this condition, there will be an inconsistency between a term of this approval and any document if it is not possible to comply with both the term and the document.*	Noted
A4	General	The Proponent must comply with all written requirements or directions of the Planning Secretary, including in relation to: (a) the environmental performance of the CSSI; (b) any document or correspondence in relation to the CSSI; (c) any notification given to the Planning Secretary under the terms of this approval; (d) any audit of the construction or operation of the CSSI;	Noted

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(e) the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval); (f) the carrying out of any additional monitoring or mitigation measures; and (g) 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 this approval.	
A5	Evidence of Consultation	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: (a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; (b) a log of the dates of engagement or attempted engagement with the identified party; (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; (d) outline of the issues raised by the identified party and how they have been addressed; and (e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	Section 2 Consultation Reports included in all Sub-plans
A6	General	This approval lapses five years after the date on which it is granted, unless work has physically commenced on or before that date.	Ministers Conditions of Approval
A7	General	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	Noted
A8	General	Any document that must be submitted or action taken within a timeframe specified in or under the terms of this approval may be submitted or undertaken within a later timeframe agreed with	Noted

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		the Planning Secretary. This condition does not apply to the written notification required in respect of an incident under Conditions A43 and A45	
A9	Noise Insulation Program	The implementation of the Noise Insulation Program (NIP) does not trigger the following Conditions A24, A30, B1 and B11, until such time that construction commences.	Noise insulation Program
A10	Staging	The CSSI may be constructed and operated in stages. Where staged construction or operation is proposed, a Staging Report (for either or both construction and operation as the case may be) must be prepared and submitted to the Planning Secretary for information. The Staging Report must be endorsed by the ER and then submitted to the Planning Secretary no later than one month before the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one month before the commencement of operation of the first of the proposed stages of operation)	Staging Report Section 1.4
A11	Staging	The Staging Report must: (a) if staged construction is proposed, set out how the construction of the whole of the CSSI will be staged, including details of work and other activities to be carried out in each stage and the general timing of when construction of each stage will commence and finish; (b) if staged operation is proposed, set out how the operation of the whole of the CSSI will be staged, including details of work and other activities to be carried out in each stage and the general timing of when operation of each stage will commence and finish (if relevant); (c) specify how compliance with conditions will be achieved across and between each of the stages of the CSSI; and (d) set out mechanisms for managing any cumulative impacts arising from the proposed staging	Staging Report Section 1.4
A12	Staging	The CSSI must be staged in accordance with the Staging Report, and submitted for information to the Planning Secretary	Staging Report
A13	Staging	Where staging is proposed, the terms of this approval that apply or are relevant to the work or activities to be carried out in a specific stage must be complied with at the relevant time for that stage	Staging Report

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
A14	Staging	Where changes are proposed to the staging of construction or operation, a revised Staging Report must be prepared, endorsed by the ER and submitted to the Planning Secretary for information no later than one month prior to the proposed change in the staging	Staging Report
A15	Staging, Combining and Updating Strategies, Plans or Programs	With the approval of the Planning Secretary, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis **Notes:** *1. While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and* *2. If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*	Staging Report
A16	Ancillary facilities	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: (a) they are located within or immediately adjacent to the construction boundary; and (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 € 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 (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.	Ancillary Site Establishment Management Plan
A17	Ancillary Site Establishment Management Plan	Before establishment of any construction ancillary facility (excluding minor construction ancillary facilities determined by the ER to have minimal environmental impact and those established under Condition A19), the Proponent must prepare an Ancillary Site Establishment Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facilities. The Ancillary Site Establishment Management Plan must be prepared in consultation with the relevant council and	Ancillary Site Establishment Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		government agencies. The Plan must be submitted to the Planning Secretary for approval one month before the establishment of any construction ancillary facilities. The Ancillary Site Establishment Management Plan must detail the management of the construction ancillary facilities and include: (a) a description of activities to be undertaken during establishment of the construction ancillary facility (including scheduling and duration of work to be undertaken at the site); (b) figures illustrating the proposed operational site layout and the location of the closest sensitive land user(s); € a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of site establishment work; (d) details of how the site establishment activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1, and (ii) manage the risks identified in the risk analysis undertaken in subsection € of this condition; and (f) €a program for monitoring the performance outcomes, including a program for construction noise monitoring. Nothing in this condition prevents the Proponent from preparing individual Ancillary Site Establishment Management Plans for each construction ancillary facility.	
A18	Use of Construction Ancillary Facility	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.	This CEMP
A19	Minor Construction Ancillary Facilities	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: (a) are located within or adjacent to the construction boundary; and	Ancillary Site Establishment Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(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.	
A20	Boundary screening	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. All Boundary screening must minimise visual impacts on adjacent sensitive land user(s).	Ancillary Site Establishment Management Plan
A21	Independent Appointments	All Independent Appointments required by this approval must hold current membership of a relevant professional body, unless otherwise agreed by the Planning Secretary.	Noted
A22	Independent Appointments	The Planning Secretary may at any time commission an audit of how an Independent Appointment has exercised their functions. The Proponent must: (a) facilitate and assist the Planning Secretary in any such audit; and (b) make it a term of their engagement of an Independent Appointment that the Independent Appointment facilitate and assist the Planning Secretary in any such audit.	Noted
A23	Independent Appointments	The Planning Secretary may withdraw its approval of an Independent Appointment should they consider the Independent Appointment has not exercised their functions in accordance with this approval	Noted
A24	Environmental Representative	Work must not commence until an Environmental Representative (ER) has been nominated by the Proponent and approved by the Planning Secretary	Noted
A25	Environmental Representative	The proposed ER must be a suitably qualified and experienced person(s) who was not involved in the preparation of the documents listed in Condition A1, and is independent from the design and construction personnel for the CSSI and those involved in the delivery of it	Noted

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
A26	Environmental Representative	The Proponent may engage more than one ER for the CSSI, in which case the functions to be exercised by an ER under the terms of this approval may be carried out by any ER that is approved by the Planning Secretary for the purposes of the CSSI	Noted
A27	Environment Representative	For the duration of the work until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must: … (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.	Section 3.3.1
A28	Environment Representative	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in Condition A27 (including preparation of the ER monthly report), as well as: (a) the complaints register (to be provided on a weekly basis or as requested); and (b) a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	Noted
A29	Acoustics Advisor	A suitably qualified and experienced Acoustics Advisor(s) (AA) in noise and vibration management, who is independent of the design and construction personnel, must be nominated by the Proponent and engaged for the duration of work (as required by Condition A32) and for no less than six months following completion of construction of the CSSI	Section 3.3.1 Appendix B3 - Noise and Vibration Management Sub-plan
A30	Acoustics Advisor	Work must not commence until an AA has been nominated by the Proponent and approved by the Planning Secretary	Appendix B3 - Noise and Vibration Management Sub-plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
A31	Acoustics Advisor	The Proponent must cooperate with the AA by: (a) providing access to noise and vibration monitoring activities as they take place; (b) providing for review of noise and vibration plans, assessments, monitoring reports, data and analyses undertaken; and (c) considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted.	Appendix B3 - Noise and Vibration Management Sub-plan
A32		The Proponent may nominate additional suitably qualified and experienced persons to assist the lead AA for the Planning Secretary's approval	Appendix B3 - Noise and Vibration Management Sub-plan
A33		Any activities generating noise in excess of 5 dB(A) above the 'Noise affected' Noise Management Levels (NMLs) derived from the Interim Construction Noise Guideline (DECC, 2009) (ICNG) must not commence until an AA, nominated under Condition A29 of this approval, has been approved by the Planning Secret	Appendix B3 - Noise and Vibration Management Sub-plan
A34	Acoustics Advisor	The approved AA (*Acoustics Advisor*) must: (h) in conjunction with the ER, the AA must: (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)	Section 3.3.1
A35	Notification of Commencement	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	Notification of Commencement	If the construction or operation of the CSSI is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of the commencement of that stage.	Section 2

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
A37	Auditing	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	Noted
A38	Auditing	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
A39	Auditing	The Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those specified above, upon giving at least four weeks notice (or timing as stipulated by the Planning Secretary) to the Proponent of the date upon which the audit must be commenced	Noted
A40	Auditing	In accordance with the specific requirements in the Independent Audit Post Approval Requirements (DPIE, 2020), the Proponent must: (a) review and respond to each Independent Audit Report prepared under Condition A38 or Condition A39; (b) submit the response to the Planning Secretary; and (c) make each Independent Audit Report and response to it publicly available 60 days after submission to the Planning Secretary, or as otherwise agreed by the Planning Secretary	Noted
A41	Auditing	Independent Audit Reports and the Proponent's response to audit findings must be submitted to the Planning Secretary within two months of undertaking the independent audit site inspection as outlined in the Independent Audit Post Approval Requirements (DPIE, 2020)	Noted
A42	Auditing	Notwithstanding the requirements of the Independent Audit Post Approval Requirements (DPIE, 2020), the Planning Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that independent operational audits have demonstrated operational compliance	Noted
A43	Incident Notification, Reporting and Response	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	Section 3.8

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
A44	Incident Notification, Reporting and Response	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A of the MCoA.	Section 3.8
A45	Non-Compliance Notification	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 3.10
A46	Non-Compliance Notification	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 3.10
A47	Identification of Workforce and Compounds	All heavy vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification by a person viewing the heavy vehicle. Details of the project identification markings must be submitted to the Planning Secretary for approval prior to the heavy vehicles used for spoil haulage being utilised for the CSSI.	Appendix B1 - Traffic, Transport & Access Sub-plan
A48	Identification of Workforce and Compounds	The CSSI name; application number; telephone number, postal address and email address required under Condition B8 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 Condition B15 of this approval	Ancillary Site Establishment Management Plan
Community Information, Consultation and Involvement			
B1	Community Communication Strategy	A Community Communication Strategy must be prepared to provide mechanisms to facilitate communication about construction and operation of the CSSI with: (a) the community (including adjoining affected landowners and businesses, and others directly impacted by the CSSI); and (b) the relevant councils, EPA, EESG, NSW Health, Heritage NSW, DPIE Water, and Sydney Water, as applicable.	Community Communication Strategy

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		The Strategy must address who (the Proponent, Independent Appointments and/or construction contractor) will engage with the community, relevant councils and agencies, how they will engage and the timing of engagements	
B2	Community Communication Strategy	The Community Communication Strategy must: (a) identify people, organisations, councils and agencies to be consulted during the design and work phases; (b) identify details of the community demographics; (c) set out procedures and mechanisms for the regular distribution of accessible information including to LOTE and CALD and vulnerable communities about or relevant to the CSSI; (d) identify opportunities for education within the community about construction sites; (e) detail the measures for advising the community in advance of upcoming construction including upcoming out-of-hours work as required by Condition E83 and blasting activities (f) provide for the formation of issue or location-based community forums that focus on key environmental management issues of concern to the relevant community(ies) for the CSSI; (g) detail the role and responsibilities of the Public Liaison Officer(s) engaged under Condition B6; and (h) set out procedures and mechanisms: (i) through which the community can discuss or provide feedback to the Proponent 24 hours a day, seven days per week; (ii) through which the Proponent will respond to enquiries or feedback from the community; and (iii) to resolve any issues and mediate any disputes that may arise in relation to the environmental management and delivery of the CSSI, including disputes regarding rectification or compensation.	Community Communication Strategy
B3	Community Communication Strategy	The Community Communication Strategy must be submitted to the Planning Secretary and approved prior to the commencement of construction, unless otherwise agreed by the Planning Secretary	Community Communication Strategy

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
B4	Community Communication Strategy	Construction for the purposes of the CSSI must not commence until the Community Communication Strategy has been approved by the Planning Secretary	Community Communication Strategy
B5	Community Communication Strategy	The Community Communication Strategy, as approved by the Planning Secretary, must be implemented for the duration of the work and for 12 months following the completion of construction	Community Communication Strategy
B6	Public Liaison Officer	A Public Liaison Officer must be appointed for construction ancillary facilities and for utility work to assist the public with questions and complaints they may have at any time during construction. The Public Liaison Officer must be available at all times during the operation of ancillary facilities and or when utility work is occurring	Community Communication Strategy
B7	Complaints Management System	A Complaints Management System must be prepared and implemented before the commencement of any Work and maintained for the duration of construction and for a minimum for 12 months following completion of construction of the CSSI	Community Communication Strategy
B8	Complaints Management System	The following information must be available to facilitate community enquiries and manage complaints one month before the commencement of work and for 12 months following the completion of construction: (a) a 24- hour telephone number for the registration of complaints and enquiries about the CSSI; (b) a postal address to which written complaints and enquires may be sent; (c) an email address to which electronic complaints and enquiries may be transmitted; and (d) a mediation system for complaints unable to be resolved. This information must be accessible to all in the community regardless of age, ethnicity, disability or literacy level	Community Communication Strategy
B9	Complaints Management System	A Complaints Register must be maintained recording information on all complaints received about the CSSI during the carrying out of any work and for a minimum of 12 months following the completion of construction. The Complaints Register must record the: (a) number of complaints received;	Community Communication Strategy

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(b) the date and time of the complaint; (c) the method by which the complaint was made; (d) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; (e) nature of the complaint; (f) means by which the complaint was addressed and whether resolution was reached, with or without mediation; and (g) if no action was taken, the reason(s) why no action was taken. Complainants must be advised that the Complaints Register may be forwarded to Government agencies to allow them to undertake their regulatory duties	
B10	Complaints Register	The Complaints Register must be provided to the Planning Secretary upon request, within the timeframe stated in the request	Community Communication Strategy
B11	Community Complaints Mediator	A Community Complaints Mediator that is independent of the design and construction personnel must be nominated by the Proponent, approved by the Planning Secretary and engaged during work associated with the CSSI. The nomination of the Community Complaints Mediator must be submitted to the Planning Secretary for approval within one month before the commencement of work.	Community Communication Strategy
B12	Community Complaints Mediator	The role of the Community Complaints Mediator is to address any complaint where a member of the public is not satisfied by the Proponent's response. Any member of the public that has lodged a complaint which is registered in the Complaints Management System identified in Condition B7 may ask the Community Complaints Mediator to review the Proponent's response. The application must be submitted in writing and the Community Complaints Mediator must respond within 28 days of the request being made or other specified timeframe agreed between the Community Complaints Mediator and the member of the public	Community Communication Strategy
B13	Community Complaints Mediator	The Community Complaints Mediator will:	Community Communication Strategy

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(a) review any unresolved disputes if the procedures and mechanisms under Condition B2(h)(iii) do not satisfactorily address complaints; and (b) make recommendations to the Proponent to satisfactorily address complaints, resolve disputes or mitigate against the occurrence of future complaints or disputes	
B14	Community Complaints Mediator	The Community Complaints Mediator will not act before the Complaints Management System required by Condition B7 has been executed for a complaint and will not consider issues such as property acquisition, where other dispute processes are provided for in this approval or clear government policy and resolution processes are available, or matters which are not within the scope of this CSSI	Community Communication Strategy
B15	Provision of Electronic Information	A website or webpage providing information in relation to the CSSI must be established before commencement of work and be maintained for the duration of construction, and for a minimum of 24 months following the completion of construction. The following up-to-date information (excluding confidential, private, commercial information or any other information that the Planning Secretary has approved to be excluded) must be published before the relevant work commences and maintained on the website or dedicated pages including: (a) information on the current implementation status of the CSSI; (b) a copy of the documents listed in Condition A1, and any documentation relating to any modifications made to the CSSI or the terms of this approval; (c) a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval; (d) a copy of each statutory approval, licence or permit required and obtained in relation to the CSSI; (e) a current copy of the final version of each document required under the terms of this approval; and (f) a copy of the audit reports required under this approval. Where the information / document relates to a particular work or is required to be implemented, it must be published before the commencement of the relevant work to which it relates or before	Community Communication Strategy

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		its implementation. All information required in this condition is to be provided on the Proponent's website, ordered in a logical sequence and easy to navigate	
Construction Environmental Management Plan			
C1	Preparation of CEMP	A Construction Environmental Management Plan (CEMP) must be prepared having regard to the *Environmental Management Plan Guideline for Infrastructure Projects* (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.	Section 1.2, 1.4, 3.1
C2	CEMP	The CEMP must provide:	
		(a) a description of activities to be undertaken during construction (including the scheduling of construction);	(a) Section 1.3, Table 1-3
		(b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	(b) Section 1.5, 3.2.2 , Appendix A3
		(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;	(c) Section 3.2.1, 3.9
		(d) details of how the activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1; and (ii) manage the risks identified in the risk analysis undertaken in subsection(c) of this condition;	(d) Section 3.2.3
		(e) an inspection program detailing the activities to be inspected and frequency of inspections;	(e) Section 3.9
		(f) a protocol for managing and reporting any: (i) incidents; and (ii) non-compliances with this approval or statutory requirements;	(f) Section 3.8, 3.10
		(g) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	(g) Section 3.10

<table>
<tr><th>MCoA #</th><th>Activity / aspect</th><th>Requirement</th><th>Relevant section of CEMP or Project supporting documentation</th></tr>
<tr><td></td><td></td><td>(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;
(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;
(k) for periodic review and update of the CEMP and all associated plans and programs; and
(l) the outcomes of consultation with government agencies in accordance with Condition A5.</td><td>(h) Section 1.5, Appendix B1 – B6
(i) section 3.3.1
(j) Section 3.5
(k) Section 3.1.3
(l) Section 3.7
Consultation Report included as an Appendix in each relevant Sub-plan</td></tr>
<tr><td>C3</td><td>ER endorsement of CEMP</td><td>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.</td><td>This CEMP</td></tr>
<tr><td>C4</td><td>CEMP sub plans</td><td>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.
<table>
<tr><th></th><th>Required CEMP Sub-plan</th><th>Relevant government agencies to be consulted for each CEMP Sub-plan</th></tr>
<tr><td>(a)</td><td>Traffic, transport and access</td><td>Relevant council(s)</td></tr>
<tr><td>(b)</td><td>Noise and vibration</td><td>NSW Health, relevant cou©l(s)</td></tr>
<tr><td>(c)</td><td>Flora and Fauna</td><td>DPI Fisheries, DPIE Water, EESG, and relevant council(s)</td></tr>
<tr><td>(d)</td><td>Air quality and odour</td><td>NSW Health, and relevant ©ncil(s)</td></tr>
</table></td><td>Section 4 and Appendix B1 to B6
Note: the Groundwater, Maritime Heritage and Dredging and Disposal Management Plan are not required for the Warringah Freeway Upgrade Stage 2</td></tr>
</table>

MCoA #	Activity / aspect	Requirement			Relevant section of CEMP or Project supporting documentation
		(e)	Soil and surface water	DPIE Water, EESG, EPA, Sydney Water (if Sydney Water's assets are affected) and relevant council(s)	
		(f)	Groundwater	DPIE Water, EESG, EPA, Sydney Water (where it is proposed to discharge groundwater into Sydney Water's assets) and relevant council(s)	
		(g)	Maritime Heritage	Heritage NSW and relevant council(s)	
		(h)	Non-Aboriginal Heritage	Heritage NSW and relevant council(s)	
		(i)	Aboriginal Cultural Heritage	Heritage NSW	
		(j)	Dredging and Disposal Management Plan	EPA, DPI Fisheries, Port Authority of NSW (including Harbour Master)	
C5	CEMP Sub-plans	The CEMP Sub-plans must state how: (a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved; (b) the mitigation measures identified in the documents listed in Condition A1 will be implemented; (c) the relevant terms of this approval will be complied with; and (d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.			Appendix B1 to B6

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
C6	Flora and Fauna Management CEMP Sub-Plan	The Flora and Fauna Management CEMP Sub-Plan must include, but not be limited to: (a) details of the measures to minimise disturbance to marine vegetation and rocky reefs to the minimum extent necessary; (b) details of the measures to minimise disturbance to habitat associated with White's seahorse (Hippocampus whitei); (c) details of the measures to minimise disturbance to the Large Bent-winged Bat (Miniopterus orianae oceanensis) roosting site at Waverton, including the requirements of Condition E41; (d) details and measures to identify Little Penguins (Eudyptula minor) near maritime construction sites including employing qualified spotters, and the stop work procedure upon sighting of the species; (e) details for undertaking pre-clearing/demolition inspections for native fauna including threatened species by a suitably qualified ecologist, of any vegetation to be cleared and any buildings or structures identified as potential roosting habitat for microbats that are to be demolished or refurbished; methods and procedures for welfare and relocation of displaced fauna; and management/offset measures; and (f) details of a dewatering plan of the stormwater harvesting storage facility / dam at Cammeray Golf Course including: (i) a methodology of relocating native fauna species known to inhabit and/or use the dam; (ii) the location and suitability of the proposed relocation sites; and (iii) any potential impacts of relocating the fauna to the relocation sites	Appendix B2 - Flora and Fauna Management Sub-plan
C9	Approval of CEMP Sub-plans	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	Appendix B1 to B6
C10	Commencement of Construction	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	Section 3.2.4

<table>
<tr><th>MCoA #</th><th>Activity / aspect</th><th>Requirement</th><th>Relevant section of CEMP or Project supporting documentation</th></tr>
<tr><td></td><td></td><td>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.</td><td></td></tr>
<tr><td>C11</td><td>Construction Monitoring Programs</td><td>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:
<table><tr><th></th><th>Required Construction Monitoring Programs</th><th>Relevant government agencies to be consulted for each Construction Monitoring Program</th></tr><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>EPA</td></tr><tr><td>I</td><td>Surface Water Monitoring Program</td><td>DPIE Water, (Sydney Water if any Sydney Water assets are impacted), EPA</td></tr><tr><td>(d)</td><td>Groundwater Monitoring Program</td><td>DPIE Water, EPA</td></tr></table></td><td>Section 3.9</td></tr>
<tr><td>C12</td><td>Construction Monitoring Programs</td><td>Each Construction Monitoring Program must provide:
(a) details of baseline data available;
(b) details of baseline data to be obtained and when;
(c) details of all monitoring of the project to be undertaken;
(d) the parameters of the project to be monitored;
(e) the frequency of monitoring to be undertaken;
(f) the location of monitoring;
(g) the reporting of monitoring results and analysis results against relevant criteria;
(h) details of the methods that will be used to analyse the monitoring data;</td><td>Section 3.9</td></tr>
</table>

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicate unacceptable project impacts; (j) a consideration of SMART principles; (k) any consultation to be undertaken in relation to the monitoring programs; and (l) any specific requirements as required by Conditions C13 to C16.	
C13	Noise and Vibration Monitoring Program	The Noise and Vibration Monitoring Program must include: (a) noise and vibration monitoring locations determined in consultation with the AA to confirm construction noise and vibration levels; (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; (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 (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	Appendix B3 – Noise and Vibration Management Sub Plan
C17	Construction Monitoring Programs	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
C18	Approval of Construction Monitoring Programs	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

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
C19	Commencement of Construction	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
C20	Duration of Construction Monitoring Programs	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
C21	Monitoring Results	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. *Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.*	Section 3.9.2
Operational Environmental Management			
D1	Operational Environmental Management Plan	An Operational Environmental Management Plan (OEMP) must be prepared having regard to the Environmental Management Plan Guideline for Infrastructure Projects (Department of Planning, Industry and Environment, 2020). The OEMP must detail how the performance outcomes, commitments and mitigation measures made and identified in the documents listed in Condition A1 will be implemented and achieved during operation. Condition D1 does not apply if Condition D2 of this approval applies	OEMP (to be prepared)
D2	Operational Environmental Management Plan	An OEMP is not required for the CSSI if the Proponent has an Environmental Management System (EMS) or equivalent as agreed with the Planning Secretary, and demonstrates, to the satisfaction of the Planning Secretary, that through the EMS or equivalent: (a) the performance outcomes, commitments and mitigation measures, made and identified in the documents listed in Condition A1, and specified relevant terms of this approval can be achieved; (b) issues identified through ongoing risk analysis can be managed; and (c) procedures are in place for rectifying any non-compliance with this approval identified during compliance auditing, incident management or any other time during operation	OEMP (to be prepared)

<table>
<tr><th>MCoA #</th><th>Activity / aspect</th><th>Requirement</th><th>Relevant section of CEMP or Project supporting documentation</th></tr>
<tr><td>D3</td><td>Operational Environmental Management Plan</td><td>The OEMP or EMS or equivalent as agreed with the Planning Secretary, must be submitted to the Planning Secretary for information no later than one month before the commencement of operation</td><td>OEMP (to be prepared)</td></tr>
<tr><td>D4</td><td>Operational Environmental Management Plan</td><td>The OEMP or EMS or equivalent as agreed with the Planning Secretary, as submitted to the Planning Secretary and amended from time to time, must be implemented for the duration of operation and the OEMP or EMS or equivalent must be made publicly available before the commencement of operation</td><td>OEMP (to be prepared)</td></tr>
<tr><td colspan="4">Air Quality</td></tr>
<tr><td>E1</td><td>Emissions of dust, odour and other air pollutants</td><td>Measures must be implemented to minimise and manage the emission of dust, odour and other air pollutants during construction and operation.</td><td>Appendix B6 – Air Quality Management Sub Plan</td></tr>
<tr><td colspan="4">Biodiversity</td></tr>
<tr><td>E38</td><td>Species credits</td><td>Prior to clearing of Acacia terminalis subsp. terminalis (Sunshine Wattle), the species credits in Table 8 must be retired. The retirement of credits must be carried out in accordance with the offset rules of the Biodiversity Conservation Act 2016 (BC Act).
Table 8: Species credits<table><tr><th>Species (only for the below)</th><th>Number of Credits</th><th>In the below IBRA subregions</th></tr><tr><td>Acacia terminalis subsp. terminalis (Sunshine Wattle)</td><td>2</td><td>SYB07, Pittwater</td></tr></table></td><td>Appendix B2 – Flora and Fauna Management Sub Plan</td></tr>
<tr><td>E39</td><td>Species credits</td><td>The requirement to retire credits in Condition E38 above may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of species credits, as calculated by the Biodiversity Offsets Payment Calculator.</td><td>Appendix B2 – Flora and Fauna Management Sub Plan</td></tr>
</table>

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E40	Species credits	Evidence of the retirement of credits or payment to the Biodiversity Conservation Fund in satisfaction of **Condition E38** must be provided to the Planning Secretary prior to the clearing of the *Acacia terminalis subsp. terminalis (Sunshine Wattle)*.	Appendix B2 – Flora and Fauna Management Sub Plan
E48	Rehabilitation	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 in the reuse of suitable timber and root balls for 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.	Appendix B2 – Flora and Fauna Management Sub Plan
Flooding			
E49	Flooding	The CSSI must be designed and implemented to limit flooding characteristics to the following levels: (a) a maximum increase in inundation time of one hour in a 1 % AEP flood event; (b) a maximum increase of 10 mm in inundation at properties where floor levels are currently exceeded in a 1 % AEP flood event; (c) a maximum increase of 50 mm in inundation at properties where floor levels would not be exceeded in a 1 % AEP flood event; and (d) no inundation of floor levels which are currently not inundated in a 1% AEP flood event. Measures identified in the documents listed in Condition A1 to not worsen flood characteristics or other measures that achieve the same outcomes, must be incorporated into the detailed design of the CSSI. The incorporation of these measures must be reviewed and endorsed by a suitably qualified and experienced person in consultation with directly affected landowners, EESG, NSW State Emergency Service (SES) and relevant councils.	Appendix B4 – Soil and Water Management Sub Plan
Heritage			
E50	Aboriginal cultural heritage	The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact Aboriginal objects except as authorised by this approval.	Appendix B5 – Heritage Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E56	Archival Recording	Prior to potential physical impact, archival recording must be undertaken for the following heritage items: (a) St Leonards Park (including W. Tunks Memorial Fountain, War Memorial, and North Sydney Oval), North Sydney; (b) North Sydney Sewer Vent; (c) Yurulbin Park, Birchgrove; and (d) Balls Head Coal Loader Complex, Waverton	Appendix B5 – Heritage Management Sub Plan
E57	Archival Recording	Archival recording must be undertaken by a suitably qualified heritage specialist and prepared in accordance with NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (2006). A copy must be provided to Heritage NSW and the relevant Council and submitted as part of the Final Excavation Report required by Condition E62	Appendix B5 – Heritage Management Sub Plan
E58	Excavation and archaeology	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.	Appendix B5 – Heritage Management Sub Plan
E59	Excavation and archaeology	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 of oversight required during archaeological excavations consistent with the approved Archaeological Research Design and Excavation Methodology required by Condition E58.	Appendix B5 – Heritage Management Sub Plan
E60	Excavation and archaeology	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	Appendix B5 – Heritage Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		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.	
E61	Artefact management	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.	Appendix B5 – Heritage Management Sub Plan
E62	Artefact management	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	Appendix B5 – Heritage Management Sub Plan
E63	Unexpected heritage finds	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds (including maritime discoveries) in accordance with any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of construction.	Appendix B5 – Heritage Management Sub Plan
E64	Unexpected heritage finds	The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of construction. *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.*	Appendix B5 – Heritage Management Sub Plan
Noise and Vibration			
E65	Land Use Survey	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	Appendix B3 – Noise and Vibration Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		or ground-borne noise in that area. The results of the survey must be included in the Noise and Vibration CEMP Sub-plan required by Condition C4.	
E66	Construction work hours	Work must only be undertaken during the following hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; (b) 8:00am to 6:00pm Saturdays; and (c) at no time on Sundays or public holidays.	Section 3.6 Appendix B3 – Noise and Vibration Management Sub Plan
E67	Highly Noise Intensive Work	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: (a) between the hours of 8:00 am to 6:00 pm Monday to Friday; (b) between the hours of 8:00 am to 1:00 pm Saturday; and (c) 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.	Section 3.6 Appendix B3 – Noise and Vibration Management Sub Plan
E68	Variation to Work Hours	Notwithstanding Conditions 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 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. (b) Low impact, including:	Section 3.6 Appendix B3 – Noise and Vibration Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation

(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 LAFmax(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 Condition 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 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

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(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 Condition E88.	
E69	Out of Hours Work Protocol – Works Not Subject to an EPL	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: (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: (i) the ER and AA review all proposed out-of-hours activities and confirm their risk levels, (ii) low risk activities can be approved by the ER in consultation with the AA, and (iii) high risk activities that are approved by the Planning Secretary; (b) a process for the consideration of out-of-hours work against the relevant NML and vibration criteria; (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; (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 (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. This condition does not apply if the requirements of Condition E68(b) are met.	Appendix B3 – Noise and Vibration Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E70	Construction Noise Management Levels and Vibration Criteria	Mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration objectives: (a) construction 'Noise affected' NML established using the Interim Construction Noise Guideline (DECC, 2009); (b) vibration criteria established using the Assessing vibration: a technical guideline (DEC, 2006) (for human exposure); (c) Australian Standard AS 2187.2 - 2006 "Explosives - Storage and Use - Use of Explosives"; (d) BS 7385 Part 2-1993 "Evaluation and measurement for vibration in buildings Part 2" as they are "applicable to Australian conditions"; and (e) the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage). 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. 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.	Appendix B3 – Noise and Vibration Management Sub Plan
E71	Protocol for exceedance of ground-borne noise levels	Mitigation measures must be applied when the following residential ground-borne noise levels are exceeded: (a) evening (6:00 pm to 10:00 pm) — internal $L_{Aeq(15\ minute)}$: 40 dB(A); and (b) night (10:00 pm to 7:00 am) — internal $L_{Aeq(15\ minute)}$: 35 dB(A). 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.	Appendix B3 – Noise and Vibration Management Sub Plan
E72	Noise near sensitive receivers	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.	Appendix B3 – Noise and Vibration Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E73	Noise near sensitive businesses	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.	Appendix B3 – Noise and Vibration Management Sub Plan
E74	Noise generation	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 L_{Aeq},8h of 85 dB(A) for any employee working at a location near the CSSI.	Appendix B3 – Noise and Vibration Management Sub Plan
E75	Noise exceeding noise management levels	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	Appendix B3 – Noise and Vibration Management Sub Plan
E76	Notification	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 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.	Appendix B3 – Noise and Vibration Management Sub Plan
E79	Construction vibration mitigation - heritage	The Proponent must conduct vibration testing during vibration generating activities that have the potential to impact on heritage items to identify minimum working distances to prevent cosmetic damage. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, the Proponent must review the construction methodology and, if necessary, implement additional mitigation measures.	Appendix B3 – Noise and Vibration Management Sub Plan Appendix B5 - Heritage Management Sub-plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E80	Construction vibration mitigation - heritage	Advice from a heritage specialist must be sought on methods and locations for installing equipment used for vibration, movement and noise monitoring at heritage-listed structures.	Appendix B3 – Noise and Vibration Management Sub Plan Appendix B5 - Heritage Management Sub-plan
E81	Construction vibration mitigation - heritage	Before conducting at-property treatment at any heritage item identified in the documents listed in Condition A1, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item.	Appendix B3 – Noise and Vibration Management Sub Plan Appendix B5 - Heritage Management Sub-plan
E82	Utility coordination and respite	All work undertaken for the delivery of the CSSI, including those undertaken by third parties (such as utility relocations), must be coordinated to ensure respite periods are provided. The Proponent must: (a) reschedule any work to provide respite to impacted noise sensitive land user(s) so that the respite is achieved in accordance with Condition E83; or (b) consider the provision of alternative respite or mitigation to impacted noise sensitive land user(s); and (c) provide documentary evidence to the AA in support of any decision made by the Proponent in relation to respite or mitigation. The consideration of respite must also include all other CSSI, SSI and SSD projects which may cause cumulative and/or consecutive impacts at receivers affected by the delivery of the CSSI.	Appendix B3 – Noise and Vibration Management Sub Plan
E83	Out-of-hours works – community consultation on respite	In order to undertake out-of-hours work outside the hours specified under Condition E66, the Proponent must identify appropriate respite periods for the out-of-hours work in consultation with the community at each affected location on a regular basis. This consultation must include (but not be limited to) providing the community with: (a) a progressive schedule for periods no less than three months, of likely out-of-hours work;	Appendix B3 – Noise and Vibration Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(b) a description of the potential work, location and duration of the out-of-hours work; (c) the noise characteristics and likely noise levels of the work; and (d) likely mitigation and management measures which aim to achieve the relevant noise management levels under Condition E70 (including the circumstances of when respite or relocation offers will be available and details about how the affected community can access these offers). The outcomes of the community consultation, the identified respite periods and the scheduling of the likely out-of-hour work must be provided to the AA, ER, EPA and the Planning Secretary. Note: Respite periods can be any combination of days or hours where out-of-hours work would not be more than 5 dB(A) above the rating background noise level at any residence	
E84	Warringah Freeway Upgrade – Noise Mitigation Measures	The Proponent must implement the Noise Insulation Program (NIP) developed for the Warringah Freeway Upgrade works. Should the NIP be progressively updated, the updated version must be provided to the Planning Secretary for information. Note: the implementation of temporary or permanent noise mitigation measures in accordance with NIP is considered as low impact work as defined in the definitions table Low Impact Work (d).	Appendix B3 – Noise and Vibration Management Sub Plan
E85	Warringah Freeway Upgrade – Noise Mitigation Measures	Landowners whose residential properties are eligible to receive at-property treatment in accordance with the NIP must be advised of the range of options that can be installed at or in their property and given a choice as to which of these they agree to have installed. A copy of all guidelines and procedures that will be used to determine at-property treatment at their residence must be provided to the landowner.	Appendix B3 – Noise and Vibration Management Sub Plan
E86	Warringah Freeway Upgrade – Noise Mitigation Measures	The offer for at-property treatment or the application of other noise and vibration mitigation measures does not expire until the out-of-hours work affecting that property are completed, even if the landowner initially refuses the offer.	Appendix B3 – Noise and Vibration Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E87	Warringah Freeway Upgrade – Noise Mitigation Measures	The implementation of at-property treatment does not preclude the application of other noise and vibration mitigation and management measures including temporary and long term accommodation.	Appendix B3 – Noise and Vibration Management Sub Plan
E88	Warringah Freeway Upgrade – Out-of-hours work periods	Out-of-Hours Work along the Warringah Freeway corridor which results in an exceedance of the relevant NML at the same sensitive land user(s) may be undertaken in accordance with the following criteria: (a) two consecutive evenings and/or nights per week; or (b) three non-consecutive evenings and/or nights per week; or (c) 10 evenings and/or nights per month; or (d) except as identified by an EPL; or (e) in accordance with an agreement with a potentially impacted receiver(s) as required by Condition E68(c)(iii) or Condition E83. Note: These parameters may be increased subject to the development of a framework, which is prepared in consultation with the community and EPA and with consideration of the delivery of the NIP.	Appendix B3 – Noise and Vibration Management Sub Plan
E89	Operational Noise Mitigation Measures	The Proponent must prepare an Operational Noise Review (ONR) to confirm noise control measures that would be implemented for the operation of the CSSI. The ONR must be prepared in consultation with the Planning Secretary, relevant council(s), and the EPA and must: (a) confirm the appropriate operational noise objectives and levels for surrounding development, including existing sensitive land user(s); (b) confirm the operational noise predictions based on the final design. Confirmation must be based on an appropriately calibrated noise model (which has incorporated noise monitoring, and concurrent traffic counting, where necessary for calibration purposes). The assessment must specifically include verification of noise levels at all fixed facilities, based on noise monitoring undertaken at appropriately identified noise catchment areas surrounding the facilities;	Operational Noise Review

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(c) confirm the operational noise impacts at adjoining development based on the final design of the CSSI, including operational daytime LAeq,15 hour and night-time LAeq, 9-hour traffic noise contours; (d) review the suitability of the operational noise mitigation measures identified in the documents listed in Condition A1 and, where necessary, investigate and identify additional noise and vibration mitigation measures required to achieve the noise criteria outlined in the NSW Road Noise Policy (DECCW, 2011) and NSW Noise Policy for Industry (EPA, 2017) as relevant, including the timing of implementation; (e) include a consultation strategy to seek feedback from directly affected landowners on the noise and vibration mitigation measures; and (f) procedures for the management of operational noise and vibration complaints. The ONR must be verified by an independent acoustic expert. The ONR must be undertaken at the Proponent's expense and submitted to the Planning Secretary within 12 months of the commencement of construction unless otherwise agreed by the Planning Secretary. The Proponent must implement the identified noise and vibration control measures and make the ONR publicly available. *Note: The design of noise barriers and the like must be undertaken in consultation with the community as part of the Place Design and Landscape Plan required under Condition E177*	
E90	Operational Noise Mitigation Measures	Operational noise mitigation measures as identified in Condition E89 that will not be physically affected by work, must be implemented within six months of submitting the ONR, unless otherwise agreed by the Planning Secretary. Where implementation of operational noise mitigation measures are not proposed to be implemented in accordance with this requirement, the Proponent must submit to the Planning Secretary a report providing justification as to why, along with details of temporary measures that would be implemented to reduce construction noise impacts, until such time that the operational noise mitigation measures are implemented. The report must be endorsed by the AA and submitted to the Planning Secretary within six months of submitting the ONR. *Note: Not having finalised detailed design is not sufficient justification for not implementing the proposed mitigation measures*	Operational Noise Review

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E91	Operational Noise Mitigation Measures	In the absence of an ONR required under Condition E89, the following can be undertaken: (a) provision of at-property noise mitigation measures required in the NIP under Condition E84; and (b) construction of the Massey to Amherst Street, Cammeray noise barrier / wall as identified in Appendix C. *Note: Notwithstanding the provision of this condition, should the ONR identify the need for further mitigation the Proponent may be required to amend the design of already installed noise mitigation measures*	Design Management Plan
E92	Operational Noise Validation	Within 12 months of the commencement of operation of the CSSI, the Proponent must undertake monitoring of operational noise to compare actual noise performance of the CSSI against the noise performance predicted in the review of noise mitigation measures required by Condition E89.	Operational Noise Review OEMP
E93	Operational Noise Compliance Report	An Operational Noise Compliance Report (ONCR) must be prepared to document the findings of the operational noise monitoring carried out under Condition E92. The ONCR must be prepared in accordance with the Model Validation Guideline (RMS, 16 May 2018 Version 1.1) and must address the following: ….	Operational Noise Compliance Report
E94	Maintenance of Low Noise Road Pavements	Low noise road pavements must be maintained to ensure that they continue to contribute to the compliance of mitigated noise levels identified in the ONR (Condition E89) throughout the life of the project	
E100	Socio-economic, land use and property	The Proponent must identify the utilities and services (hereafter “services”) potentially affected by construction to determine requirements for diversion, protection and/or support. Alterations to services must be determined by negotiation between the Proponent and the service providers. The Proponent in consultation with service providers must ensure that disruption to services resulting from the Activity are avoided where practical and advised to customers	Utilities Management Plan
E102	Settlement	A geotechnical model of representative geological and groundwater conditions must be prepared prior to excavation (that may pose a settlement risk) and tunnelling to identify geological structures and groundwater features. The model must include details of proposed excavations and tunnels, construction staging, and identify surface and sub-surface structures,	Design Management Plan

<table>
<tr><th>MCoA #</th><th>Activity / aspect</th><th>Requirement</th><th>Relevant section of CEMP or Project supporting documentation</th></tr>
<tr><td></td><td></td><td>including any specific attributes, which may be impacted by the CSSI. The Proponent must use this model to assess the cumulative predicted settlement, ground movement, stress redistribution and horizontal strain profiles caused by excavation and tunnelling, including groundwater drawdown and associated impacts, on adjacent surface and sub-surface structures</td><td></td></tr>
<tr><td>E103</td><td>Settlement</td><td>The Proponent must undertake a review of surface and sub-surface structures at risk from damage to determine appropriate criteria to prevent damage, prior to excavation and tunnelling works that may pose a settlement risk. Criteria for surface and sub-surface structures which are not included in Condition E104 (Table 9) must be determined in consultation with the owner(s) of the surface and sub-surface structures prior to commencement of any excavation or tunnelling works potentially affecting the surface and sub-surface structures</td><td>Design Management Plan</td></tr>
<tr><td>E104</td><td>Settlement</td><td>In the case of buildings, roads, parking areas and parks, the appropriate criteria which govern the greatest risk of damage are to be selected from Table 9 unless the Proponent has determined more stringent criteria as a result of Condition E103
Table 9:Settlement Criteria
<table>
<tr><th>Surface and Sub-Surface Structures</th><th>Maximum Settlement</th><th>Maximum Angular Distortion</th><th>Limiting Tensile Strain (percent)*</th></tr>
<tr><td>Buildings – Low or non-sensitive properties (i.e. ≤ 2 levels and carparks)</td><td>30 mm</td><td>1 in 350</td><td>0.1</td></tr>
<tr><td>Buildings and pools – High or sensitive properties (i.e. ≥ 3 levels and heritage items)</td><td>20 mm</td><td>1 in 500</td><td>0.1</td></tr>
<tr><td>Roads and parking areas</td><td>40 mm</td><td>1 in 250</td><td>n/a</td></tr>
<tr><td>Parks</td><td>50 mm</td><td>1 in 250</td><td>n/a</td></tr>
</table>
Note: * As defined in Burland et al. ‘Building response to tunnelling – Case studies from construction of the Jubilee Link Extension’, London, Thomas Telford (2001)</td><td>Design Management Plan</td></tr>
<tr><td>E105</td><td>Settlement</td><td>Should the geotechnical model in Condition E102 identify exceedances of the relevant criteria established by Conditions E103 and E104, the Proponent must implement an instrumentation and monitoring program to measure settlement, distortion or strain as required. The Proponent must also identify and implement appropriate mitigation measures in consultation with the owner(s) of the relevant surface and sub-surface structures prior to excavation and tunnelling works to ensure where possible that the surface and sub-surface structures will not experience exceedances of the relevant criteria.</td><td>Design Management Plan</td></tr>
</table>

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		The adopted criteria do not remove any responsibility from the Proponent for the protection of existing surface and sub-surface structures or for rectifying any damage to surface and subsurface structures resulting from the CSSI	
E106	Settlement	Where monitoring indicates groundwater drawdown or settlement is substantially different to predictions or in excess of the limits specified in this approval, the requirements of Conditions E102 to E105 inclusive must be undertaken again within three months. Model input parameters must be adjusted to calibrate the model so that predictions are better aligned with actual observations	Design Management Plan
E107	Pre-construction surveys	The Proponent must offer pre-construction surveys and must undertake and prepare Pre-construction Condition Survey Reports where the offer is accepted, on the current condition of surface and sub-surface structures identified as at risk from settlement or vibration by the geotechnical model described in Condition E102 and the CNVIS required by Condition E75 or as directed by the Independent Property Impact Assessment Panel (IPIAP) established under Condition E111. The Pre-construction Condition Survey Reports must be prepared by a suitably qualified and experienced person(s) and must be provided to the owners of the surface and sub-surface structures for review prior to the commencement of potentially impacting works.	Appendix B3 – Noise and Vibration Management Sub Plan
E108	Pre-construction surveys	Where pre-construction surveys have been undertaken in accordance with Condition E107, subsequent post-construction surveys must be undertaken to assess damage to the surface and sub-surface structures that may have resulted from construction within three months of landowner(s) requests	Construction Management Plan
E109	Post-construction surveys	The results of the post-construction surveys undertaken under Condition E108 must be documented in Post-construction Condition Survey Reports for each surface and sub-surface structure surveyed. The Post-construction Condition Survey Reports must be prepared by a suitably qualified and experienced person(s). Copies of the Post-construction Condition Survey Reports must be provided to the owner(s) of the structures surveyed no later than four months following the completion of construction activities that have the potential to impact on the subject surface / subsurface structure.	Construction Management Plan
E110	Post-construction surveys	Where damage has been determined to occur as a result of the project, the Proponent must carry out rectification at its expense and to the reasonable requirements of the surface and sub-	Construction Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		surface structure owner(s) within 12 months of completion of construction unless another timeframe is agreed with the owner of the affected surface or sub-surface structure.	
E111	Post-construction surveys	The Proponent must establish an IPIAP before works that have the potential to result in property impacts commence. The IPIAP must comprise geotechnical and engineering experts independent of the design and construction team. The IPIAP will be responsible for independently reviewing Pre- and Post-construction Condition Survey Report templates prepared under Conditions E107 and E109, any Pre- and Post-construction Condition Survey Reports where there is a dispute, and the resolution of property damage disputes, and the establishment of ongoing settlement and vibration monitoring requirements. The Planning Secretary must be notified of the members of the IPIAP prior to the commencement of any works which may potentially result in property impacts.	Construction Management Plan
E112	Post-construction surveys	Either the affected owner or the Proponent may refer unresolved disputes arising from potential and/or actual property impacts to the IPIAP for resolution. All costs incurred in establishing and implementing the IPIAP must be borne by the Proponent regardless of which party makes a referral to the IPIAP. The findings and recommendations of the IPIAP are final and binding on the Proponent.	Construction Management Plan
E113	Post-construction surveys	The governance framework for the IPIAP must be made publicly available on the CSSI's project page as required by Condition B15.	Construction Management Plan
Soil and Water			
E114	Sediment and erosion control	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'.	Appendix B4 – Soil and Water Management Sub Plan
Contaminated Land			
E115	Works at or around contaminated sites	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	Appendix B7 - Contaminated Land Management Sub-plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		Contamination) scheme (CenvP(SC)) or the Soil Science Australia "Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.	
E116	Works at or around contaminated sites	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. 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. Nothing in this condition prevents the Proponent from preparing individual Site Contamination Reports for separate sites	Appendix B7 - Contaminated Land Management Sub-plan
E117	Works at or around contaminated sites	The Detailed Site Investigation Report must provide details on: (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; (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; © contaminant characterisation and behaviour (volatility, leachability, speciation, degradation products and physical and chemical conditions on-site which may affect how contaminants behave); (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,	Appendix B7 - Contaminated Land Management Sub-plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		or risks to concrete from acid sulphate soils) and the environmen©(e) potential and actual contaminant migration routes including potential preferential pathways; (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; (g) the review and update of the conceptual site model from the preliminary and detailed site investigations; (h) nature and extent of any existing remediation (such as impervious surface cappings); and/or; (i) whether the land is suitable (for the intended final land use) or can be made suitable through remediation.	
E118	Remediation	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 Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. 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.	Appendix B7 - Contaminated Land Management Sub-plan
E119	Remediation	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. Nothing in this condition prevents the preparation of individual Remediation Action Plans for separate sites.	Appendix B7 - Contaminated Land Management Sub-plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E120	Remediation	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. Nothing in this condition prevents the Proponent from engaging the Site Auditor to prepare Site Audit Statements for separate sites.	Appendix B7 - Contaminated Land Management Sub-plan
E121	Contaminated land audit statement	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. Nothing in this condition prevents the Proponent from obtaining Section A Site Audit Statements for individual parcels of remediated land	Appendix B7 - Contaminated Land Management Sub-plan
E122	Contaminated land	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.	Appendix B7 - Contaminated Land Management Sub-plan
E123	Unexpected finds	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.	Appendix B7 - Contaminated Land Management Sub-plan
E124	Unexpected finds	The Unexpected Finds Procedure for Contamination must be implemented throughout construction	Appendix B7 - Contaminated Land Management Sub-plan
Sustainability			

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E125	Sustainability Strategy	A Sustainability Strategy must be prepared to achieve a minimum “Excellent” ‘Design’ and ‘As built’ rating under the Infrastructure Sustainability Council of Australia infrastructure rating tool.	Sustainability Strategy
E126	Sustainability Strategy	The Sustainability Strategy must be submitted to the Planning Secretary for information before the commencement of construction and must be implemented throughout construction and operation.	Sustainability Strategy
E127	Water Reuse Strategy	A Water Reuse Strategy must be prepared, which sets out options for the reuse of collected stormwater and groundwater during construction and operation. The Water Reuse Strategy must include, but not be limited to: (a) evaluation of reuse options; (b) details of the preferred reuse option(s), including volumes of water to be reused, proposed reuse locations and/or activities, proposed treatment (if required), and any additional licences or approvals that may be required; (c) measures to avoid misuse of recycled water as potable water; (d) consideration of the public health risks from water recycling and (e) a time frame for the implementation of the preferred reuse option(s). The Water Reuse Strategy must be prepared based on best practice and advice sought from relevant agencies, as required. The Strategy must be applied during construction and operation. Justification must be provided to the Planning Secretary if it is concluded that no reuse options prevail. A copy of the Water Reuse Strategy must be made publicly available. *Note: Nothing in this condition prevents the Proponent from preparing separate Water Reuse Strategies for the construction and operational phases of the CSSI.*	Water Reuse Strategy
Traffic Transport and Access			
E128	Access to utilities	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Appendix B1 – Traffic and Transport Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E129	Access to private property	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Appendix B1 – Traffic and Transport Management Sub Plan
E132	Use of local roads	Local roads proposed to be used by heavy vehicles to directly access the construction boundary and ancillary facilities that are not shown in Figure 5-7 to 5-22 inclusive of Appendix F of the EIS must be approved by the Planning Secretary and included in the Traffic, Transport and Access Management CEMP Sub-plan.	Appendix B1 – Traffic and Transport Management Sub Plan
E133	Use of local roads	All requests to the Planning Secretary under Condition E132 must include the following: (a) a swept path analysis; (b) demonstration that the use of local roads by heavy vehicles for the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways; (c) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; (d) measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times; and (e) written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a), (b), (c), and (d) of this condition.	Appendix B1 – Traffic and Transport Management Sub Plan
E136	Use of local roads	Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council within three weeks of completion of the survey and no later than one month prior to the road being used by heavy vehicles associated with the CSSI.	Appendix B1 – Traffic and Transport Management Sub Plan
E137	Damage to roads	If damage to roads occurs as a result of the CSSI, the Proponent must either (at the relevant road authority's discretion): (a) compensate the relevant road authority for the damage so caused; or (b) rectify the damage to restore the road to at least the condition it was in pre-works as identified in the Road Dilapidation Report(s).	Appendix B1 – Traffic and Transport Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E138	Pedestrian and cyclist access	Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternative route which complies with relevant standards, unless otherwise endorsed by an independent, appropriately qualified and experienced person, must be provided (including signposting) prior to the restriction or removal of the impacted access.	Appendix B1 – Traffic and Transport Management Sub Plan
E139	Vehicle movements	Vehicles (including light and heavy vehicles) associated with the CSSI must be managed to: (a) minimise parking on public roads; (b) minimise idling and queueing on state and regional roads; (c) not carry out marshalling of construction vehicles near sensitive land user(s); (d) not block or disrupt access across pedestrian or shared user paths at any time; and (e) ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the Traffic, Transport and Access Management CEMP Sub-plan.	Appendix B1 – Traffic and Transport Management Sub Plan
E140	Construction vehicle parking and access	A Construction Parking and Access Strategy must be prepared to identify and mitigate impacts resulting from on- and off-street parking changes during construction of the CSSI. The Strategy must include, but not necessarily be limited to: (a) achieving the requirements of Condition E139; (b) confirmation and timing of the removal of on- and off-street parking associated with construction of the CSSI; (c) parking surveys of all parking spaces to be removed or occupied by the CSSI workforce to determine current demand during peak, off-peak, school drop off and pickup, weekend periods and during special events; (d) consultation with affected stakeholders utilising existing on- and off-street parking stock which will be impacted as a result of construction; (e) assessment of the impacts to on- and off-street parking stock taking into consideration, occupation by the CSSI workforce, outcomes of consultation with affected stakeholders and considering the impacts of special events; (f) identification of mitigation measures to manage impacts to stakeholders as a result of on- and off-street parking changes including, but not necessarily limited to, staged removal and replacement of parking, provision of alternative parking arrangements, managed staff parking arrangements and working with relevant council(s) to introduce parking restrictions adjacent to work sites and compounds or appropriate residential parking schemes;	Appendix B1 – Traffic and Transport Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(g) where residential parking schemes already exist, off-road parking facilities must be provided for the CSSI workforce; (h) mechanisms for monitoring, over appropriate intervals, to determine the effectiveness of implemented mitigation measures; (i) details of shuttle bus service(s) to transport the CSSI workforce to construction sites from public transport hubs and off-site car parking facilities (where these are provided) and between construction sites; (j) provision of contingency measures should the results of mitigation or monitoring indicate implemented measures are ineffective; and (k) provision of reporting of monitoring results to the Planning Secretary and relevant council(s) at three monthly intervals. The Construction Parking and Access Strategy must be submitted to the Planning Secretary for approval at least one month before the commencement of any construction that reduces the availability of existing parking. The approved Strategy must be implemented before impacting on on-street parking and incorporated into the Traffic, Transport and Access Management CEMP Sub-plan.	
E141	Pedestrian and public vehicular access to private property	During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected businesses and implemented prior to the disruption. Adequate signage and directions to businesses must be provided prior to, and for the duration of, any disruption.	Appendix B1 – Traffic and Transport Management Sub Plan
E142	Street parking in Alfred Street North	The Proponent must mitigate the loss of on-street parking in Alfred Street North (specifically between Wyagdon Street and Whaling Road), Neutral Bay during construction and operation of the CSSI, with the objective of having no impact to resident parking during operation, by: (a) confirming existing capacity and the parking requirements of the residents by survey; (b) investigating options to mitigate the loss of on-street parking that meet the parking needs of the residents of Alfred Street North and adjacent streets; (c) consulting with the residents at locations where on-street parking would be lost to confirm the preferred parking options; and (d) identifying the parking measures to be implemented.	Appendix B1 – Traffic and Transport Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		A report on the outcomes of this condition must be documented and submitted to the Planning Secretary for approval within six months of construction commencing.	
E143	Street parking in Alfred Street North	The parking measures identified by Condition E142, must be delivered prior to impact, unless otherwise agreed by the Planning Secretary. *Note: Identified mitigation measures may need to be further assessed under the Environmental Planning and Assessment Act, 1979.*	Appendix B1 – Traffic and Transport Management Sub Plan
E144	Road Safety	The CSSI must be designed to meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management for new or modified local roads, parking, pedestrian and cycle infrastructure.	Design reports
E145	Road Safety	An independent Road Safety Audit must be undertaken to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management. The audit must be undertaken by an appropriately qualified and experienced person during detailed design development (audit of plans) and prior to opening (pre-opening audit). The audit findings and recommendations of the detailed design plans (audit of the plans) must be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use.	Appendix B1 – Traffic and Transport Management Sub Plan
E146	Access from Mount Street Interchange to Alfred Street North	Direct vehicular access must be provided from Mount Street, North Sydney to Alfred Street North, Neutral Bay. Access must be provided in both directions.	Appendix B1 – Traffic and Transport Management Sub Plan
E147	Road Network Performance	The Proponent must prepare a Road Network Performance Plan in consultation with the relevant council(s). The Plan must incorporate operational traffic modelling results from the operation of major motorways including but not limited to WestConnex M4-M5 Link (SSI	Road Network Performance Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		7485) and WestConnex M8 (SSI 6788) projects (including any Road Network Performance Plan or Operational Road Network Performance Review prepared) and include: (a) consideration of movement and place analysis and local initiatives, such as local area improvement strategies, potential land use changes, and any traffic changes as a result of other major projects in the vicinity of the project area; (b) an updated analysis, including modelling of traffic impacts to the adjoining road network (including impacts on local roads from rat-running), as a consequence of the CSSI; (c) an assessment of the performance of the road network, including: (i) potential "pinch-points" where the merging of tunnel exit traffic and surface traffic would occur at Rozelle or along the Warringah Freeway; (ii) traffic movements and congestion at various intersections in North Sydney, Cammeray and Rozelle/Annandale; (iii) results of the Public Transport Review as required by Condition E153; and (d) mitigation measures to manage predicted traffic performance impacts including local area traffic management and bus priority measures as relevant. The Road Network Performance Plan must be submitted to the Planning Secretary and relevant council(s) for information six months prior to the operation of the CSSI. The mitigation measures in the Plan must be implemented by the Proponent before the operation of the CSSI. The Proponent is responsible for the implementation of identified measures under (c) above. *Note: Identified mitigation measures may need to be further assessed under the Environmental Planning and Assessment Act, 1979. Work will need to meet relevant design standards and be subject to independent road safety audits.*	
E148	Road Network Performance	The Proponent must prepare an Operational Road Network Performance Review, within 12 months and again within five years after the commencement of operation of the CSSI. The Review must address road network performance and review the effects of the CSSI on the adjoining road network. The Review must confirm whether the mitigation measures identified in the Road Network Performance Plan required under Condition E147 are adequate.	Operational Road Network Performance Review

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		The Review must be undertaken in consultation with relevant council(s) and be completed within six months of the review timeframes. The Review must be provided to the Planning Secretary within 60 days of its completion. The identification of further mitigation measures, if required, must be included in the Review. The Proponent is responsible for the implementation of the identified measures. *Note: Identified mitigation measures may need to be further assessed under the Environmental Planning and Assessment Act, 1979. Work will need to meet relevant design standards and subject to independent road safety audits.*	
E149	Relocation of bus stops	Where bus stops are required to be temporarily closed, such closure must not occur until relocated bus stops that comply with relevant standards, are functioning, have similar capacity and amenity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities must be provided to any relocated bus stops such that accessibility and safety standards are met.	Appendix B1 – Traffic and Transport Management Sub Plan
E150	Relocation of bus stops	Prior to the commencement of operation, all bus stops temporarily closed must be reinstated in a manner that complies with relevant standards, provides equal or improved capacity, amenity and accessibility (including footpaths and road crossings) in consultation with relevant council(s).	Appendix B1 – Traffic and Transport Management Sub Plan
E153	Public Transport – Operational Performance Measures	A Public Transport Review must be prepared that identifies the following matters: (a) confirmation and comparison of journey times during peak periods, within the year of opening and 10 years post opening, associated with bus routes that will interact with the CSSI (including those that operate within or across the project footprint or along strategic bus corridors that would have changed journey times resulting from the CSSI), with and without the CSSI; and (b) measures that have been or can be implemented so that when compared to the without CSSI journey times, the CSSI would assist in: (i) improved or maintained bus journey times on opening of the CSSI; and	Public Transport Review

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(ii) maintaining bus journey times 10 years post-opening. A report of the Public Transport Review must be made publicly available six months prior to operation of the CSSI.	
Utility Coordination Manager			
E154	Utility Coordination Manager	A Utility Coordination Manager must be appointed for the duration of the CSSI Work. The role of the Utility Coordination Manager must include, but not be limited to: (a) the management and coordination of all utility Work associated with the delivery of the CSSI, to ensure respite is provided to the community; (b) 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).	Construction Management Plan
Place Design and Visual Amenity			
E155	Construction Ancillary Facilities	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.	Ancillary Site Establishment Management Plan
E156	General Design Outcomes	The place making, design and landscape outcomes of the CSSI must be informed by and be consistent with Appendix V of the EIS, including but not limited to the objectives and design principles, requirements and opportunities	Place, Design and Landscape Plan
E157	General Design Outcomes	The CCSI must result in a net increase in usable open space. Replacement space must be in the general vicinity of the loss, unless agreed to by the Planning Secretary	Place, Design and Landscape Plan
E159	Specific Design Outcomes	The Falcon Street bus on ramp must be refined during detailed design to mitigate visual and amenity impacts in consultation with those affected residential property owners of lots adjacent to where ramps extend beyond the existing (as at the date of this approval) top edge of the	Design Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		eastern rockface of the of the Warringah Freeway and to the satisfaction of the Planning Secretary. The final design of the Falcon Street bus on ramp must form part of the PDLP. *Note: When seeking the Planning Secretary's satisfaction, the design must demonstrate how visual and amenity impacts (including: bulk, views, light spill. headlight glare and noise impacts) have been mitigated in consultation with the impacted residents. The submission must include how residents' comments have been addressed and any agreement with the residents on the final design*	
E161	Specific Design Outcomes	The existing Ridge Street Lookout must form part of the design of the replacement Ridge Street Shared User Bridge	Design Management Plan
E162	North Sydney CBD	The CSSI must not preclude the delivery of the objectives proposed by the North Sydney Integrated Transport Program in consultation with the Government Architect NSW and North Sydney Council	Noted
E163	Lighting and Security	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 *AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting* and relevant Australian Standards in the series *AS/NZ 1158 – Lighting for Roads and Public Spaces*. 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.	Environmental Inspection Form OEMP
E164	Design Review Panel	The Proponent must establish an independent Design Review Panel which must operate during detailed design and during construction. The process for the operation of the Panel, including the Panel's Terms of Reference and frequency of meetings, must be agreed to with the NSW Government Architect prior to the establishment of the Design Review Panel. The Terms of Reference must be consistent with the State Design Review Panel	Design Management Plan
E165	Design Review Panel	The Design Review Panel must provide advice and recommendations on the detailed design. The responsibilities of the Design Review Panel include: (a) provide advice and recommendations for consideration in the development of the Place, Design and Landscape Plan (PDLP) required by Condition E177;	Design Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(b) provide advice on the application of the objectives to key design elements in relation to place making, architecture, heritage, urban and landscape design and artistic aspects of the CSSI; and (c) provide advice on structures including bridges and flyovers (including the Alfred Street flyover and walking and cycling bridges across the Warringah Freeway). The Panel's advice must be consistent with the CSSI as approved	
E166	Design Review Panel	he Design Review Panel must be chaired by the NSW Government Architect (or its nominee), and must be comprised of, where relevant, a suitably qualified, experienced and independent professional in each of the fields of: (a) urban design and place making (including active transport); (b) landscape architecture; (c) architecture; and (d) Aboriginal cultural heritage, non-Aboriginal cultural heritage. The Panel may seek advice from suitably qualified, experienced independent professionals in other fields as required.	Design Management Plan
E167	Design Review Panel	Panel members must be sourced from the State Design Review Panel Pool, approved by the Government Architect NSW (or its nominee). These panel members must be involved in the development and review of the PDLP required by Condition E177.	Design Management Plan
E168	Design Review Panel	Advice letters by the Design Review Panel Members and logs which demonstrate how each piece of advice is considered and addressed, must be included when submitting the PDLP to the Planning Secretary for approval.	Design Management Plan
E169	Design Review Panel	The Proponent must nominate an appropriately qualified and experienced representative of Transport for NSW to act as advisor to the Design Review Panel. The advisor must be invited to attend all meetings of the Panel. The advisor may also be invited by the Panel to assist with decisions regarding the Panel's recommendations.	Design Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E170	Design Review Panel	Other representatives of the Proponent and its contractor(s) may be invited to attend the Panel meetings as observers or to provide technical advice.	Design Management Plan
E171	Design Review Panel	The relevant council may be invited to the meetings of the Panel as observers or to provide feedback on key design elements of the CSSI.	Design Management Plan
E172	Design Review Panel	Observers and the Proponent's representative should not be present while the Panel is deciding upon its recommendations unless requested by the Panel.	Design Management Plan
E173	Design Review Panel	The Proponent must provide independent secretarial resources to the Panel.	Design Management Plan
E174	Design Review Panel	Once the Design Review Panel is formed, a Design Review Panel Terms of Reference is to be developed and endorsed by all panel members. The Terms of Reference must be submitted to the Planning Secretary for information and: (a) establish governance and protocols for the operation of the Design Review Panel; (b) include a Code of Conduct; (c) outline the agreed frequency of Design Review Panel meetings, coordinated with the Proponent's program requirements, to ensure timely advice and design adjustment; (d) outline secretariat functions and administration including the recording and storing of meeting agendas, minutes and actions; and (e) identify cessation arrangements.	Design Management Plan
E175	Design Review Panel	The Design Review Panel must be operated and managed in accordance with the approved Design Review Panel Terms of Reference and in accordance with the NSW Government Boards and Committees Guidelines (Department of Premier and Cabinet, September 2015).	Design Management Plan
E176	Design Review Panel	The Proponent must provide to the Design Review Panel the design development schedule, including details of when relevant elements of the detailed design will be available for review by the Panel. The schedule must be updated every three months until the detailed design process is complete.	Design Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E177	Place, Design and Landscape Plan	A PDLP must be prepared to inform the final design of the CSSI and to give effect to the outcomes informed by Condition E156 and design review. The Plan does not apply to work, which for technical, engineering, or ecological requirements, or other requirements as agreed by the Planning Secretary, do not allow for alternative design outcomes.	Design Management Plan
E178	Place, Design and Landscape Plan	The PDLP must be prepared by a suitably qualified and experienced person in consultation with relevant councils, the community and affected landowners and businesses. The PDLP must include: (a) outcomes from the Design Review Panel as required by Condition E165; (b) an analysis of the built, natural and community context and the urban design objectives, principles and standards for the CSSI; (c) the design of the CSSI elements including their form, materials and detail, with a focus on high quality bridge design, public space, and integrated art; (d) the design of the project landform and earthworks; (e) the design of usable open space; (f) the location of existing vegetation, areas of vegetation to be retained and proposed planting and seeding details, including the use of local indigenous species for revegetation activities; (g) the location of existing heritage items; (h) details of how Aboriginal and non-Aboriginal heritage (including maritime) interpretation and public art are incorporated within the design of built features, having regard to the results of any archaeological investigations; (i) visual screening requirements; (j) design of the Falcon Street bus on ramp as required by Condition E159; (k) developed visuals, cross sections and plans showing the proposed design outcome; (l) details of strategies to rehabilitate, regenerate or revegetate disturbed areas; and (m) management and routine maintenance standards and regimes for design elements and landscaping work (including weed management) to ensure the success of the design and landscape outcomes.	Design Management Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E179	Place, Design and Landscape Plan	The PDLP, and any sub-plans, must be reviewed by the Design Review Panel. The Proponent must respond to the outcomes of the Design Review Panel's review and submit the PDLP (including evidence of response to the Design Review Panel's advice) to the Planning Secretary for approval no later than one month before the construction of permanent work that is the subject of the PDLP (s) (in the area to which the PDLP applies).	Design Management Plan Place, Design and Landscape Plan
E180	Place, Design and Landscape Plan	Unless otherwise agreed with the Planning Secretary, construction of permanent built work or landscaping that are the subject of the PDLP must not be commenced (in the area to which the PDLP applies) until the PDLP has been approved by the Planning Secretary, after considering advice received from the Design Review Panel.	Design Management Plan Place, Design and Landscape Plan
E181	Place, Design and Landscape Plan	The PDLP, as approved by the Planning Secretary, must be implemented during construction and operation.	Place, Design and Landscape Plan
E182	Operational Noise Barriers Design	Operational noise barriers must be designed to minimise visual and amenity impacts and be designed in accordance with the Noise wall design guideline – Design guideline to improve the appearance of noise walls in NSW (RMS, March 2016).	Design Management Plan
E183	Operational Noise Barriers Design	The construction of the Massey to Amherst Street, Cammeray noise barrier / wall as identified in Appendix C does not form part of the PDLP.	Construction Management Plan
E184	Tree Removal, Replacement Plantings and Rehabilitation	The CSSI must be designed to retain as many existing trees as possible. Replacement trees and plantings must be provided at a ratio of 2:1 and deliver an increase in tree canopy and aim to enhance the relevant council's position in respect of the Sydney Green Grid, unless otherwise agreed by the Planning Secretary.	Design Management Plan Place, Design and Landscape Plan
E185	Tree Removal, Replacement Plantings and Rehabilitation	Replacement trees must: (a) be located on public land and prioritised within 500 metres of the Construction Boundary, that delivers increased shading to footpaths, pedestrian and cycle paths; (b) be of a species suitable to the location, having regard for local ecology and existing street trees;	Design Management Plan Landscape Strategy Report

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		(c) meet the requirements for quality tree stock specified in the AS2303:2018: Tree Stock for Landscape Use; (d) be provided no later than six months following the commencement of operation; and (e) have a minimum pot size consistent with the relevant council's plans / programs / strategies for vegetation management, street planting, or open space landscaping, or as agreed by the relevant council(s).	
E186	Tree Removal, Replacement Plantings and Rehabilitation	Replacement and enhancement of vegetative screening along the project corridor must be undertaken in a progressive manner during construction to allow for the early establishment of vegetative screening.	Construction Management Plan Appendix B2 - Flora and Fauna Management Sub-plan
E187	Tree Removal, Replacement Plantings and Rehabilitation	A Landscape Strategy Report must be prepared which details the type, size, number and location of replacement trees. The report must demonstrate how any replacement plantings are consistent with the requirements of Condition E184 and Condition E185. The report must be submitted to the Planning Secretary for information no later than nine months following the commencement of operation.	Landscape Strategy Report
E192	Operational Maintenance	The ongoing maintenance and operation costs of urban design, open space, landscaping and recreational items and work implemented as part of this approval remain the Proponent's responsibility until satisfactory arrangements have been put in place for the transfer of the asset to the relevant authority. Before the transfer of assets, the Proponent must maintain items and work to at least the design standards established in the PDLP, required by Condition E178. The Planning Secretary must be advised of the date of transfer of the asset(s) to the relevant authority.	Operational Maintenance Plan
E193	Operational Maintenance	Should any plant loss occur during the maintenance period the plants should be replaced by the same plant species unless it is determined by a suitably qualified person that a different species is more suitable for that location.	Operational Maintenance Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E194	Operational Maintenance	Management and routine maintenance for design elements and landscaping work (including weed management) to ensure the success of the design and landscape outcomes must be undertaken for the life of the CSSI.	Operational Maintenance Plan
E195	Active Transport Network	An Active Transport Network Review must be prepared in consultation with relevant Councils, Bicycle NSW and Bike North. The Active Transport Network Review must review active transport infrastructure within at least 500m of the Warringah Freeway corridor component of the CSSI and include: (a) an analysis of the existing cycling network, including the identification of routes between existing and potential trip generators; (b) an analysis of existing and expected patronage levels of current and proposed routes; (c) identification of capacity constraints or missing links in the existing and proposed networks, including consideration of both State and Council cycling strategies and maps (including draft strategies) and expected demand; (d) a calculation of pedestrian crowding and the suitability of shared facilities; and (e) a list of recommendations and the timeframes for implementation to address the findings of (a), (b), (c) and (d) above. The Review must be provided to the Planning Secretary for approval within 12 months of commencement of construction. ***Note:*** *Implementation timeframes must be reasonable, reflect network needs, and the objective of offsetting open space impacts (particularly in relation to open space impacts at Cammeray).*	Active Transport Network Review
E196	Active Transport Network	The recommendations identified in Condition E195(e) must be implemented by the Proponent in the timeframes approved by the Planning Secretary.	Active Transport Network Review
E197	Active Transport Network	An active transport link through Cammeray Golf Course between Ernest Street and Warringa Road / Bells Avenue, Cammeray must be provided prior to the removal of the existing path.	Appendix B1 – Traffic and Transport Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E198	Active Transport Network	An active transport link from Cammeray Golf Course to Primrose Park, must be considered as part of the Active Transport Network Review as required by Condition E195.	Active Transport Network Review
E199	Active Transport Network	A level extension of the existing footpath along the eastern side of the Cahill Expressway from the top of the stairs near the former toll gantry in Kirribilli, to the existing pedestrian crossing on High Street, North Sydney must be considered as part of the Active Transport Network Review required by Condition E195.	Active Transport Network Review Design Management Plan
E200	Active Transport Network	The Proponent must investigate alternative crossings of the Falcon Street diverging diamond interchange, including but not limited to consideration of an overpass, reduction in the number of crossings or priority phasing of traffic lights for pedestrians and cyclists. The investigations must be provided as a report and submitted to the Planning Secretary for approval, within six months from the commencement of construction. The findings of the investigations must be implemented following Planning Secretary approval.	Design Management Plan
E201	Waste generation	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.	Appendix B8 - Waste and Resource Management Sub-plan
E202	Waste importation, storage, treatment, reprocessing and disposal	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 *Protection of the Environment Operations (Waste) Regulation 2014*, as the case may be.	Appendix B8 - Waste and Resource Management Sub-plan
E203	Waste transport	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the *Protection of the Environment Operations (Waste) Regulation 2014*, or to any other place that can lawfully accept such waste.	Appendix B8 - Waste and Resource Management Sub-plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E205	Waste classification	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes	Appendix B8 - Waste and Resource Management Sub-plan
Water			
E206	Water Quality	The CSSI must be constructed so as to maintain the NSW Water Quality Objectives where they are being achieved as at the date of this approval, and contribute towards achievement of the NSW Water Quality Objectives over time where they are not being achieved as at the date of this approval, unless an EPL in force in respect of the CSSI contains different requirements in relation to the NSW Water Quality Objectives, in which case those requirements must be complied with.	Appendix B4 – Soil and Water Management Sub Plan
Water – Construction Requirements			
E207	Works within 40 metres of a watercourse	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.	Appendix B4 – Soil and Water Management Sub Plan
E208	Discharges from wastewater treatment plants	Unless an EPL is in force in respect to the CSSI and that licence specifies alternative criteria, discharges from construction water treatment plants to surface waters must not exceed: (a) the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018* (ANZG 2018) default guideline values for toxicants at the 90 per cent species protection level; (b) for physical and chemical stressors, the guideline values set out in Tables 3.3.2 and 3.3.3 of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000*; and (c) for bioaccumulative and persistent toxicants, the ANZG 2018 values at a minimum of 95 per cent species protection level. Where the ANZG 2018 does not provide a default guideline value for a particular pollutant, the approaches set out in the ANZG 2018 for deriving guideline values, using interim guideline values and/or using other lines of evidence such as international scientific literature or water quality guidelines from other countries, must be used	Appendix B4 – Soil and Water Management Sub Plan

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E210	Stormwater Discharge	If construction stage stormwater discharges are proposed, a water pollution impact assessment will be required to inform licensing consistent with section 45 of the POEO Act. Any such assessment must be prepared in consultation with the EPA and be consistent with the National Water Quality Guidelines, with a level of detail commensurate with the potential water pollution risk.	Appendix B4 – Soil and Water Management Sub Plan
E222		The Proponent must undertake further hydrological and hydraulic modelling based on the detailed design of the CSSI to determine the ability of the receiving drainage systems to effectively convey pavement drainage from the CSSI and include wastewater flows from operational water treatment plants where it is proposed to discharge these flows to the receiving drainage systems. The modelling must be undertaken in consultation with the relevant council(s) and Sydney Water and the outcomes documented in the Stormwater Drainage Report required under Condition E223.	Design Management Plan
E223	Stormwater Drainage	The Stormwater Drainage Report must be prepared at least one month prior to the commencement of any new permanent drainage works, modifications or connections to existing drainage works, construction of hard surfaces that are associated with the operation of the project and would result in runoff to existing stormwater drainage systems, and the discharge of wastewater flows from operational water treatment plants to existing stormwater drainage systems. The Stormwater Drainage Report must: (a) assess the potential impacts of pavement drainage discharges from the CSSI drainage systems and wastewater flows from operational water treatment plants on the receiving environment and capacity of council or Sydney Water drainage infrastructure; (b) identify all mitigation measures to be implemented where pavement drainage from the CSSI drainage systems or wastewater flows from operational water treatment plants are predicted to adversely impact on the receiving environment or capacity of council or Sydney Water drainage infrastructure; and (c) set out a clear time frame for the implementation of mitigation measures. Nothing in this condition prevents the Proponent from preparing separate Stormwater Drainage Reports for pavement discharges or wastewater discharges from operational water treatment plants to the drainage system provided that each report is prepared at least one month prior to the subject works/discharges commencing	Stormwater Drainage Report

MCoA #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
E224		All new or modified drainage systems associated with the CSSI must be designed to: (a) meet the capacity constraints of any council's drainage system to receive and convey the proposed flows from the CSSI, or otherwise upgrade council's drainage system at the Proponent's expense, in consultation with the relevant council(s); (b) minimise impacts on the receiving environment at the final outflow point resulting from any additional flow volume (including, but not limited to scour, flooding, water quality impacts, and impacts on riparian vegetation, aquatic ecology and property); and (c) ensure mitigation measures are implemented where increased flows through cross drainage systems adversely impact on council or Sydney Water drainage infrastructure and the receiving environment	Stormwater Drainage Report Design Management Plan

Note: Table A1-3 Revised Environmental Management Measures only references out to relevant sections of the CEMP or Project supporting documentation where the condition it is applicable to or is the responsibility of the CPB Dower JV works.

Table A1-3 Revised Environmental Management Measures

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
CTT1	Use of local roads	A road dilapidation report will be prepared, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT4	Consultation	Ongoing consultation will be carried out with (as relevant to the location) Transport Coordination within Transport for NSW, the Port Authority of NSW, local councils, emergency services and bus operators to minimise traffic and transport impacts during construction.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT5	Consultation	The community will be notified in advance of proposed transport network changes, and maritime restrictions through appropriate media and other appropriate forms of community liaison.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT6	Construction traffic	Construction road traffic will be managed to minimise movements during peak periods	Appendix B1 – Traffic and Transport Management Sub Plan
CTT7	Construction traffic	Vehicle movements to and from construction sites will be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasion, police presence.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT8	Construction traffic safety	Directional signage, barriers and/or linemarking will be used as required to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This will be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternative routes.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT9	Construction parking	Where provision of construction on-site parking cannot accommodate the full construction workforce, feasible and reasonable management measures that minimise impacts on parking on local roads will be identified and implemented. Depending on	Appendix B1 – Traffic and Transport Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		the location, management measures may include workforce shuttle buses and the use of public transport.	
CTT10	Relocation of bus stops	Any adjustments to existing bus stops will be determined in consultation with relevant stakeholders including other divisions of Transport for NSW and advanced notification will be provided to affected bus customers. Relocations will be as close as feasible and reasonable to their existing position.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT11	Construction traffic	Truck marshalling areas will be identified and used where feasible and reasonable, to minimise potential queueing and traffic and access disruptions in the vicinity of construction support sites	Appendix B1 – Traffic and Transport Management Sub Plan
CTT12	Road closures	Activities requiring partial and full road closures will occur outside of peak periods and/or during night time to minimise the impact of these activities on the road network where feasible and reasonable.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT13	Closures of the Warringah Freeway	Partial or full closures of Warringah Freeway will be carried out in consultation with Transport Coordination within Transport for NSW.	Appendix B1 – Traffic and Transport Management Sub Plan
CTT19	Shared user paths	Direct impacts to existing shared user paths will be minimised where reasonable and feasible. Any detours and adjustments will be designed with consideration of user safety and convenience.	Appendix B1 – Traffic and Transport Management Sub Plan
OT1	Operational Network Performance	A review of operational network performance will be carried out 12 months and five years from the opening of the project to confirm the operational impacts of the project on surrounding arterial roads and major intersections. The assessment will be based on updated traffic data at the time and the methodology used will be comparable with that used in this assessment.	Operational Road Network Performance Review
OT2	Conversion of transit lanes	Conversion of transit lanes to regular traffic lanes along Gore Hill Freeway will be considered if there is a traffic performance requirement/benefit in peak times.	Design Management Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
OT3	Parking offsets	Opportunities to reduce or offset the permanent loss of long stay parking spaces along Alfred Street North due to the project will be investigated during further design development.	Construction Parking and Access Strategy
OT4		During further design development, the project will investigate opportunities for additional pedestrian connections across Ernest Street that would improve connectivity between active transport paths and public open space in the area.	Design Management Plan
CNV1	Construction Noise and Vibration Management Plan	A Construction Noise and Vibration Management Plan will be developed for the project. This plan will: a) Identify relevant criteria and management levels in relation to noise and vibration b) Identify noise and vibration sensitive receivers and features in the vicinity of the project c) Include standard and additional mitigation from the Construction Noise and Vibration Guideline (Roads and Maritime, 2016a) and detail how and when these will be applied in the project d) Describe the approach that will be adopted for carrying out location and activity specific construction noise and vibration impact assessments to assist with designing and selecting of the appropriate mitigation and management measures e) Include protocols that will be adopted to manage works required outside standard construction hours f) Detail the methodology and approach for managing residual construction noise impacts g) Detail the process for managing construction vibration, including heritage structures considering all types of vibration generating works, including blasting h) Outline the procedures and approach for noise and vibration monitoring to be carried out to confirm construction noise and vibration levels in relation to noise and vibration management levels	Appendix B3 – Noise and Vibration Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		i) Where feasible and reasonable, detail how construction noise impacts from concurrent or consecutive nearby construction works associated with the project will be managed. The Construction Noise and Vibration Management Plan will be implemented for the duration of construction of the project.	
CNV2	Construction Noise and Vibration Impact Statements	Detailed Construction Noise and Vibration Impact Statements will be carried out for all construction support sites and major construction works required for the project prior to the commencement of construction. The Statements will consider the proposed site layouts and noise and vibration generating activities that will take place during all major stages of the construction support site, assess predicted noise and vibration levels against the relevant management levels, and incorporate feasible and reasonable mitigation and management measures in accordance with the requirements of the Interim Construction Noise Guideline (DECC, 2009) and the Construction Noise and Vibration Guideline (Roads and Maritime, 2016a).	Appendix B3 – Noise and Vibration Management Sub Plan
CNV3	Out of Hours Works Protocol	An out of hours works protocol will be developed for the construction of the project. The protocol will include: a) Details of works required outside standard construction hours, including acceptable justifications for works outside of standard construction hours, what types of works are allowed to take place outside of construction hours, and justifications of why the activities are required outside standard construction hours b) Details of the assessment and approval process (internal and external) for works proposed outside standard construction hours c) Noise and vibration mitigation and management measures that are to be considered and implemented where appropriate to manage potential impacts associated with works outside standard construction hours d) The noise and vibration impact assessment processes that will be followed to identify potentially affected receivers, clarify potential impacts and determine appropriate mitigation and management measures.	Appendix B3 – Noise and Vibration Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		The protocol will be prepared in consultation with the Department of Planning, Industry and Environment and the NSW Environment Protection Authority, and independently endorsed. The project protocol will be implemented during the duration of the construction of the project.	
CNV4	Construction noise and vibration impacts	Construction noise and vibration impacts will be monitored periodically throughout all stages of the construction support sites to ensure that: a) Impacts are consistent with the noise and vibration levels detailed in the relevant Construction Noise and Vibration Impact Statements b) Noise and vibration impacts are being appropriately managed c) Mitigation measures are effective.	Appendix B3 – Noise and Vibration Management Sub Plan
CNV5	Construction noise and vibration impacts	Where feasible and reasonable, unless compliance with the relevant traffic noise criteria can be achieved, or alternative arrangements have been agreed with affected receivers, construction vehicle movements will not occur on local roads beyond those required for direct access to construction sites.	Appendix B3 – Noise and Vibration Management Sub Plan
CNV6	Construction vibration impacts	Vibration generating activities will be managed through the establishment of minimum buffer distances to achieve screening levels. Where vibration levels are predicted to exceed the screening levels, a more detailed assessment of the impacted structure and attended vibration monitoring will be carried out to ensure vibration levels remain below appropriate limits for that structure. For heritage items, the more detailed assessment will specifically consider the heritage values of the structure in consultation with a heritage specialist to ensure sensitive heritage fabric is adequately monitored and managed. Any damage caused by the project will be rectified.	Appendix B3 – Noise and Vibration Management Sub Plan
CNV7	Construction ground-borne noise impacts	Feasible and reasonable measures will be implemented to minimise ground-borne noise where exceedances are predicted.	Appendix B3 – Noise and Vibration Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
CNV8	Construction impacts from surface road works	Mitigation measures will be implemented for surface road works, local area and utility works, where construction activities are predicted to exceed noise management levels at receivers. Where feasible and reasonable the approaches that will be used include: a) Carrying out works during the daytime period when near residential receivers b) Selection of plant and equipment to minimise noise and vibration impacts c) Management of plant and equipment to minimise the generation of noise and vibration impacts d) Community consultation, engagement and notification e) Detailed programming and respite protocols f) Where out of hours works are required, programming the noisiest activities to occur during the less sensitive time periods g) Out of hours works protocols h) Limiting timing of noise intensive work i) Use of portable noise barriers around particularly noisy equipment such as concrete saws and rock hammers in cases where it will effectively reduce noise levels at nearby receivers j) Management of construction traffic to minimise movements during the night periods along local roads k) Establishing minimum vibration buffer distances for vibration intensive works l) Vibration and blasting trials and/or monitoring along with building condition surveys.	Appendix B3 – Noise and Vibration Management Sub Plan
CNV10	Cumulative construction noise impacts	Construction noise from concurrent and consecutive construction works will be managed to minimise cumulative construction noise impacts. Where feasible and reasonable the approaches that will be used include: a) Coordinating work between project construction sites and construction works to avoid cumulative noise impacts	Appendix B3 – Noise and Vibration Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		b) Consideration of additional at source or near source mitigation where construction noise levels may result in cumulative construction noise impacts, where programming is not practical to avoid cumulative noise impacts c) Community consultation throughout the project to gauge construction key noise impacts and issues and any unknown impacts from concurrent or consecutive sets of constructions works d) Incorporating additional noise mitigation and management measures with consideration of cumulative and consecutive construction noise impacts based upon coordination between projects.	
ONV1	Operational noise performance	The operational noise performance of the project will be reviewed during detailed design and operational noise mitigation (low noise pavement, noise barrier, at-property treatment or a combination of treatments) will be confirmed in accordance with relevant policies and guidelines.	Design Management Plan
ONV2	Operational noise performance	Within 12 months of the commencement of the operation of the project, actual operational noise performance will be compared to predicted operational noise performance (as reviewed during detailed design) to analyse the effectiveness of the operational road traffic noise mitigation measures. Additional reasonable and feasible mitigation will be considered where any additional receivers are identified as qualifying for consideration of noise mitigation under the *Roads and Maritime Noise Mitigation Guideline (Roads and Maritime, 2015).*	Operational Noise Validation Report
ONV3	Operational fixed facilities	Operational fixed facilities will be designed to meet project specific noise WHT/WFU criteria derived in accordance with the Noise Policy for Industry (EPA, 2017).	Design Management Plan
AQ1	General	Standard construction air quality mitigation and management measures will be detailed in construction management documentation and implemented during construction, such as: 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	Appendix B6 – Air Quality Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		b) Selection of construction equipment and/or materials handling techniques that minimise the potential for dust generation 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) d) Adjustment or management of dust generating activities during unfavourable weather conditions, where possible e) Minimisation of exposed areas during construction 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 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.	
AQ2	General	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.	Appendix B6 – Air Quality Management Sub Plan
NAH2	Heritage interpretation	Appropriate heritage interpretation will be incorporated into the urban design for the project in accordance with the NSW Heritage Manual (NSW Heritage Office and Department of Urban Affairs and Planning, 1996), Interpreting Heritage Places and Items: Guidelines (Roads and Maritime, 2005), and the Heritage Interpretation Policy (NSW Heritage Council, 2005).	Place, Design and Landscape Plan
NAH3	Minimise impacts on Non-Aboriginal Heritage	Impacts to areas of archaeological potential will be avoided by the project. In the event that works are required in the location of the air raid trenches, an archaeological excavation will be required with a test excavation methodology prepared in consultation with relevant stakeholders prior to the disturbance of this area.	Appendix B5 – Heritage Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
NAH4	Minimise impacts on Non-Aboriginal Heritage	Should at-property noise treatment be required at a premises that is heritage listed, this will be carried out in a manner to minimise heritage impact, and advice of a heritage conservation architect will be sought prior to undertaking the works. Any treatment will be sympathetic to the heritage values of the item, designed with heritage architect input and be reversible where feasible and reasonable.	Appendix B5 – Heritage Management Sub Plan
NAH5	Archival recording	Archival recording will be carried out in accordance with the Photographic Recording of Heritage Items Using Film or Digital Capture guideline for areas/items subject to change within the following terrestrial items, in accordance with Appendix J (Technical working paper: Non-Aboriginal heritage): a) Item 2: The Valley Heritage Conservation Area, Rozelle and Balmain b) Item 4: Yurulbin Park, Birchgrove c) Item 7: BP site, Waverton d) Item 9: North Sydney Bus Shelters e) Item 10: St Leonards Park (including W. Tunks Memorial Fountain, War Memorial, and North Sydney Oval), North Sydney f) Item 14: Cammeray Park (including Golf Course), Cammeray g) Item 15: Cammeray Conservation Area, Cammeray. Archival recording will be completed prior to any works that have the potential to impact upon the items and deposited with appropriate stakeholders as determined during detailed design (eg local councils).	Appendix B5 – Heritage Management Sub Plan
NAH10	Unexpected discovery of historical heritage materials, features, or deposits	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.	Appendix B5 – Heritage Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
NAH11	Unexpected discovery of human remains	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.	Appendix B5 – Heritage Management Sub Plan
NAH12	Heritage impacts during construction	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.	Appendix B5 – Heritage Management Sub Plan
NAH14	Impacts to North Sydney bus shelters	The North Sydney bus shelters (Item 9) will be temporarily removed, stored and relocated on completion of construction work in consultation with North Sydney Council.	Appendix B5 – Heritage Management Sub Plan
NAH22	Impacts to heritage listed structures	Environmental management measure CNV6 will be applied to manage vibration impacts to heritage structures.	Appendix B5 – Heritage Management Sub Plan
AH2	Aboriginal heritage – vibration impacts	The following process will be carried out to confirm where vibration monitoring at terrestrial AHIMS sites will be required: • Terrestrial Aboriginal site condition surveys will be completed using photogrammetry and 3D-capture techniques to determine which AHIMS sites are considered to be structurally unsound construction footprint) • Where this determination cannot be made, the AHIMS site will be considered to be structurally unsound • A screening of vibration intensive activities within 50 metres of structurally unsound sites will be carried out to identify activities that have the potential to exceed vibration levels of 2.5 millimetres per second Sites identified as being both structurally unsound and having potential for exceedance in vibration levels of 2.5 millimetres per second will be identified as requiring vibration monitoring.	Appendix B5 – Heritage Management Sub Plan
AH3	Aboriginal heritage – vibration impacts	Vibration monitoring will be carried out at AHIMS sites that have been identified as requiring monitoring in accordance with the process outlined in mitigation measure	Appendix B5 – Heritage Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		AH2. Where possible, works will be conducted in a manner to minimise vibration levels, to less than 2.5 millimetres per second at all structurally unsound AHIMS sites.	
AH4	Aboriginal heritage – vibration impacts	If vibration monitoring identifies that vibration levels exceed 2.5 millimetres per second at AHIMS sites that have been identified as requiring monitoring, a site visit will be organised with a representative from Metro LALC to record any changes to the integrity of the site that may have resulted from construction vibration, and updated site cards must be prepared accordingly. Condition surveys may include further photogrammetry and 3D -capture techniques.	Appendix B5 – Heritage Management Sub Plan
AH5	Unexpected discovery of historical heritage	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).	Appendix B5 – Heritage Management Sub Plan
AH6	Aboriginal heritage – impacts	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.	Appendix B5 – Heritage Management Sub Plan
SG3	Independent Property Impact Assessment Panel	An Independent Property Impact Assessment Panel, comprising geotechnical and engineering experts, will be established prior to the commencement of works to independently verify building condition survey reports, resolve any property damage disputes and establish ongoing settlement and vibration monitoring requirements.	Independent Property Impact Assessment Panel
SG4	Condition surveys	Pre-construction building/structure condition surveys will be offered and prepared for properties (and heritage assets) within the zone of influence of tunnel settlement (for example within the 5 millimetre predicted surface settlement contour and within 50 metres of surface works) and within the minimum working distances for cosmetic and structural damage due to vibration. The surveys will be carried out by a suitably qualified person prior to the commencement of the tunnelling and vibration-intensive activities in the vicinity with the potential to affect the building/structure. Within three (3) months of the completion of construction activities that have the potential to impact on the subject surface/subsurface structure, all property owners of buildings for which a preconstruction building condition survey was carried out will be offered a second building condition survey. Where an offer is accepted, post-	Appendix B3 – Noise and Vibration Management Sub Plan Pre and Post Condition Surveys Construction Management Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		construction building condition surveys will be carried out by a suitably qualified person. The results of the surveys will be documented in a post-construction building condition survey report for each building surveyed. Copies of building condition survey reports will be provided to the owners of the buildings surveyed within one (1) month of the survey being completed. Any property damage caused by the project will be rectified.	
SG5	Erosion and sedimentation	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'	Appendix B4 – Soil and Water Management Sub Plan
SG6	Preventing mobilisation of contaminated material	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. This includes, but is not limited to, further investigations in potential areas of environment interest in the project footprint, including: - Easton Park - Birchgrove peninsula (including Yurulbin Park) - Balls Head peninsula - Waverton Park - Warringah Freeway (from North Sydney to Cammeray). 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. 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).	Appendix B4 – Soil and Water Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		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.	
SG7	Waste generation and disposal	Any soil/fill materials surplus to construction will be classified in accordance with the NSW EPA (2014a) Waste Classification Guidelines.	Appendix B4 – Soil and Water Management Sub Plan
SG8	Asbestos	Asbestos handling and management will be carried out in accordance with relevant legislation, codes of practice and Australian standards.	Appendix B4 – Soil and Water Management Sub Plan
SG9	Hazardous material	A hazardous materials assessment will be carried out prior to and during the demolition of buildings. Demolition works will be carried out in accordance with the relevant Australian Standards and relevant NSW WorkCover Codes of Practice, including the NSW Work Health and Safety Regulation 2011.	Appendix B4 – Soil and Water Management Sub Plan
SG10	Handling and storing potentially contaminated substances	The Construction Waste Management Plan for the project will include procedures for handling and storing potentially contaminated substances.	Appendix B4 – Soil and Water Management Sub Plan
SG11	Previously unidentified contaminated material	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).	Appendix B4 – Soil and Water Management Sub Plan
SG17	Groundwater drawdown	Outcomes of updated groundwater modelling will identify any requirements for further groundwater monitoring, and management of groundwater drawdown and associated impacts.	Appendix B4 – Soil and Water Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
SG18	Groundwater drawdown	As more information becomes available through ongoing groundwater monitoring, groundwater modelling will be updated. Construction and operational inflow predictions will be updated prior to construction, and operational inflow and impact predictions will be updated at the end of the construction period	Appendix B4 – Soil and Water Management Sub Plan
SG19	Compliance with Soil, Surface Water and Ground Water Management Sub Plan	Additional groundwater baseline monitoring will be carried out during the pre-construction period and will be considered in the development of the groundwater quality monitoring program described in management measure SG20	Appendix B4 – Soil and Water Management Sub Plan
SG23	Emergency spill response	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.	Appendix B4 – Soil and Water Management Sub Plan
WQ1	Erosion and sediment control	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).	Appendix B4 – Soil and Water Management Sub Plan
WQ2	Spills and leakages	Emergency spill procedures will be developed to avoid and manage accidental spillages of fuels, chemicals or fluids during construction.	Appendix B4 – Soil and Water Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
WQ3	Wastewater discharge	Discharges from wastewater treatment plants during the construction phase will be required to meet the following discharge criteria: - The relevant physical and chemical stressors set out in of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC/ARMCANZ, 2000), and - The ANZG (2018) 90 per cent species protection levels for toxicants generally, with the exception of those toxicants known to bioaccumulate, which will be treated to meet the ANZG (2018) 95 per cent species protection levels, and - The draft ANZG default guideline values for iron (in fresh and marine water) and zinc (in marine water) which are likely to be finalised in October 2020.	Appendix B4 – Soil and Water Management Sub Plan
WQ4	Freshwater quality monitoring	A freshwater quality monitoring program for the construction of the project will be developed and implemented, with consideration of the freshwater monitoring being carried out for the M4-M5 Link and Beaches Link and Gore Hill Freeway Connection projects. The program will be developed in consultation with the Environment Protection Authority, Department of Planning, Industry and Environment (Regions, Industry, Agriculture and Resources), Department of Planning, Industry and Environment (Water), and relevant councils. Sampling locations and monitoring methodology will be in accordance with the *Guideline for Construction Water Quality Monitoring* (RTA, 2003) and ANZG (2018). If exceedances of the criteria established under the freshwater monitoring program are detected, a management response will be triggered. This response will be documented within the construction freshwater quality monitoring program.	Appendix B4 – Soil and Water Management Sub Plan
WQ7	Watercourse geomorphology	The potential for scour and erosion of watercourse bed and banks will be considered during the design of new and augmented discharge outlets.	Appendix B4 – Soil and Water Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		Construction work activities within or next to the watercourses and drainage lines will be minimised as much as reasonably practicable to minimise disturbance of sediments in or near the waterway.	
WQ12	Water Sensitive Urban Design	Opportunities for Water Sensitive Urban Design (WSUD) will be considered during the development of the design for the stormwater management system for the new and upgraded road infrastructure, and also during development of the urban design and landscape plans. Identified WSUD features will be implemented where feasible and reasonable.	Design Management Plan Sustainability Management plan
WQ13	Sediment basin discharge	If sediment basins are required a discharge impact assessment, commensurate with the potential risk and consistent with the National Water Quality Guidelines (ANZG (2018)) and *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004) will be prepared to inform the discharge criteria.	Appendix B4 – Soil and Water Management Sub Plan
F1	Flood levels	Where flood levels in the 1% AEP event are predicted to increase at any residential, commercial and/or industrial buildings as a result of operation of the project, a floor level survey will be carried out. If the survey indicates existing buildings would experience abovefloor inundation during a 1% AEP event as a result of the project,further refinements will be made (as required) to the design of permanent project components to minimise the potential for impacts.	Design Management Plan
F2	Transverse drainage	Where feasible and reasonable, the hydraulic capacity of the existing transverse drainage of the Warringah Freeway will be designed to comply with relevant guidelines and standards.	Design Management Plan
F3	Tunnel entry excavations	Entries to tunnel excavations, including cut and cover sections of tunnel, will be protected against frequent flooding by locating openings outside flood prone areas, and/or the provision of local bunding and flood protection barriers.	Design Management Plan
F4	Tunnel entry excavations	The flood standard adopted at each tunnel entry during construction will be WHT developed taking into consideration the duration of construction, the magnitude of inflows and the potential risks to personal safety and the project works.	Design Management Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
F5	Flood impacts to construction sites	Spoil stockpiles will be located in areas which are not subject to frequent inundation by floodwater, ideally outside the 10% AEP flood extent. The exact level of flood risk accepted at stockpile sites will depend on the duration of stockpiling operations, the type of material stored, the nature of the receiving drainage lines and also the extent to which that would impact flooding conditions in adjacent development.	Appendix B4 – Soil and Water Management Sub Plan
F6	Flood impacts to construction sites	Site facilities will be located outside high flood hazard areas based on a 1% AEP flood.	Appendix B4 – Soil and Water Management Sub Plan
F7	Impact of flooding on the project	Flood emergency management measures for construction and operation of the project will be incorporated into relevant environmental and/or safety management documentation.	Appendix B4 – Soil and Water Management Sub Plan
F8	Impacts of construction sites on flood behaviour	Detailed construction planning will consider flood risk at construction sites and construction support sites. This will include: - A review of site layout and staging of construction activities to avoid or minimise obstruction of overland flow paths and limit the extent of flow diversion required - Identification of measures to not worsen flood impacts on the community and on other property and infrastructure during construction up to and including the 1% AEP flood event where reasonable and feasible - Measures to mitigate alterations to local runoff conditions due to construction activities.	Appendix B4 – Soil and Water Management Sub Plan
F9	Operational flood behaviour	Impact of the project on flood behaviour during operation will be confirmed during further project development. This will include the consideration of future climate change and a partial blockage of the local stormwater drainage system.	Design Management Plan
B1	Vegetation removal	Vegetation removal including the clearing of native vegetation and fauna habitat will be further minimised, where feasible and reasonable.	Appendix B2 – Flora and Fauna Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
B2	Vegetation removal	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).	Appendix B2 – Flora and Fauna Management Sub Plan
B3	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 assessed in the biodiversity assessment, are identified in the construction footprint.	Appendix B2 – Flora and Fauna Management Sub Plan
B4	Rehabilitation	Vegetation will be re-established within the project footprint where WHT/WFU feasible, in accordance with Guide 3: Re-establishment of native vegetation of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011). Where replacement trees cannot be accommodated within the project footprint, locations outside the project footprint will be identified for compensatory plantings. Trees removed by the project will be replaced at a ratio equal to or greater than 1:1. The replacement trees will consist of local native provenance species from the vegetation community that once occurred in the locality (rather than plant exotic or non-local native trees) where available and subject to the urban design and landscape plan.	Appendix B2 – Flora and Fauna Management Sub Plan
B5	Pre-clearing surveys	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).	Appendix B2 – Flora and Fauna Management Sub Plan
B10	Fauna	Fauna will be managed in accordance with Guide 9: Fauna handling of the WHT/WFU Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Appendix B2 – Flora and Fauna Management Sub Plan
B11	Pre-clearing surveys	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).	Appendix B2 – Flora and Fauna Management Sub Plan
B14	Weeds	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).	Appendix B2 – Flora and Fauna Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
B15	Pathogens	Pathogens will be managed in accordance with Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Appendix B2 – Flora and Fauna Management Sub Plan
LP1	Land acquisition	Land acquisition for the project will be carried out in accordance with the Land Acquisition (Just Terms Compensation) Act 1991 (NSW), the Roads and Maritime Services Land Acquisition Information Guide (Roads and Maritime, 2014) and Fact sheet: Property acquisition of subsurface lands (Roads and Maritime, 2015) and in accordance with the land acquisition reforms announced by the NSW Government in 2016. Transport for NSW will appoint a Personal Manager - Acquisition to help land owners and residents who may be affected by acquisition for the project. The Personal Manager -Acquisition will be in regular contact with these individuals to provide updates on the project and respond to questions and queries. Should acquisition for the project be confirmed for a particular property, the Personal Manager - Acquisition will work with the affected land owners and residents to offer assistance and support throughout the acquisition and relocation process.	Noted
LP2	Land rehabilitation	Land subject to temporary use, including areas of public open space, will be rehabilitated as soon as practicable to an appropriate land use, taking into consideration the location, land use characteristics, area and adjacent land uses. This will be carried out in consultation with the relevant council and/or the land owner.	Construction Management Plan
LP3	Private property access	Where impacts to private property access is unavoidable during construction, property owners will be consulted in advance to develop appropriate alternative access arrangements.	Community Communication Strategy
LP5	Lease arrangements	Transport for NSW will consult with existing lease holders regarding any changes to lease arrangements.	Noted
LP6	Residual land	Residual land remaining following construction of the project will be confirmed to identify appropriate land use, taking into consideration the location, land use characteristics, area and adjacent land uses.	Noted

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
LP7	Long term viability of Cammeray Golf Course	Transport for NSW will continue to work with Cammeray Golf Club with a view to address the impacts of the project and maintaining the long term viability of Cammeray Golf Course.	Noted
SE1	Permanent impact on public open space	Where feasible and reasonable, the extent of permanent impact on public open space areas (for example, ANZAC Park, St Leonards Park, Cammeray Golf Club) will be minimised in further design development.	Design Management Plan
SE2	Parks, open space and sport/recreation	Parks, open space and sport and recreation areas impacted by construction and not required for permanent infrastructure will be reinstated and rehabilitated.	Place, Design and Landscape Plan
SE3	Social infrastructure impacts	Ongoing engagement will be carried out with managers of social infrastructure located near to surface construction works/construction support sites and sensitive social infrastructure above the tunnel alignment (for example, schools, places of worship, aged care, child care, health and medical facilities) about the timing and duration of construction works and management of potential impacts.	Community Construction Strategy
SE4	Consultation	Consultation for the project will be carried out in accordance with the Community Consultation Framework provided as Appendix E of the environmental impact statement.	Community Construction Strategy
BU1	Business impacts	Where businesses are affected by property acquisition, or lease cessation, the acquisition and compensation process will be implemented in line with the Determination of compensation following the acquisition of a business guideline. Compensation for a business conducted on land that is acquired will be determined in accordance with the Land Acquisition (Just Terms Compensation) Act 1991 (NSW) as relevant.	Community Construction Strategy
BU2	Business impacts	Specific consultation will be carried out with businesses potentially impacted during construction. Consultation will aim to identify specific potential construction impacts for individual businesses.	Community Construction Strategy
BU3	Business impacts	Based on consultation with businesses, specific feasible and reasonable measures to maintain business access, visibility and parking and address other potential impacts as they arise through the construction process will be identified and implemented. A	Community Construction Strategy

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
		phone hotline that enables businesses to find out about the project or register any issues will be maintained.	
V1	Construction support sites	Construction support sites will be developed to minimise visual impacts for adjacent receivers where feasible and reasonable.	Ancillary Site Establishment Management Plan
V2	Storage areas	Storage areas and associated works will be located in cleared and otherwise disturbed areas away from residential areas where feasible and reasonable	Ancillary Site Establishment Management Plan
V3	Site hoardings	Site hoardings will be in neutral colours and designs, in proximity to open space, to help blend them into the surrounding environment.	Ancillary Site Establishment Management Plan
V4	Site hoardings	Site hoarding and perimeter site areas will be maintained regularly to include the prompt removal of graffiti.	Ancillary Site Establishment Management Plan
V5	Site lighting	Site lighting will be designed to minimise glare issues and light spillage into WHT/WFU adjoining properties and be generally consistent with the requirements of Australian Standards and Guidelines 4282 –2019 Control of the obtrusive effects of outdoor lighting.	Ancillary Site Establishment Management Plan
V6	Site hoardings	Hoardings and temporary noise walls will be erected as early as possible within the site establishment phase to provide visual screening.	Ancillary Site Establishment Management Plan
V7	Fencing	High quality fencing suitable for parks and public spaces will be used where construction support sites are located in close proximity to sensitive residential receivers such as residents and users of recreational space.	Ancillary Site Establishment Management Plan
V8	Vegetation	Existing trees adjacent to the works will be retained and protected where possible to screen construction support sites, minimising clearing where possible.	Appendix B2 – Flora and Fauna Management Sub Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
V9	Vegetation	Where possible, trees will be trimmed rather than removed. Works will be carried out by a qualified arborist.	Appendix B2 – Flora and Fauna Management Sub Plan
V10	Vegetation	All areas disturbed by construction and not required for operation of the project will be restored to existing condition or in accordance with the urban design and landscape plan where applicable (environmental management measure V12).	Place, Design and Landscape Plan
V11	Vegetation	Early planting works will be considered to provide a screening buffer that has time to mature before the project is fully operational.	Place, Design and Landscape Plan
V12	Urban design and landscape plan	An urban design and landscape plan will be prepared during further design development and implemented in line with the strategic urban design framework for the project. The urban design and landscape plan will detail built and landscape features to be implemented during construction and rehabilitation of disturbed areas during construction of the project. The urban design and landscape plan will be made available to the public for feedback.	Place, Design and Landscape Plan
HR1	Storage of dangerous goods and hazardous substances	Dangerous goods and hazardous materials will be stored in accordance with supplier's instructions and relevant legislation, Australian Standards, and applicable guidelines and may include bulk storage tanks, chemical storage cabinets/containers or impervious bunds.	Appendix B4 – Soil and Water Management Sub Plan
HR2	Transportation of dangerous goods and hazardous substances	Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the Dangerous Goods (Road and Rail Transport) Act 2008, Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2008).	Appendix B8 - Waste and Resource Management Sub-plan
HR6	Fire and safety systems	The fire and safety systems and measures adopted for the project will be equivalent to or exceed the fire safety measures recommended by NFPA502 (American), PIARC (European), AS4825 AND AS3959-2009 (Australian) and relevant Transport for NSW standards.	Design Management Plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
HR7	Transportation of dangerous goods and hazardous substances	The transport of dangerous goods and hazardous substances will be prohibited through the mainline tunnels and on and off-ramp tunnels.	OEMP
HR8	Response to incidents	The response to incidents within the motorway will be managed in accordance with the memorandum of understanding between Transport for NSW and the NSW Police Service, NSW Rural Fire Service, NSW Fire Brigade and other emergency services.	OEMP
WM1	Source Construction Materials	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.	Section 4.11
WM2	Resource Management Hierarchy Principles	The resource management hierarchy principles established under the Waste Avoidance and Recovery Act 2001 of avoid/reduce/reuse/ recycle/dispose will be applied.	Section 4.11
WM3	Classification of Wastes	Wastes for land disposal will be classified in accordance with the NSW Environment Protection Authority Waste Classification Guidelines: Part 1 Classifying Waste.	Section 4.11
WM4	Transport, Storage and Handling of Wastes	Wastes will be appropriately transported, stored and handled according to their waste classification and in a manner than prevents pollution of the surrounding environment.	Section 4.11
WM5	Wastewater Reuse and Recycling	Opportunities for wastewater reuse and recycling will be pursued, including recirculating water during tunnel excavation to use for dust suppression and offsite reuse, will be investigated and implemented where feasible and reasonable.	Section 4.11
WM6	Sustainability Framework	The project will be operated in accordance with the relevant aims of the project's Sustainability Framework to optimise resource efficiency and waste management.	Sustainability Management Plan
WM7	Waste	Waste will be managed and disposed of in accordance with relevant applicable legislation, policies and guidelines, including the Waste Avoidance and Resource Recovery Act 2001 and the I discussed the potential for this to happen	Appendix B8 - Waste and Resource Management Sub-plan

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
SU1	Project sustainability objectives	Project sustainability objectives and targets will be finalised during further design development, informed by the requirements of the project planning approval	Sustainability Management Plan Design Management Plan
SU2	Project sustainability outcomes	Activities to implement the sustainability framework, including requirements from the Infrastructure Sustainability rating scheme, will be implemented through a Sustainability Management Plan. The management plan will detail measures to meet the sustainability objectives and targets as well as achieving 'Design' and 'As Built' ratings of Excellent under the Infrastructure Sustainability Council of Australia rating scheme (Version 1.2).	Sustainability Management Plan
CC1	Climate change	The following actions will be carried out during further design development to ensure climate change is adequately addressed: a) Flood modelling will continue to use sea level rise projections and rainfall projections b) The extent of scour protection will be refined c) Sensitivity testing for climate change will be carried out in the detailed design of drainage channels and culverts. Increased capacity will be provided where feasible and reasonable d) Any specific property impacts from flooding will be addressed where feasible and reasonable.	Sustainability Management Plan Design Management Plan
GHG1		Energy efficiency will be considered during further design development with energy efficient systems installed where reasonable and practicable.	Sustainability Management Plan Design Management Plan
GHG2	Emission of greenhouse gases during construction	Greenhouse gas emissions will be managed and minimised as part of the Sustainability Management Plan which will be implemented to assist in achieving 'Design' and 'As Built' ratings of Excellent under the Infrastructure Sustainability Council of Australia rating scheme	Sustainability Strategy

REMM #	Activity / aspect	Requirement	Relevant section of CEMP or Project supporting documentation
CI1	Cumulative impacts	Multi-party engagement and cooperation will be established prior to construction to coordinate with the following projects to manage fatigue impacts where possible: a) M4-M5 Link b) Beaches Link and Gore Hill Freeway Connection c) Sydney Metro City & Southwest.	Community Construction Strategy
CI2	Cumulative construction fatigue	Communication strategies for the project will be managed consistently across the NSW Government transport portfolio and in accordance with the Community Consultation Framework for the project, particularly with the Beaches Link and Gore Hill Freeway Connection project.	Community Construction Strategy
CI3	Cumulative impacts	Communication strategies for the project will be managed consistently across the NSW Government transport portfolio and in accordance with the Community Consultation Framework for the project, particularly with the Beaches Link and Gore Hill Freeway Connection project.	Community Construction Strategy
CI4	Cumulative impacts fatigue	Cumulative complaints fatigue will be managed as outlined in Chapter 7 (Stakeholder and community engagement). Complaint management tools for the project are outlined in Appendix E (Community consultation framework).	Community Construction Strategy

Table A1-4 Management and Mitigation Measures from Sub-plans

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
Noise and Vibration			
MMNV1	General	Training will be provided to relevant Project personnel, including relevant subcontractors on noise and vibration requirements from this NVMP through inductions, toolboxes or targeted training. Training will cover the following: • Nominated construction hours, restrictions and general requirements for OOHW • Avoiding use of radios or stereos outdoors during standard working hours where residents or Public Schools may be affected and at all times during work outside standard working hours • Avoiding shouting and minimise talking loudly and slamming vehicle doors • Avoiding communicating and signalling using Horns • Where practical, operate machines at low speed or power and switch off when not used rather than left idling for prolonged periods • Minimising reversing • Avoiding dropping materials from height and avoiding metal to metal contact on material • All site personnel will be responsible for managing noise from their work activities and to work in a manner that will minimise noise emissions Measures to minimise sleep disturbance impacts from construction vehicles.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV2	General	All employees, contractors and subcontractors are to receive a Project induction prior to commencing work on site. The environmental component, covered in either the induction or toolboxes, will include: • Existence and requirements of this NVMP • Relevant legislation and guidelines • Normal construction hours and exemptions • The process for seeking approval for out-of-hours works, including consultation • Location of noise sensitive areas • Complaints reporting and recording • How to implement noise and vibration management measures	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		• Specific responsibilities to minimise impacts on the community and built environment from noise and vibration associated with the works.	
MMNV3	Construction Traffic Noise	Project-related heavy-vehicle movements will be tracked to and from site (at the gates of the construction sites) and truck numbers will be managed to be within the volume modelled within the relevant CNVIS with the aim of limiting any associated increases in road traffic noise levels. Where the relevant noise increase is greater than 2 dB, consideration would also be given to the actual noise levels associated with construction traffic and whether or not these levels comply with the following road traffic noise criteria in the RNP: • 60 dB $L_{Aeq(15hour)}$ day and 55 dB $L_{Aeq(9hour)}$ night for existing freeway/ arterial/ sub-arterial roads • 55 dB $L_{Aeq(1hour)}$ day and 50 dB $L_{Aeq(1hour)}$ night for existing local roads. In addition to the above, where Project trucks and other vehicles are using public roads during the night period, assessment of sleep disturbance will be required. Note: This measure only applies to roads within 600 m of the Project sites in line with the RMS Noise Criteria Guideline (NCG). If Project-related heavy vehicle movements do not comply with the above criteria, alternative truck routes or potential reduction of truck movements will be considered. Where feasible and reasonable, unless compliance with the relevant traffic noise criteria can be achieved, or alternative arrangements have been agreed with affected receivers, construction vehicle movements will not occur on local roads beyond those required for direct access to construction sites.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV4	Construction Traffic Noise	Prior to arriving on site, drivers will be advised of designated vehicle routes, parking locations, acceptable delivery hours specific to the site and other relevant practices (i.e. minimising the use of engine brakes and no extended periods of engine idling). This will be communicated by the contractor using notifications under contract provisions and communication with schedulers from companies using heavy vehicles.	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMNV5	Construction Traffic Noise	The contractor will ensure construction vehicle contractors and drivers are aware of noise management measures to minimise any sleep disturbance impacts. Horns or other noisy methods not to be used for signalling. No loud radios, bluetooth speakers or the like.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV6	Construction Traffic Noise	Out-of-hours deliveries will be minimised where possible. Where out of hours deliveries are required, due care will be taken to minimise impacts (i.e. no extended periods of engine idling, use of radios instead of shouting, non-tonal reversing beepers where possible, unloading/loading to be undertaken during approved hours, loads to be pre-slung as much as practicable, slings to be used instead of chains unless chains are mandated by lifting or restraint requirements).	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV7	Construction Traffic Noise	All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV8	Construction Traffic Noise	All construction plant and equipment used on the site will be maintained in an efficient condition, in accordance with the manufacturers' specification. If a piece of plant or equipment is found to exceed the noise levels included in modelling, the following will occur: • If available and appropriate, a quieter piece of plant or equipment will be used in place of the offending plant/equipment • On-site mitigation (e.g. noise blankets) will be reviewed The noise assessment will be repeated with the accurate noise level of the plant/equipment	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV9	Construction Traffic Noise	All construction plant and equipment used on the site will be operated in a proper and efficient manner.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV10	Construction Traffic Noise	Non-tonal movement alarms will be used in place of tonal reversing alarms for the contractor owned plant and subcontract plant used at night or during the day. Audible alarms to be set to the minimum volume necessary to adequately perform their function.	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMNV11	Construction Traffic Noise	Plant and machinery will be switched off when it is not in use for more than 15 minutes	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV12	Construction Traffic Noise	Where possible, maintenance work on plant and equipment will be undertaken off site. If maintenance is to be onsite the task will be carried out away from noise sensitive receivers and during approved hours where reasonable and feasible. Maintenance undertaken outside approved hours would use mitigations such as acoustic enclosures or working underground where the noise is predicted to exceed the NML.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV13	Construction Traffic Noise	Consider noise when selecting construction methods and substitute for quieter methods where reasonable and feasible.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV14	Construction Traffic Noise	Use appropriately sized equipment, avoiding overpowered plant. Plant and equipment to be appropriate for use in an urban residential situation.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV15	Construction Traffic Noise	Additional temporary screening or enclosures will be considered for plant and equipment where additional measures are required to meet relevant NMLs, or where plant and equipment is known to exceed the NMLs	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV16	Construction Traffic Noise	Stationary noise sources would be enclosed or shielded where reasonable and feasible. This would apply to plant and equipment such as generators, stationary concrete cutters, stationary asphalt corers, stationary vacuum trucks, and stationary jack hammers	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV17	General construction hours	Construction activities associated with the Project will be carried out in accordance with the hours in the NVMP. Early occupation and later release of road carriageways and construction sites will be considered, where feasible to minimise noise impacts to receivers from night works.	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMNV18	General construction hours	Except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable NML at the same receiver will only be carried out: • Between 8:00 am and 6:00 pm Monday to Friday • Between 8:00 am and 1:00 pm Saturday • In continuous blocks not exceeding three (3) hours each with a minimum respite from those activities and works of not less than one (1) hour between each block. Noisiest works will be scheduled before 11.00 pm Sunday to Thursday and before 12 midnight Friday and Saturday	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV19	General construction hours	OOHW is to be carried out in accordance with: • Project Out-of-Hours-Works Protocol • Project EPL	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV20	Noise barriers	Noise barriers (such as site hoardings) will be constructed around ancillary facilities. Temporary noise barriers will be used around noisy equipment and activities such as rock-hammering and concrete cutting.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV21	Noise barriers	Structures will be used as noise barriers at compounds where appropriate.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV22	Noise barriers	Site access and egress points will be located as far as feasible and reasonable from noise sensitive receivers.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV23	Consultation and complaints management	Residences/sensitive receivers will be notified of construction activities that are likely to affect their noise and vibration amenity in accordance with the Community Strategy. Information provided will include: • The types of activities to be undertaken • The timing of activities including expected start and finish	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		• The location of activities • Details of the community information line and how to make an enquiry and/or complaint. If the potential vibration exceedance is to occur more than once or extend over a period of 24 hours, owner and occupiers will be provided a monthly schedule of potential exceedances for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier.	
MMNV24	Consultation and complaints management	Where noise assessments predict noise levels above the NMLs at community, religious, educational institutions and noise and vibration-sensitive businesses and critical working areas, consultation with the potentially affected receiver will be undertaken to identify sensitive periods and minimise impacts, where possible.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV25	Consultation and complaints management	All complaints will be managed in accordance with the CS and EPL.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV26	Consultation and complaints management	Owners and occupiers at risk of exceeding the screening criteria for cosmetic damage will be notified before works that generate vibration commence in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owner and occupiers will be provided a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV27	Consultation and complaints management	Monitoring will be undertaken in response to complaints, as determined on a case by case basis.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV28	Survey monitoring and reporting	Noise and vibration monitoring will be carried out in accordance with the Project's Noise and Vibration Monitoring Program. Construction noise and vibration impacts will be monitored periodically throughout all stages of the construction support sites to ensure that: a) Impacts are consistent with the noise and vibration levels detailed in the relevant Construction Noise and Vibration Impact Statements	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		b) Noise and vibration impacts are being appropriately managed Mitigation measures are effective.	
MMNV29	Survey monitoring and reporting	Verification monitoring will be carried out during the initial stages of activities for which a location and activity specific noise and vibration impact assessment has been prepared to confirm that actual noise and vibration levels are consistent with noise and vibration impact predictions and that the mitigation and management measures that have been implemented are appropriate.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV30	Survey monitoring and reporting	The contractor will conduct vibration monitoring before and during vibration generating activities that have the potential to impact on heritage items (including aboriginal heritage). Monitoring will identify MWDs to prevent cosmetic damage. If vibration monitoring identifies that vibration levels exceed 2.5 mm/s at Aboriginal heritage sites that have been identified as requiring monitoring, a site visit will be organised with a representative from Metro LALC to record any changes to the integrity of the site that may have resulted from construction vibration, and updated site cards must be prepared accordingly. Condition surveys may include further photogrammetry and 3D-capture techniques	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV31	Survey monitoring and reporting	The contractor will offer pre-construction condition surveys on the current condition of surface and sub-surface structures identified as at risk from settlement or vibration by the geotechnical model. The surveys and subsequent condition survey reports will be prepared by a suitable qualified and experienced person and will be provided to owners of the structure prior to the commencement of potentially impacting works. Where a pre-construction survey was undertaken, owners will be offered a post-construction survey within three months of the completion of construction.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV32	Survey monitoring and reporting	The condition survey report will include as a minimum: • Photograph of the subject building • Record site details – age, construction, site slope and provision for drainage, presence of trees • Types of defects and their positions and extents on the floor plan	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		• Photograph of external view and photograph of all defects of significance (especially if of concern to the owner), or typical examples of say, hairline plaster cornice cracks • Details of the inspector's qualification and expertise	
MMNV33	Ground-borne noise mitigation	Provide specific notifications to receivers where the ground-borne noise levels are predicted to exceed the night-time NML.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV34	Ground-borne noise mitigation	Select the smallest rock hammers capable of efficiently completing the work, where feasible and reasonable.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV35	Ground-borne noise mitigation	A ground-borne noise assessment will be undertaken for the Project. Ground-borne noise mitigation measures will be implemented in accordance with the assessment, this NVMP and relevant MCoA.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV36	Other	No swearing or unnecessary shouting or loud stereos/radios on site. Dropping of materials from height, throwing of metal items and slamming of doors will also be avoided. Horns or other noisy methods not to be used for signalling.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV37	Other	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. Where the safe working distance cannot be achieved vibration monitoring will be carried out in accordance with the Noise and Vibration Monitoring Program.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV38	Other	The use of alternative construction and demolition techniques will be considered where predicted noise levels exceed the NML	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV39	Other	The Project will use regularly serviced low sound power equipment where reasonable and feasible	Appendix B3 – Noise and Vibration Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMNV40	Other	Work will be coordinated between project construction sites and / or non-project construction works to avoid cumulative noise impacts.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV41	Other	Additional at source or near source mitigation will be considered where construction noise levels may result in cumulative construction noise impacts, where programming is not practical to avoid cumulative noise impacts.	Appendix B3 – Noise and Vibration Management Sub Plan
MMNV42	Other	Community consultation will be undertaken throughout the project to gauge impacts from construction noise and any unknown impacts from concurrent or consecutive sets of construction works.	Appendix B3 – Noise and Vibration Management Sub Plan
Air Quality			
MMAQ1	Screening	Install perimeter screening around all site and ancillary facilities. Shade cloth (or similar) is to be used to minimise dust migration.	Appendix B6 – Air Quality Management Sub Plan
MMAQ2	Diesel emissions	Implement the following strategies to minimise air emissions from off road diesel equipment and plant: • Undertake routine servicing and maintenance of plant and equipment in accordance with manufacturer specifications • Chemical/fuel storage tanks will be fitted with a conservation vent (to prevent air inflow and vapour escape until a pre-set vacuum or pressure develops) • Switch off equipment not in use for extended periods Aim to achieve compliance with mobile non-road diesel plant and equipment used for Construction with the relevant United States Environmental Protection Agency, European Union (EU) standards or approved equivalent emission standards.	Appendix B6 – Air Quality Management Sub Plan
MMAQ3	Project coordination	Liaison and coordination measures will be put in place with the proponents of other major construction projects within 500 metres of the project, to minimise and manage potential cumulative construction dust impacts. Measures may include scheduling of construction activities and construction deliveries, coordinated monitoring and data sharing, cooperation in the event of	Appendix B6 – Air Quality Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		cumulative dust complaints, and coordination of engagement with potentially affected receivers.	
MMAQ4	Vegetation removal	Vegetation clearing will be staged where possible to minimise the area and time that surfaces are exposed.	Appendix B6 – Air Quality Management Sub Plan
MMAQ5	Site access	Apply wheel-wash or rumble grid facilities at access points to limit the tracking of materials beyond the site boundary.	Appendix B6 – Air Quality Management Sub Plan
MMAQ6	Speed limits	Impose 10km/hr maximum-speed-limit across all site haulage routes and adhere to speeds limits within compound sites to limit the generation of dust from vehicle movements.	Appendix B6 – Air Quality Management Sub Plan
MMAQ7	Dust generation	Compact or seal compound area surfaces to limit the potential for dust generation.	Appendix B6 – Air Quality Management Sub Plan
MMAQ8	Dust generation	Regularly water exposed areas, disturbed areas and stockpiles and limit the amount of materials stockpiled around the site.	Appendix B6 – Air Quality Management Sub Plan
MMAQ9	Dust generation	Limit stockpiling activities and other dust generating activities during conditions where winds are blowing strongly towards nearby receivers.	Appendix B6 – Air Quality Management Sub Plan
MMAQ10	Dust generation	Ensure that all loads with the potential to produce dust or gaseous emissions are covered when materials are being transported to and from site.	Appendix B6 – Air Quality Management Sub Plan
MMAQ11	Dust generation	Wherever possible, position internal haulage routes away from surrounding receivers.	Appendix B6 – Air Quality Management Sub Plan
MMAQ12	Dust generation	Regularly water exposed and disturbed areas especially during hot, dry and windy weather conditions and as determined necessary by real time environmental monitoring and site observations	Appendix B6 – Air Quality Management Sub Plan
MMAQ13	Dust generation	Wherever possible, minimise the extent of disturbed and exposed surfaces, and restore as soon as possible. Ensure that any material exposed areas are stabilised during project shutdown periods to prevent dust mobilising and settling on adjacent roads and property.	Appendix B6 – Air Quality Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMAQ14	Dust generation	Adjust the intensity of activities based on measured dust levels, weather forecasts and the proximity of and direction of the works in relation to the nearest surrounding receivers.	Appendix B6 – Air Quality Management Sub Plan
MMAQ15	Dust generation	Reasonable and feasible dust suppression and/or management measures, including the use of water carts, dust sweepers, sprinklers, stabilisation of exposed areas or stockpiles, and surface treatments will be implemented. Optimum management measures for each specific task will be identified when preparing EWMS	Appendix B6 – Air Quality Management Sub Plan
MMAQ16	Complaints	Dust and air quality complaints will be managed in accordance with the overarching complaints handling process for the project. Appropriate corrective actions will be taken to reduce emissions in a timely manner.	Appendix B6 – Air Quality Management Sub Plan
MMAQ17	Site inspections	Site inspections will be carried out to monitor compliance with implemented measures.	Appendix B6 – Air Quality Management Sub Plan
MMAQ18	Communication protocols	Internal project communication protocols will be developed and implemented to help ensure dust-generating activities in the same area are coordinated to manage potential cumulative dust impacts.	Appendix B6 – Air Quality Management Sub Plan
MMAQ19	Construction equipment	Construction equipment and/or materials handling techniques that minimise the potential for dust generation will be identified and implemented. Optimum management measures for each specific task will be identified when preparing EWMS	Appendix B6 – Air Quality Management Sub Plan
MMAQ20	Odorous material	In the event of uncovering odorous material, or detection of nuisance odours (nuisance to workers or confirmed beyond boundaries), investigate and implement any necessary management measures identified in the investigation process.	Appendix B6 – Air Quality Management Sub Plan
MMAQ21	Stockpiles	Stockpiles will be located as far away from residencies and other sensitive receivers as possible and maintained in accordance with *RMS Stockpile Site Management Guidelines.*	Appendix B6 – Air Quality Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMAQ22	General	No burning of any timbers or other combustible materials must occur on site.	Appendix B6 – Air Quality Management Sub Plan
MMAQ23	Stabilisation	Temporary stabilisation of disturbed areas to occur as soon as possible and no longer than within one week.	Appendix B6 – Air Quality Management Sub Plan
MMAQ24	Dust generation	Work activities must be reviewed if management measures are not adequately restricting dust generation.	Appendix B6 – Air Quality Management Sub Plan
Heritage			
MMH1	Induction	Ensure all workers attend induction training prior to commencing work. The induction training will include information on Aboriginal archaeological sites and areas of cultural sensitivity identified in the Cultural Heritage Assessment Report and EIS.	Appendix B5 – Heritage Management Sub Plan
MMH2	Unexpected finds	Adopt and implement the *RMS Standard Management Procedure – Unexpected Heritage Items, October 2015* in the event that unexpected cultural Aboriginal and non-Aboriginal heritage finds are encountered during construction, including human remains.	Appendix B5 – Heritage Management Sub Plan
MMH3	Induction / training	Brief all construction personnel on the presence and significance of the nearby Non-Aboriginal heritage items, obligations under the *Heritage Act 1977* and the measures required to ensure the protection of any items of heritage significance for the duration of the works.	Appendix B5 – Heritage Management Sub Plan
MMH4	Condition surveys	Carry out property condition surveys of heritage listed buildings and other sensitive structures within 150 metres from the edge of the construction works	Appendix B5 – Heritage Management Sub Plan
MMH5	Unexpected finds	If any items defined as relics under the NSW *Heritage Act 1977* are uncovered during the works, all works must cease in the vicinity of the find and the TfNSW Environment Manager contacted immediately.	Appendix B5 – Heritage Management Sub Plan
MMH6	General	All activities will be planned and carried out to avoid, where practicable, or minimise potential impacts to heritage items and Heritage Conservation Areas. Prior to works commencing, areas of archaeological potential (Non-Aboriginal heritage) will be reviewed and identified. These will be assessed and documented	Appendix B5 – Heritage Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		during the planning stages of the Project and will be reviewed prior to physical works commencing within applicable areas.	
MMH7	Monitoring	Vibration monitoring will be conducted before and during vibration generating activities that have the potential to impact on heritage items, and to identify minimum working distances to prevent cosmetic damage. In the event that the vibration monitoring shows that the preferred values for vibration are likely to be exceeded, the construction methodology will be reviewed and, if necessary, additional mitigation measures will be implemented.	Appendix B5 – Heritage Management Sub Plan
MMH8	ARDDEM	Works within the vicinity of items that may be of cultural or archaeological significance will not recommence until the relevant requirements of the ARDEM or advice from the Excavation Director have been met. The site of the discovery will be demarcated and communicated to workers as a no-go area.	Appendix B5 – Heritage Management Sub Plan
MMH9	Planning	All known heritage items within immediate vicinity of the construction work zones will be identified on SEPs. Preserved heritage items and places will be shown on relevant site plans and communicated to the relevant workforce. SEPs will be available to all personnel working on the site.	Appendix B5 – Heritage Management Sub Plan
MMH10	EWMS	An environmental work method statement (EWMS), for working in or near environmentally sensitive areas including heritage areas, will be prepared and implemented as required.	Appendix B5 – Heritage Management Sub Plan
MMH11	Exclusion fencing	Exclusion fencing with relevant signage will be installed around known heritage items to prevent inadvertent damage. Where exclusion fencing is in place an access permitting system will be applied requiring approval by the Construction Environment Manager.	Appendix B5 – Heritage Management Sub Plan
MMH12	General	All works potentially affecting the Sydney Harbour Bridge will be carried out in accordance with *Sydney Harbour Bridge Conservation Management Plan 2007*.	Appendix B5 – Heritage Management Sub Plan
MMH13	Condition survey	A condition survey will be completed prior to the temporary removal of the North Sydney Bus Shelters	Appendix B5 – Heritage Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMH14	Archival recording	Archival recording will be undertaken for the following items: • St Leonards Park (including W. Tunks Memorial Fountain, War Memorial, and North Sydney Oval), North Sydney • North Sydney Sewer Vent • North Sydney Bus Shelters • Cammeray Park (including Golf Course), Cammeray • Cammeray Conservation Area, Cammeray. Refer Section 7.1	Appendix B5 – Heritage Management Sub Plan
MMH15	Heritage interpretation	Appropriate heritage interpretation will be incorporated into the urban design for the Project in relation to heritage impacts.	Appendix B5 – Heritage Management Sub Plan
MMH16	Noise treatment	Noise treatment will be undertaken at Tarella in a manner to minimise heritage impact	Appendix B5 – Heritage Management Sub Plan
Soil and Water			
MMSW01	General	Training will be provided to relevant project personnel, including relevant subcontractors on soil, surface water and groundwater requirements through inductions, toolboxes or targeted training.	Appendix B4 – Soil and Water Management Sub Plan
MMSW02	General	All employees, contractors and subcontractors will receive a project induction prior to commencing work on site. The environmental component, covered in either the induction or toolboxes, will include (as a minimum): • Existence and requirements of this SWMP • Relevant legislation and guidelines • Erosion and sediment control measures • Emergency spill procedures including location and use of spill kits • Flood risk at construction sites and construction support sites	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		• Flood emergency management measures • Complaints reporting and recording • How to implement soil and water management measures Roles and responsibilities for soil and water management.	
MMSW03	General	Weather conditions and forecasts (including rainfall prediction maps) will be monitored daily (including both during and following the clearing of vegetation) and relevant information provided to the site Superintendent/ Foremen to allow for adequate planning for significant rain events.	Appendix B4 – Soil and Water Management Sub Plan
MMSW04	Drainage controls	Hydraulic structures and controls will be installed early in the Project (before clearing and stripping) to promote successful erosion and sediment control during construction.	Appendix B4 – Soil and Water Management Sub Plan
MMSW05	Drainage controls	Separation of 'clean' (offsite) run-on water from 'dirty' (onsite) (e.g. turbid) construction area runoff will be maximised by diverting off site run-on water around the works site as much as possible. Permanent cut-off drains will be used to achieve this where possible.	Appendix B4 – Soil and Water Management Sub Plan
MMSW06	Drainage controls	Diversion of turbid construction runoff into sediment traps will be maximised.	Appendix B4 – Soil and Water Management Sub Plan
MMSW07	Drainage controls	Runoff will be controlled during the construction of embankments (e.g. fill shaping and the construction of temporary dykes and batter drains).	Appendix B4 – Soil and Water Management Sub Plan
MMSW08	Drainage controls	Formation runoff will be diverted into pits and the stormwater drainage system as soon as practical to reduce surface flow lengths.	Appendix B4 – Soil and Water Management Sub Plan
MMSW09	Drainage controls	Slope lengths will be maintained at appropriate lengths to slow flows down and minimise erosion. Catch drains will be used to collect and divert runoff from the slopes.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW10	Drainage controls	Geotextile linings will be used to provide temporary surface protection in areas where appropriate (e.g. batter drains, culvert construction).	Appendix B4 – Soil and Water Management Sub Plan
MMSW11	Drainage controls	Check dams will be placed within diversion drains where required to slow flows and minimise erosion within the drains.	Appendix B4 – Soil and Water Management Sub Plan
MMSW12	Erosion and sediment control	Engage a soil conservation specialist for Project duration to provide ERSED advice including initial preparation and ongoing review of PESCP's and regular site inspection of controls (minimum monthly attendance).	Appendix B4 – Soil and Water Management Sub Plan
MMSW13	Erosion and sediment control	A PESCP will be developed for the Project.	Appendix B4 – Soil and Water Management Sub Plan
MMSW14	Erosion and sediment control	Erosion and sediment control measures will be implemented at all work sites in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) ('Blue Book'). ERSED measures will be installed: • Prior to soil disturbance occurring • Prior to the commencement of any clearing, stripping or earthworks • To minimise sediment moving off-site • To minimise sediment laden water entering any watercourse, drainage lines, or drain inlets • To reduce water velocity and capture sediment on site • To minimise the amount of material transported from site to surrounding pavement surfaces. • To divert off site water around the site.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW15	Erosion and sediment control	Erosion and sedimentation controls will be checked and maintained on a regular basis (including clearing of sediment from behind barriers).	Appendix B4 – Soil and Water Management Sub Plan
MMSW16	Erosion and sediment control	Sediment fencing or suitable alternative sediment controls will be provided downslope of any disturbed areas.	Appendix B4 – Soil and Water Management Sub Plan
MMSW17	Erosion and sediment control	Sediment controls will be installed around stormwater inlet pits where appropriate and where they will not cause or exacerbate flooding. Traffic management and safety requirements will be considered if installing such devices on live traffic roads.	Appendix B4 – Soil and Water Management Sub Plan
MMSW18	Erosion and sediment control	Records of erosion and sediment control activities will be maintained and provided on request.	Appendix B4 – Soil and Water Management Sub Plan
MMSW19	Erosion and sediment control	Sediment controls will be removed only after adequate stabilisation of disturbed surfaces is achieved.	Appendix B4 – Soil and Water Management Sub Plan
MMSW20	Erosion and sediment control	Mud tracking from site compounds / work areas will be minimised by the use of rumble grids, large aggregate at entry/exit points or wheel wash facilities.	Appendix B4 – Soil and Water Management Sub Plan
MMSW21	Site de-watering and water re-use	The Dewatering Procedure (**Appendix B**) will be implemented for the duration of construction works.	Appendix B4 – Soil and Water Management Sub Plan
MMSW22	Site de-watering and water re-use	Wherever possible, water detained onsite will be re-used for dust control and other non-potable uses where of suitable quality. This includes water accumulating within excavations, traps, trenches or at low points on site.	Appendix B4 – Soil and Water Management Sub Plan
MMSW23	Site de-watering and water re-use	Water accumulating within any excavation, trap or low point on site that cannot be re-used in construction or dust suppression will be tested and, if necessary, treated prior to release or disposed of to a licenced facility.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW24	Site de-watering and water re-use	When necessary, sediment will be settled out of surface water to be discharged using a flocculent such as Gypsum within 24 hours of the conclusion of the last rainfall event.	Appendix B4 – Soil and Water Management Sub Plan
MMSW25	Site de-watering and water re-use	Necessary approvals and permits/ licences will be obtained prior to any dewatering related to the Project and records will be maintained throughout the Project.	Appendix B4 – Soil and Water Management Sub Plan
MMSW26	Site de-watering and water re-use	There will be no release of sediment-laden water into drainage lines and/or waterways.	Appendix B4 – Soil and Water Management Sub Plan
MMSW27	Site de-watering and water re-use	Non-potable water will be used for wash down where practical.	Appendix B4 – Soil and Water Management Sub Plan
MMSW28	Site de-watering and water re-use	A containment material will to be used to capture/filter water used in wash down.	Appendix B4 – Soil and Water Management Sub Plan
MMSW29	Stockpile management	A Stockpile Management Procedure has been developed for the Project.	Appendix B4 – Soil and Water Management Sub Plan
MMSW30	Stockpile management	Maintenance of stockpile sites during construction will be in accordance with TfNSW Technical Guideline *Stockpile Site Management Guideline (EMS-TG-10).*	Appendix B4 – Soil and Water Management Sub Plan
MMSW31	Stabilisation of disturbed areas	Stabilisation of waterways, including their beds and banks, will commence during and following the clearing of vegetation and immediately after the completion of any works within these areas.	Appendix B4 – Soil and Water Management Sub Plan
MMSW32	Surface water quality management	A Heavy Rainfall Event Procedure will be developed for the Project.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW33	Surface water quality management	Prior to forecast heavy rainfall events and prior to and following the clearing of vegetation, the Construction Environmental Manager or delegate will inspect the site and note any areas requiring additional management measures	Appendix B4 – Soil and Water Management Sub Plan
MMSW34	Surface water quality management	Prior to forecast heavy rainfall events, end-of-day controls will be implemented throughout the worksite to help reduce erosion and control sediment. These will include one or more of the following: • Check dams • Slope breaks • Batter chutes • Fill windrows Temporary ground covers.	Appendix B4 – Soil and Water Management Sub Plan
MMSW35	Surface water quality management	When testing, treating and discharging construction water, the identified water quality criteria stated in the permit (EPL criteria) will be met. The applicable water quality criteria will be determined in accordance with relevant legislation and guidelines and authorities.	Appendix B4 – Soil and Water Management Sub Plan
MMSW36	Surface water quality management	If water is to be re-used for dust suppression this water does not need to be tested or treated providing water does not leave the site (either directly or indirectly via runoff).	Appendix B4 – Soil and Water Management Sub Plan
MMSW37	Surface water quality management	The results of any monitoring will be recorded and maintained: • In a legible form, or in a form that can readily be reduced to a legible form • For at least 4 years after the monitoring or recording event to which they relate took place, and So that they can be produced in a legible form to any authorised officer of the EPA who asks to see them.	Appendix B4 – Soil and Water Management Sub Plan
MMSW38	Surface water quality management	Vehicles and machinery will be properly maintained and routinely inspected to minimise the risk of fuel/oil leaks.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW39	Surface water quality management	Not used	Appendix B4 – Soil and Water Management Sub Plan
MMSW40	Construction wastewater	Residual risk to sensitive receiving environments and environmental values, will be kept low as reasonably practicable through the implementation, maintenance, and monitoring of the proposed management measures.	Appendix B4 – Soil and Water Management Sub Plan
MMSW41	Groundwater management	Undertake a water discharge impact assessment to inform water discharge / licencing requirements prior to the discharge of water from sediment basins.	Appendix B4 – Soil and Water Management Sub Plan
MMSW42	Groundwater management	Stage construction work activities within or next to the watercourses and drainage lines as much as reasonably practicable to minimise disturbance of sediments. 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.	Appendix B4 – Soil and Water Management Sub Plan
MMSW43	Construction Wastewater	Construction wastewater treatment trains will be designed to maintain or improve the water quality of the receiving ambient environment. Discharges from wastewater treatment plants will not commence until receipt of an EPL which incorporates this activity. Relevant conditions of the EPL and discharge criteria will be included in this Sub-plan as required.	Appendix B4 – Soil and Water Management Sub Plan
MMSW44	Groundwater management	Should any groundwater be encountered and need to be disposed of during construction, disposal would be undertaken in accordance with the Construction Site Dewatering Procedure and relevant legislation and guidelines.	Appendix B4 – Soil and Water Management Sub Plan
MMSW45	Groundwater management	The Construction Site Dewatering Procedure will identify monitoring and measures for contaminated groundwater management. These will be implemented if contaminated groundwater is encountered.	Appendix B4 – Soil and Water Management Sub Plan
MMSW46	Groundwater management	Groundwater inflows will be treated to meet the ANZECC/ARMCANZ (2000) requirements.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW47	Management of Contamination and acid sulfate soils	An Environmental Work Method Statement will be prepared by the CPB Downer JV and approved by the TfNSW Environmental Manager prior to commencement of any work that would result in disturbance in the vicinity of contamination. Refer to the Contaminated Land Management Sub-plan (Section 6.6).	Appendix B4 – Soil and Water Management Sub Plan
MMSW48	Management of Contamination and acid sulfate soils	An Acid Sulfate Management Plan will be developed for the Project if investigation identifies their potential	Appendix B4 – Soil and Water Management Sub Plan
MMSW49	Management of Contamination and acid sulfate soils	If acid sulfate soils or potential acid sulfate soils are encountered, they will be managed in accordance with the *Acid Sulfate Soil Manual* (Acid Sulfate Soil Management Advisory Committee, 1998).	Appendix B4 – Soil and Water Management Sub Plan
MMSW50	Flooding	Flood emergency management measures will be developed for the Project.	Appendix B4 – Soil and Water Management Sub Plan
MMSW51	Flooding	Measures to manage the diversion of floodwater either through or around the construction areas will be planned, implemented and maintained. This will include: • A review of site layout and staging of construction activities to avoid or minimise obstruction of overland flow paths and limit the extent of flow diversion required • Identification of measures to not worsen flood impacts on the community and on other property and infrastructure during construction up to and including the 10% AEP flood event where reasonable and feasible Measures to mitigate alterations to local runoff conditions due to construction activities.	Appendix B4 – Soil and Water Management Sub Plan
MMSW52	Flooding	Spoil management and stockpile areas will be located outside the 10% AEP flood extent	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW53	Flooding	The existing Sydney Water and Council drainage systems will remain operational and be protected throughout construction	Appendix B4 – Soil and Water Management Sub Plan
MMSW54	Flooding	Where possible ensure that excavated materials are not placed within 20m of drainage lines	Appendix B4 – Soil and Water Management Sub Plan
MMSW55	Storage and handling of fuels and chemicals	Concrete mixers, pumps, concrete tools and other equipment will be washed at specially designated washout areas that are constructed in a manner that will prevent stormwater surface run-off from being contaminated.	Appendix B4 – Soil and Water Management Sub Plan
MMSW56	Concreting, saw-cutting and asphalting	• Designated equipment washdown and cleaning areas will be allocated for major asphalt works with appropriate environmental controls in place to prevent washout water from reaching the receiving environment.	Appendix B4 – Soil and Water Management Sub Plan
MMSW57	Concreting, saw-cutting and asphalting	Washout areas will be located within areas that are not subject to natural surface storm water run-off and away from drainage lines. Signs will be posted to advise workers of their locations.	Appendix B4 – Soil and Water Management Sub Plan
MMSW58	Concreting, saw-cutting and asphalting	Washout areas will be constructed with an impermeable material capable of retaining contaminated water and concrete residue.	Appendix B4 – Soil and Water Management Sub Plan
MMSW59	Concreting, saw-cutting and asphalting	Washout areas will be monitored to ensure that they are draining correctly and washing activity is not contaminating the surrounding area.	Appendix B4 – Soil and Water Management Sub Plan
MMSW60	Concreting, saw-cutting and asphalting	As part of the project induction program, all personnel performing concreting or saw cutting activities will be advised of the concrete washout areas and their obligations to: • Clean their plant, tools and equipment within the designated area • Maintain the area in a clean condition Ensure that contaminated water associated with their activities is appropriately controlled and prevented from reaching stormwater surface drainage areas.	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMSW61	Spill response and management	A Spill Management Procedure will be developed for the Project.	Appendix B4 – Soil and Water Management Sub Plan
MMSW62	Spill response and management	Any spills of fuel or bitumen materials will be promptly contained and collected using spill kits.	Appendix B4 – Soil and Water Management Sub Plan
MMSW63	Spill response and management	Spill kits and fire extinguishers will be maintained at all times on site in close proximity to potential spill sources.	Appendix B4 – Soil and Water Management Sub Plan
MMSW64	Spill response and management	All spills will be promptly reported to the Environmental Manager.	Appendix B4 – Soil and Water Management Sub Plan
MMSW65	Storage and Handling of Fuels and Chemicals	A Safety Data Sheet (SDS) and Hazardous Products Register and copies of all SDS documents will be maintained in the site office within an SDS folder.	Appendix B4 – Soil and Water Management Sub Plan
MMSW66	Storage and Handling of Fuels and Chemicals	Liquid and dry chemicals (including oils and fuels) will be clearly labelled, used and handled in accordance with the instructions provided in the relevant SDS documents.	Appendix B4 – Soil and Water Management Sub Plan
MMSW67	Storage and Handling of Fuels and Chemicals	Liquid chemicals and fuels will be stored in appropriate containers in roofed and bunded areas. Bunded areas will have the capacity to hold 110% of the liquid waste volume for bulk storage or 120% of the volume of the largest container for smaller packaged storage.	Appendix B4 – Soil and Water Management Sub Plan
MMSW68	Storage and Handling of Fuels and Chemicals	Where practicable, storage areas will not be located within 50 metres of natural surface drainage areas, storm drainage systems, poorly drained or flood prone areas or any area with a slope steeper than 10%.	Appendix B4 – Soil and Water Management Sub Plan
MMSW69	Storage and Handling of Fuels and Chemicals	Where practicable, designated plant refuelling areas, plant service / maintenance areas and concrete / plant wash down areas will be located at least 5 metres from native vegetation and at least 50 metres from:	Appendix B4 – Soil and Water Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		• a natural surface drainage area, and • a built drainage structure such as a storm water pipe or box culvert.	
MMSW70	Storage and Handling of Fuels and Chemicals	During site induction, all personnel will be advised of the following: • The location of bunded storage areas, liquid absorbent materials and other spill containment materials and kits. • Storage of large quantities of fuel for construction plant is not permitted. Appropriately bunded licensed fuel trucks carrying emergency fuel spill kits must be used to service plant and equipment. • All drums and decanted containers must be labelled and stored within bunded areas whenever they are not in use. Whenever practical, all unattended drums/containers must be returned to the bunded storage area. All personnel will be trained in the Spill Response and Management Procedure and the protocol to be implemented in the event of a spill or leak.	Appendix B4 – Soil and Water Management Sub Plan
Flora and Fauna Management			
MMFF1	General	Induction raining will be provided to relevant Project personnel, including relevant sub-contractors on flora and fauna requirements from this plan through the induction.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF2	Qualified and Experienced Ecologist	An appropriately qualified and experienced ecologist will be appointed.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF3	Clearing of Vegetation	Clearing of vegetation, including the clearing of native vegetation and fauna habitat, will be minimised to the greatest extent practicable (e.g. through detailed design, selecting plant to avoid impact on retained trees, retaining perimeter vegetation where possible and not in conflict with other mitigation measures or works). This includes the retention of trees.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF4	Exclusion Fencing	Erect exclusion fencing and signage to delineate the limits of clearing in accordance with *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA 2011).	Appendix B2 – Flora and Fauna Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
			Management Sub Plan: Chapter 6
MMFF5	Pre-clearing surveys	Pre-clearing surveys will be carried out by the Project Ecologist to identify or confirm the location of: • Threatened flora and provide guidance • Threatened fauna and provide guidance on subsequent relocation if required • Hollow bearing trees or nest bearing trees • Any trees which may be retained • Pathogens and provide subsequent guidance on mitigation measures to be implemented Priority weeds present within the Project area.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF6	Clearing and grubbing plan	A clearing and grubbing plan will be developed for any clearing of vegetation works and will be submitted to RMS for approval before the commencement of the works.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF7	Tree removal, pruning and maintenance	Tree Protection Zones (TPZs) will be clearly delineated and marked around any trees to be retained during construction. This delineation is to be consistent with *AS 4970-2009 Protection of trees on development sites*.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF8	Arborist advice	Tree removal, pruning and maintenance work will be carried out by an arborist with a minimum Australian Qualifications Framework (AQF) Level 3 qualification in arboriculture (or equivalent), in accordance with *AS 4373-2007 Pruning of Amenity Trees and the NSW WorkCover Code of Practice for the Amenity Tree Industry* (1998).	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF9	Tree removal advice	Advice on tree removal, pruning and maintenance, must be provided by an arborist that has a minimum AQF Level 5 qualification in arboriculture (or equivalent).	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF10	Tree management plan	A tree management plan will be developed for any works with the potential to impact on TPZs in consultation with an arborist with a AQF Level 5 qualification in arboriculture (or equivalent).	Appendix B2 – Flora and Fauna Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMFF11	Native vegetation	In the event native vegetation removal cannot be avoided, the conditions of MCoA E48 will be followed.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF12	Stockpiling of materials	No materials are to be stockpiled or vehicles parked under the canopy line of trees identified to be retained.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF13	Tree management	No excavation, placing of fill or construction of access tracks within the canopy line of trees identified to be retained will occur unless an ecologist or arborist completes an assessment that confirms no detrimental effect, resulting in death or long-term damage to tree health is likely to occur. This assessment will consider the value of the tree, e.g. heritage / retention value and recommend mitigations and limits accordingly.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF14	Weed management	Stabilise all surfaces disturbed as a result of the Project as soon as practicable following disturbance to prevent erosion and to minimise sedimentation in adjacent aquatic environments.	Appendix B2 – Flora and Fauna Management Sub Plan
MMFF15	Weed management	Manage weeds within the construction footprint in accordance with the Weed Control Procedure	Appendix B2 – Flora and Fauna Management Sub Plan
Waste Management			
MMWR01	Waste hierarchy	Reflecting the waste hierarchy, waste avoidance will be the preferred option, followed by reduction, re-use, recycling and recovery. Where such options are not possible, waste will be treated and/or disposed.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR02	Procurement	Australian materials and prefabricated materials with low embodied energy will be procured where reasonable and feasible.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR03	Import of waste	The import of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the EPL or be done in accordance with a valid	Appendix B8 - Waste and Resource Management Sub-plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		Resource Recovery Exemption or Order issued under the *Protection of the Environment Operations (Waste) Regulation 2014*.	
MMWR04	Export waste	Export waste to a site licenced by the EPA to accept the waste, or in accordance with a valid Resource Recovery Exemption or Order issued under the *Protection of the Environment Operations (Waste) Regulation 2014*, or to any other site that can lawfully accept such waste.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR05	Waste classification	Waste will be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR06	Timber reuse	Within three months of the removal of any native trees, consultation will be undertaken with the local community restoration/ rehabilitation groups, Landcare groups, relevant councils, DPI Fisheries and any relevant public authorities to determine if there is an interest in the reuse of suitable timber and root balls for habitat enhancement and rehabilitation work. If there is an interest, native trees that are removed for the construction of the Project and that are greater than 25-30 cm in diameter and 3 m in length will be salvaged and stored for a period of at least six weeks to enable collection by interested parties.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR07	Hazardous materials	A hazardous materials assessment will be undertaken prior to the demolition of buildings. Hazardous materials will be disposed in accordance with the *Protection of the Environment Operations (Waste) Regulations 2014* and *Waste Classification Guidelines* (EPA, 2014).	Appendix B8 - Waste and Resource Management Sub-plan
MMWR08	Asbestos	Asbestos or asbestos-contaminated materials that are discovered during demolition and construction activities must be stored and managed in accordance with the requirements of the *Work Health and Safety Regulation 2011* and the *Protection of the Environment Operations (Waste) Regulations 2014*. Control measures include: - Ensure that a maximum of five tonnes of asbestos waste is stored at any time - Securely package bonded asbestos material - Store friable asbestos material in a sealed container - Wet down asbestos-contaminated soils	Appendix B8 - Waste and Resource Management Sub-plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
		- Transport asbestos waste in a covered, leak-proof vehicle - Dispose asbestos waste to a landfill site that can lawfully receive the waste - Ensure all containers containing asbestos comply with labelling elements of the Globally Harmonized System of Classification and Labelling of Chemicals, 3rd revised edition - Seal skip bins with polyethylene sheeting Secure the contents of skip bins (for example using a lockable lid or locating the skip in a secure area) to prevent unauthorised access.	
MMWR09	Liquid wastes	Liquid wastes (e.g. waste oil) will be stored in appropriate containers in bunded areas (with 110% capacity of the largest container) and disposed at an appropriately licensed facility. No liquid waste should enter or be placed in a position where it could enter into a stormwater drain or directly into a waterway.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR10	Spill management	Appropriate spill kits will be readily available, maintained and located near high-risk areas including liquid waste storage areas and plant refuelling sites.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR11	Waste segregation	Waste will be segregated into stockpiles of spoil, concrete, steel, timber, paper and cardboard and vegetation to maximise recycling opportunities and sent to a waste facility with recycling capabilities.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR12	Concrete washout	Excess concrete and concrete washout will be discharged to a bunded and lined concrete washout facility.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR13	Truck management	Waste trucks will be constructed and maintained to prevent spillage of waste. Loads must be covered prior to leaving the worksite.	Appendix B8 - Waste and Resource Management Sub-plan
MMWR14	General	Burial or burning of waste is not permitted.	Appendix B8 - Waste and Resource Management Sub-plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMWR15	Waste management register	All waste data will be collated and tracked using the Waste Management Register	Appendix B8 - Waste and Resource Management Sub-plan
Contaminated Lands			
MMCL01	Detailed Site Investigation	Sites with a medium to high risk of contamination are not to be disturbed until a Detailed Site Investigation is completed	Appendix B7 – Contaminated Land Management Sub Plan
MMCL02	EWMS	An EWMS will be prepared by the CPB Downer JV and approved by the TfNSW Environmental Manager prior to commencement of any work that would result in the disturbance in the vicinity of contamination (except to the extent that those works are necessary to prepare the EWMS). Refer to Section 6.6 of this Sub-plan for further details.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL03	Contamination assessment	Suspected or identified contamination will be characterised with consideration of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC, 2013). Where there is a need for remediation, works will be performed in accordance with the hierarchy of preferred strategies in the Guidelines for the NSW Site Auditor Scheme (DECCW 2006).	Appendix B7 – Contaminated Land Management Sub Plan
MMCL04	Remediation works	Where practicable, remediation works will be integrated with excavation and development works performed during construction.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL05	Unexpected Finds Procedure	Unexpected contamination and asbestos will be managed in accordance with the Unexpected Finds Procedure for Contaminated Land and Asbestos.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL06	EWMS	Where required, isolate the area in the vicinity of contamination to ensure that any risk to human health or the environment is not exacerbated pending the implementation of an Environmental Work Method Statement.	Appendix B7 – Contaminated Land Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMCL07	Exposed surfaces	The extent and duration of exposed surfaces (particularly those works that have the greatest potential to disturb soils that are contaminated or have a high erosion and runoff hazard) will be minimised.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL08	Control measures	Implement relevant control measures in accordance with the Soil and Water Management Sub-plan to divert any surface runoff away from contaminated land. Capture and treat any surface runoff contaminated by exposure to the contaminated land.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL09	Contaminated materials	Intermixing of contaminated materials with clean material or any other type of contamination is generally not permissible. However, intermixing may be undertaken subject to further assessment and approval of the Construction Environmental Manager.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL10	Chemical storage	Fuels, oils, lubricants, chemicals and similar products will be stored in accordance with AS 1940-2017, within designated secondary containment areas (e.g. internally bunded containers or purpose-built structures). Bulk storage areas for fuels, oils and chemicals used during construction will be contained within an impervious bund to retain any spills of more than 110% of the volume of the largest container in the bunded area.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL11	Spill management	All spills will be immediately reported and managed in accordance with the Environmental Incident Classification and Reporting procedure (refer to Appendix A6 of the CEMP) and the TfNSW procedure, Environmental Incident Classification and Reporting (2017).	Appendix B7 – Contaminated Land Management Sub Plan
MMCL12	Spill management	Spill kits will be readily available and maintained at site compounds and relevant construction vehicles. Spill kits will be utilised in the event of inadvertent spills of fuels, oils, hydraulic fluids and other hazardous wastes.	Appendix B7 – Contaminated Land Management Sub Plan
MMCL13	Spill management	Refuelling and maintenance of mobile plant will be undertaken offsite (where practicable) or within a designated lined and bunded area.	Appendix B7 – Contaminated Land Management Sub Plan

MM #	Activity / aspect	Requirement	Relevant section of CEMP or supporting documentation
MMCL14	Spill management	Emergency Spill 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	Appendix B7 – Contaminated Land Management Sub Plan

TfNSW specification requirements

Table A1-5: TfNSW G36 requirements

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
3.1	The Contractor must prepare a Contractor's Environmental Management Plan (CEMP) for the Work Under the Contract. The CEMP must be prepared in accordance with NSW DPIE publication "Environmental Management Plan Guideline for Infrastructure Projects" (DPIE 2020). Your CEMP must be consistent with, and incorporate, all relevant elements of your CEMS	This CEMP
3.1	Your CEMP must: (a) include an Environmental Policy that contains a commitment to the principles of Ecologically Sustainable Development as detailed in the Protection of the Environment Administration Act 1991 (NSW);	CEMP Appendix A3
3.1	(b) describe all relevant elements of, and include references to, the CEMS documentation and how these will apply to the Work Under the Contract;	Section 1.5
3.1	(c) address all aspects and stages of the Work Under the Contract.	Section 1.4
3.1	(d) comply with the CoA C1 – C3, and C4 – C10 including the following Sub-plans: • Air Quality and Odour Management Plan; • Noise and Vibration Management Plan; • Soil and Surface Water Management Plan; • Aboriginal Cultural Management Plan; • Non-Aboriginal Heritage Management Plan; • Flora and Fauna Management Plan; and • Waste and Resource Management Plan.	CEMP Sub Plans B2 – B7
3.1	(e) incorporate Revised Environmental Management Measures listed in Part y of the EIS	Section 3.3 of Sub Plans

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
3.1	(f) be comprehensively reviewed and updated (at least every six months) to consider potential changes to the surrounding area/environment such as cumulative impacts from surrounding development activities in accordance with CoA A11, d).	Section 3.12
3.9	Schedule and undertake CEMP compliance audits.	Section 3.9.3
3.2.1	Environmental Risk Workshop	Section 3.2.1
3.2.2	Compliance Tracking Program	CEMP Appendix A1
3.2.3	Environmental objectives and targets	Section 3.2.3
3.2.4	Environmental Work Method Statements: (i) Site Establishment and Enabling Works (ii) Clearing and Grubbing (iii) Working in Environmentally Sensitive Areas (iv) Activities that generate high levels of noise and/or vibration (v) Earthworks including stockpile management stockpiling (vi) Embankment foundation treatment including compressible foundation treatments (vii) Activities that generate high levels of noise and/or vibration (viii) Site Remediation of Contaminated Materials (ix) Bridge Construction (x) Culvert Construction (xi) Cammeray Golf Club Basin relocation including but not limited to dewatering and relocation of aquatic fauna (xii) Construction and operation of concrete wash out areas	EWMS to be prepared at least 5 days prior to commencing work associated with the EWMS

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
	Also prepare EWMS for any Works identified in the Environmental Risk Assessment Workshops as high risk not addressed in the aforementioned EWMS.	
3.3	Detail the relationship between the designated Environmental Manager and other personnel responsible for implementing the CEMP.	Section 3.3.1
3.4	Include in the CEMP the procedures to be implemented to ensure subcontractor compliance.	Section 3.4
3.5	Ensure that all staff and subcontractors working on the Site are provided with environmental training to achieve a level of competence and awareness appropriate to their assigned activities before they commence their assigned activities.	Section 3.5
3.5	Environmental induction and training plan	Section 3.5
3.6	The CEMP must include a procedure for notifying Transport for NSW and all relevant authorities in advance of proposed extension to hours of work.	Section 3.7
3.7	Inform residents of the proposed work outside normal working hours.	Section 3.7.4
3.7	Details of processes for external and internal communication in relation to environmental aspects of work	Section 3.7.4
3.7.3.1	Notify local residents about new or changed construction activities which will affect access to their properties or otherwise significantly disrupt residents' use of their premises.	Community Construction Strategy
3.7.4	Report on complaints about any environmental issues, including pollution, arising from the Works.	Community Construction Strategy
3.7	Community Liaison and/or Notification	Section 3.7.4

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
3.8	Emergency planning and response procedures	Section 3.8
3.9	Procedure(s) to monitor and measure environmental management performance and to evaluate compliance Maintain environmental records to demonstrate compliance with the CEMP.	Section 3.9
3.9	Environmental monitoring and auditing program	Section 3.9.2 & Section 3.9.3
4.1	Soil and Water Management Sub-Plan (refer to G38 requirements in Table A1-6: TfNSW G38 requirements below.	Appendix B4 – Soil and Water Management Sub Plan
4.1	Prepare and implement a construction soil and water quality management plan addressing: • Erosion and sedimentation control. • Water extraction. • Dewatering. • Impacts on groundwater from construction.	Appendix B4 – Soil and Water Management Sub Plan
4.2	Prepare and implement a Construction Contaminated Land Management Sub-Plan and Remediation Action Plan	Appendix B7 - Contaminated Land Management Sub-plan
4.3	Procedures for controlling and removing chemical, fuel and lubricant spillage on the Site and adjoining areas	Appendix B4 – Soil and Water Management Sub Plan Spill Response and Management Procedure
4.4	Prepare and implement a Construction Air Quality Management Sub-Plan and procedures for effective dust control, including dust monitoring and reporting procedures	Appendix B6 – Air Quality Management Sub Plan
4.6 /4.7	Prepare and implement a Construction Noise and Vibration Management Sub-Plan	Appendix B3 – Noise and Vibration Management Sub Plan

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
4.8	Prepare and implement a Construction Flora and Fauna Management Sub-Plan: Manage clearing, mulch, flora and fauna	Appendix B2 – Flora and Fauna Management Sub Plan
4.9 / 4.10	Heritage Management Sub-Plan, including procedure for the management of unexpected potential archaeological relics	Appendix B5 – Heritage Management Sub Plan
4.11	Include a Waste Management Register within the CEMP. The CEMP must contain details of types and quantities of proposed material likely to be generated and proposed methods of disposal, recycling or re-use of such surplus materials.	Appendix B8 - Waste and Resource Management Sub-plan
4.11	Implement and document in the CEMP a waste and recycling material data collection program.	Appendix B8 - Waste and Resource Management Sub-plan
4.13	Sensitive Areas Maps and EWMS for working in or near environmentally sensitive areas. Detail in the CEMP the location of environmental controls in environmentally sensitive areas.	EWMS
4.14	Environmental incident reporting and investigation procedure	Section 3.8
4.14	All Environmental Incidents must be managed and reported in accordance with the Roads and Maritime-Environmental Incident Classification and Reporting Procedure.	Section 3.8
4.14	EPA will be notified via the EPA Environment Line (telephone 131 555) of any environmental incidents or pollution incidents on or around the Site in accordance with Part 5.7 of the Protection of the Environment Operations Act 1997 (NSW) (POEO Act), in the following circumstances: • If actual or potential harm to the health or safety of human beings or ecosystems is not trivial. • If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds $10,000.	PIRMP

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
	• Notify Roads and Maritime verbally immediately, and in writing within 24 hours, of all environmental incidents.	
4.14	The CEMP must identify at least two people (and their contact telephone numbers) who will be available to be contacted by the EPA on a 24 hour basis and who have authority to take immediate action to shut down any activity, or to effect any pollution control measures, as directed by an authorised officer of the EPA.	PIRMP
4.15	Prepare and implement a Construction Traffic Management Plan: Prepare and implement a construction traffic and access management plan and Construction Parking Access Strategy	Appendix B1 – Traffic and Transport Management Sub Plan
4.15.2	Site facilities	Ancillary Site Establishment Management Plan
4.15.3 & 4.15.4	Pre & Post construction Land Condition Assessments	Ancillary Site Establishment Management Plan
4.16	Progressively rehabilitate areas disturbed as a result of works as soon as practicable. Leave the worksite tidy and free of rubbish at the end of each work day and remove all waste material upon completion of the project	Place, Design and Landscape Plan
4.16	Reinstate all disturbed areas both on and off the Site.	Place, Design and Landscape Plan

Table A1-6: TfNSW G38 requirements

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
2.1	Prepare and implement a Soil Water Management Plan	Appendix B4 – Soil and Water Management Sub Plan
2.1.2	The SWMP must include details of the following, where relevant: (a) Purpose and objectives of SWMP.	Appendix B4 – Soil and Water Management Sub Plan

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
	(b) Approvals, licence requirements and relevant legislation. (c) Site investigation and assessment of the following: (i) soil properties (including dispersion properties and presence of acid sulphate soils); (ii) rainfall records and design parameters; (iii) waterways and other water related sensitive environments; (iv) groundwater; (v) possibilities of, and limitations on, water extraction. (d) Environmental control measures, including: (i) responsibility for its implementation, including the names and contact details of the person(s) responsible; (ii) resources required for its construction, monitoring, maintenance and removal; (iii) implementation schedule for the measures, related to construction activities; (iv) monitoring and maintenance of the environmental controls. (e) Other associated plans, Environmental Work Method Statements (EWMS) and procedures. (f) Construction sediment retention basins, including details of the following: (i) design of the construction sediment retention basins, including any temporary modifications to the operational basins, providing details of the approach, standards, criteria and references used in the design of the basins; (ii) management of the basins; (iii) procedures for testing, treatment and discharge of water from the basins; (iv) procedures for the periodic removal and disposal of the sediment collected within the basins. (g) Training, including: (i) site induction; (ii) environmental training;	

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
	(iii) toolbox training. (h) Inspection and auditing.	
2.2	Prepare an Erosion and Sediment Control Plan (ESCP) for the Work Under the Contract	Appendix A of Appendix B4 – Soil and Water Management Sub Plan
2.2	The ESCP must identify all erosion and sediment control risks and describe how these will be addressed during construction. The ESCP must include details of the following where relevant: (a) erosion and sediment control measures required: (i) before clearing and grubbing of the Site; (ii) before removal of topsoil and commencement of earthworks within the catchment area; (b) how upstream water will be managed so it is not polluted by the construction activities; (c) method of tree removal in intermittent watercourses, leaving grasses and small understorey species undisturbed wherever possible; (d) scour protection measures for haul roads and access tracks when these are an erosion hazard due to either their steepness, soil erodibility or potential for concentrating runoff flow; (e) measures for stabilising temporary drains; (f) measures to minimise erosion during construction of embankments; (g) measures to minimise erosion and control sedimentation from stockpiles; (h) methods of constructing batters to assist the retention of topsoil on the batter slopes; (i) measures to temporarily trap sediment in median areas at regular intervals; (j) controls in runoff flow paths to reduce flow velocities and minimise the potential for erosion; (k) measures for controlling waste water discharge on or around the Site from dewatering (refer to Clause 3.5), surface washing, grit	Appendix A of Appendix B4 – Soil and Water Management Sub Plan

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
	blasting, saw cutting, drilling, washing vehicles and plant and any other activities which add pollutants to water; (l) measures to be put in place during an extended shut-down of the Site or when rainfall above a certain trigger level is predicted; (m) maintenance of erosion and sediment control structures including measures to restore their capacity; (n) inspection and auditing program for all erosion and sediment controls to ensure that no disturbed area is left without adequate erosion and sediment controls.	
2.3	Prepare and implement a Water Quality Monitoring Program	Appendix C of Appendix B4 – Soil and Water Management Sub Plan
3.1	Establish erosion control and sediment capture measures, and maintain them regularly, to divert offsite stormwater, manage onsite stormwater runoff and stabilise stockpiles in accordance with RMS Technical Guideline EMS-TG-010: Stockpile Site Management and the BLUE BOOK guidelines.	Appendix A of Appendix B4 – Soil and Water Management Sub Plan
3.4	Conduct any dewatering activities in a manner that does not cause erosion and/or pollute the environment.	Appendix B of Appendix B4 – Soil and Water Management Sub Plan
3.4	Prepare a procedure for all identified dewatering activities as part of the SWMP or ESCP.	Appendix B of Appendix B4 – Soil and Water Management Sub Plan
3.4.5	Keep records of the following: (i) dewatering procedure; (ii) date and time for each discharge at each location; (iii) water quality test results for each discharge; (iv) personnel approving the dewatering activities; (v) evidence of discharge monitoring, or risk assessment and mitigation measures used to eliminate the risks of pollution or erosion; (vi) any other EPA licence requirements where issued.	Appendix B of Appendix B4 – Soil and Water Management Sub Plan

Table A1-7: TfNSW G40 requirements

G40 Reference	Requirement	Relevant section of CEMP or supporting documentation
2.4	Before clearing commences, identify the limits of clearing by clearly visible markers placed at 25m intervals on each side of the road formation and bridges as shown on the Drawings. Also provide a report which: (a) includes a statement from an Ecologist that identifies the species and location of any weeds growing anywhere in the road reserve over the length to be cleared and grubbed; (b) identifies all locations of threatened flora species and trees which have been marked or otherwise identified for preservation; and (c) lists any trees outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property.	Appendix B2 – Flora and Fauna Management Sub Plan
2.4	Plan and carry out all operations to ensure that there is no damage to any trees outside the limits of clearing specified.	Appendix B2 – Flora and Fauna Management Sub Plan
2.4	Trees nominated in (c) above must be marked and identified in the clearing and grubbing plan in a manner which allows them to be identified as one of the listed trees and whether pruning or removal is recommended. Areas of weed infestation identified in the ecologist report (Clause 2.4 (a) must be marked).	Appendix B2 – Flora and Fauna Management Sub Plan
2.4	Weeds must be removed and disposed of in accordance with the requirements of the local Council.	Appendix B2 – Flora and Fauna Management Sub Plan
2.4	Take protective measures during the operations of clearing and road construction to avoid damaging or destroying threatened flora species and trees which have been marked or otherwise identified for preservation. These measures must include but not be limited to: (i) fencing around trees clear of the canopy line; (ii) ensuring no materials are stockpiled and no vehicles are parked under the canopy;	Appendix B2 – Flora and Fauna Management Sub Plan

G40 Reference	Requirement	Relevant section of CEMP or supporting documentation
	(iii) avoiding excavation or the placing of fill near any tree without advice from an ecologist; and (iv) routing haul roads and access tracks clear of the canopy.	
4.1	Native trees removed during clearing and grubbing may be used in conjunction with soil erosion and sediment control measures. All other native trees removed must be converted to mulch and stockpiled for use during landscape planting under the Contract. This requirement is subject to the following constraints: (a) Where the native vegetation on Site is insufficient to provide the quantities of mulch needed during landscape planting, all native trees removed during clearing and grubbing must be mulched and stockpiled. Under no circumstances must the extent of clearing and grubbing be extended or weeds or exotic species used to make up any shortfall of mulch; (b) Where the quantity of mulch produced exceeds the quantity required under the Contract, the excess mulch will become your property and must be removed from the Site.	Appendix B2 – Flora and Fauna Management Sub Plan
5	Unless otherwise specified, all materials cleared, pruned and grubbed in accordance with this Specification shall become your property and must be removed from the site for recycling or disposal. Disposal must be in accordance with your Waste Management Plan.	Appendix B2 – Flora and Fauna Management Sub Plan
5.1	In accordance with the CoA E48, within three (3) months of the removal of native vegetation, consultation with local community groups and stakeholders must be undertaken for the potential reuse of this vegetation. Records of consultation with stakeholder and community groups must be kept. Should any vegetation be given to the community, compliance will be required with Warringah Freeway Upgrade G36, 4-11	Appendix B2 – Flora and Fauna Management Sub Plan

Table A1-2: G36, G38 and G40 specification hold and witness points

Specification	Clause	Type	Description
G36	2	Witness	Alternative environmental control measures
G36	3	Witness	Contractor's Environmental Management Plan (CEMP), Sub-Plans, procedures and EWMS
G36	3.1	Hold	Submission of CEMP and selected CEMS documents
G36	3.2.2	Hold	Evidence of approvals, licences and permits obtained
G36	3.2.2	Witness	Approvals, licences and permits
G36	3.2.4	Hold	Environmental Work Method Statement Approval
G36	3.5	Witness	Records of environmental induction training
G36	3.6	Witness	Extended working hours and associated advice to Principal and relevant authorities
G36	3.7.3	Witness	Reports on complaints about any environmental issue and actions
G36	3.8	Witness	Records of emergency responses
G36	3.9	Witness	Records of environmental management performance monitoring and measurement
G36	3.9	Witness	Environmental audit reports
G36	3.10	Witness	Records of corrective and preventative measures to address nonconformities of environmental obligations
G36	3.10	Hold	Verification that environmental nonconformities has been rectified
G36	3.11	Witness	CEMS and CEMP compliance records
G36	3.12	Witness	Records of review of effectiveness and proper implementation of CEMP
G36	4.2.4	Hold	Submission of Remediation Action Plan for contaminated land

Specification	Clause	Type	Description
G36	4.3	Witness	Records of spill prevention measures and responses
G36	4.7	Hold	Building Condition Inspection Reports and Vibration and Airblast Management Sub-Plan
G36	4.7	Witness	Building Condition Inspection Reports
G36	4.11	Hold	Copy of “s.143 Notice”
G36	4.11	Witness	Waste Management Register
G36	4.11	Witness	“s.143 Notices” for transporting and depositing of waste
G36	4.12	Witness	Pesticide Records Sheets
G36	4.13	Hold	Working in or near environmentally sensitive areas
G36	4.14	Witness	Environmental incident and investigation reports
G36	4.15.2	Witness	Pre-construction land condition assessment reports
G36	4.15.3	Witness	Post-construction land condition assessment reports
G36	4.15.3	Hold	Submission of pre-construction land condition assessment report for each area you intend to occupy for your site facilities
G36	4.15.4	Hold	Submission of post-construction land condition assessment report for each area you intend to occupy for your site facilities
G38	3.1	Hold	Submission of an ESCP(s) and, where required, WQMP for a section of the Work Under the Contract.
G38	3.1	Witness	Submission of written notice that measures set out in the ESCP for a section of the work have been installed.
G40	2.2	Witness	Report on the presence of weeds and unsound trees
G40	2.4	Hold	Written notification of intention to clear any area.

Appendix A2

Aspects and Impacts Register

Warringah Freeway Upgrade

November 2021

This Environmental Aspects and Impacts Register has been prepared by CPBDJV, 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, REMM, and review of the environmental risks identified by the EA and subsequent Submissions Report.

The following risk assessment process has been implemented, together with a review of proposed activities and known risks based on past project experience.

Risk Assessment Process

The following tables outline the risk assessment process using 3 steps to identify the appropriate management measures required.

Table 1 is used to determine the likelihood that the aspect will have an impact on the environment.

Table 2 is used to determine the potential consequence rating of the risk identified

From these two tables, a risk rating can then be assigned by using Table 3 to determine how severe the potential impact may be and what level of management each type of risk will require.

Table 1: Likelihood criteria

Score	Description		Percentage	Expected Frequency
5	**Almost Certain**	Common / Frequent Occurrence	Can be expected to occur 75% - 99%	More than 1 event per month
4	**Likely**	Is known to occur or “It has happened regularly”	Can quite commonly occur 50% - 75%	More than 1 event per year
3	**Possible**	Could occur or ”I’ve heard of it happening”	May occasionally occur 25% - 50%	1 event per 1 to 10 years
2	Unlikely	Not likely to occur very often	May infrequently occur 10% - 25%	1 event per 10 to 100 years
1	**Rare**	Conceivable but only in exceptional circumstances	May occur in exceptional circumstances 0% – 10%	Less than 1 event per 100 years

Table 2: Consequence criteria

Consequence Rating	1	2	3	4	5
	Negligible	Minor	Moderate	Major	Substantial
Safety and Health	First Aid Treatment (or No treatment)	Medical Treatment Injury	Lost Time Injury	Permanent Injury (Paraplegia, Amputation)	Fatality (Single or multiple)
Environment and Heritage	Small, contained localised impact / Low level repairable damage	Short lived, well contained environmental impact / Minor remedial action required	Medium term, contained impact / Significant remedial action required	Impacts extend off-site / external ecosystem. Considerable remediation required	Long Term irreversible damage / Long Term Remediation required
Plant Damage	Little or No Damage	Damage less than $15,000	Damage between $15,000 and $50,000	Damage between $50,000 and $100, 000	Damage greater than $100, 000
Reputation	Brief local negative media coverage.	Local negative media coverage. Site or project problem.	Regional/short negative media coverage. Loss of Client / project.	Sustained national negative media coverage. Loss of long term key client.	International negative media coverage. Loss of business from key sector.
Time	Delay / Business interruption <1% of program days	Delay / Business interruption between 1%-3% of program days	Delay / Business interruption between 4%-6% of program days	Delay / Business interruption between 7%-10% of program days	Delay / Business interruption >10% of program days
Cost	Additional cost to the business / project <1% revenue	Additional cost to the business / project between 1%-3% revenue	Additional cost to the business / project between 4%-6% of revenue	Additional cost to the business / project between 7%-10% of revenue	Additional cost to the business / project >10% of revenue

Table 3: Risk severity

	Consequence	Negligible	Minor	Moderate	Major	Substantial
Likelihood	Rating	1	2	3	4	5
Almost Certain	5	5 (Low)	10 (Moderate)	18 (Very High)	23 (Extreme)	25 (Extreme)
Likely	4	4 (Low)	9 (Moderate)	17 (Very High)	20 (Very High)	24 (Extreme)
Possible	3	3 (Low)	8 (Moderate)	13 (High)	19 (Very High)	22 (Very High)
Unlikely	2	2 (Low)	7 (Low)	12 (High)	15 (High)	21 (Very High)
Rare	1	1 (Low)	6 (Low)	11 (Moderate)	14 (High)	16 (High)

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Table 4: 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	• General earthworks • Vegetation clearing • Open excavation works • Spoil handling • Stockpiling • Vehicular movements on unsealed roads • Material haulage • Vehicle emissions • Handling of chemicals, waste and hazardous goods.	Complaints from neighbours, including loss of amenity, dust in living areas, swimming pools	Likelihood – 5 Consequence – 2 **Risk – 10 (Moderate)**	• Induct personnel on air quality issues and safeguards • Use water carts on unsealed surfaces and stockpiles • Utilise safe dust suppressants to reduce dust generation • Use street sweepers to reduce dust in areas of dust build up • Modify or cease operations during high winds • All trucks on public roads to cover loads • Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes • All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable • Minimise tracked mud/dust on public roads • No burning or incineration of any material at any time • Dust monitoring • Avoid “hot-work” during total fire bans and obtain any necessary permits/exemptions from the Rural Fire Service • WorkCover licensing requirements will be complied with for the storage of hazardous substances and dangerous goods • Appropriately stocked spill kits will be readily available at all chemical storage locations and during chemical use • Material Safety Data Sheets (MSDSs) will be obtained, complied with and retained on site for all required chemicals • Pesticide use will be in accordance with the Pesticides Act, 1999	Likelihood – 3 Consequence – 1 **Risk – 3 (Low)**	Air Quality Management Sub Plan (AQMP) Environmental Work Method Statements (EWMS) Soil and Water Management Sub Plan (SWMP) Complaints Procedure Project induction
		Potential adverse health effects	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Degradation of water quality and other aspects of the natural environment	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Health risks to neighbours and members of the public from release of gases and/or smoke	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	
Biodiversity	• Clearing of native vegetation. • Tree removal • Stockpile / haul road construction near vegetation. • General earthworks near vegetation. • Vehicular movements. • Open excavation works. • Bushfires	Loss of habitat for threatened species beyond minimum clearing footprint.	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	• Induct personnel on biodiversity issues and mitigation measures. • Verify vegetation clearing boundaries prior to clearing • Ensure vegetation clearing boundaries clearly marked and visible as per FFMP • Consult with affected communities prior to removing large trees • Prior to construction – identify and fence all flora and fauna habitat areas required to be protected as identified in the FFMP. • Minimise clearing of all vegetation and undertake progressive revegetation. • Pre-clearing inspections by Project Ecologist to review weeds and other threatened species • Implement ongoing weed monitoring and management programs. • Disturbed areas will be monitored for effective soil stabilisation and restoration / rehabilitation. • Implement a staged clearing process and undertake fauna rescue during clearing as required. • Project Arborist to provide advice on habitat tree health and provide ongoing advice. • Undertake threatened species management as required under the FFMP and detailed design documentation / Approval. • Undertake monitoring as required. • Spark arresters on plant prevent fires.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	Flora and Fauna Management Plan (FFMP) EWMS Vegetation Clearing procedure Fauna handling procedure Project induction
		Weed infestation	Likelihood – 5 Consequence – 2 **Risk – 10 (Moderate)**		Likelihood – 3 Consequence – 1 **Risk – 3 (Low)**	
		Potential longer term impacts associated with increased habitat fragmentation.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**		Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	
		Direct impact to flora or fauna during construction.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**		Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				• Obtain permits from Fire authorities during high risk fire season.		
Aboriginal heritage	• Initial clearing and/or grubbing of vegetation. • Initial removal of topsoil. • Construction of site compounds and material or equipment stockpile areas. • Temporary access roads	Impact to undiscovered or undocumented heritage sites	Likelihood – 2 Consequence – 3 **Risk – 12 (High)**	• Induct personnel on heritage issues and mitigation measures. • For ancillary sites, identify and assess Aboriginal heritage items and predict potential impacts. • Implement unexpected find procedures as required.	Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	Heritage Management Sub Plan (HMP) Unexpected Heritage Items Procedure Project induction
		Finding / disturbing burials or human remains	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**		Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	
Non-Aboriginal heritage	• Initial clearing and/or grubbing of vegetation. • Initial removal of topsoil. • Construction of site compounds and spoil / mulch and / or equipment stockpile areas. • Temporary access roads during construction • Excavations and earthworks. • Pile driving causing vibration. • Use of other vibratory equipment such as rollers.	Impact to identified heritage items.	Likelihood – 3 Consequence – 3 **Risk – 13 (High)**	• Pre-construction surveys to identify and assess non- Aboriginal heritage items. • Induct personnel on heritage issues and safeguards. • Protect identified heritage items with protective fencing or flagging from being disturbed during construction. • Undertake archival recording as required • Implement unexpected find procedures • Landholder consultation.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	Heritage Management Sub Plan (HMP) Noise and Vibration Management Sub Plan (NVMP) Unexpected Heritage Items Procedure Project induction
		Vibration damage during the construction period to identified sites.	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Impact to undiscovered or undocumented heritage sites.	Likelihood – 3 Consequence – 3 **Risk – 13 (High)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Change in visual integrity of heritage sites.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**		Likelihood – 2 Consequence – 1 **Risk – 2 (Low)**	
Noise and vibration	• Regular out of hour works (OOHW) • Potentially noisy and vibration impact generating works: ○ Site establishment. ○ Earthworks ○ Piling ○ Paving ○ Saw cutting	Noise impacts on sensitive receivers during construction.	Likelihood – 5 Consequence – 3 **Risk – 18 (Very High)**	• Consult with local communities and affected residents. • Liaison AA and permits detailing justification for OOHW • Construction Noise and Vibration Impact Statements (CNVIS) to be prepared to determine impact and consultation requirements • Adherence to working hours in NVMP unless otherwise approved. • Respite periods for particularly noisy/ short duration activities (in accordance with NVMP) or offers of respite as documented in CNVIS. • • Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with non-tonal reversing alarms. • Minimise impacts from saw cutting/ use effective shielding. • Regular noise monitoring to monitor predicted verses actual levels. • Implementing management measures where regenerated noise is found to be excessive and agreements are not in place. • Managing construction vehicle routes and speed of vehicles. • Modelling vibration impacts and monitoring where impacts are predicted. • Establish and maintain complaints management system. • Building condition reports on potentially impacted buildings and structures as required by Project approval. • review monitoring results and implement corrective actions as	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**	NVMP EWMS ~~Out of hours works (~~OOHW~~)~~ protocol Negotiated agreements Complaints procedure Project induction
		Vibration impacts on nearby receptors, including heritage.	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**		Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				appropriate, such as for example revising mitigation measures, revising predictions. • Implement any additional feasible and reasonable mitigation measures, identified from the review of monitoring results, for minimising noise and vibration impacts • Discuss noise and vibration monitoring results at each ERG.		
Soil and water quality	• Clearing and grubbing. • Earthworks and stockpile management. • Storage of fuels and chemicals • Maintenance of plant and equipment, including servicing and refuelling • Sediment basin management • Drainage works • Concrete works • Temp access road construction • Bridge construction. • Landscaping • Landscaping maintenance	Erosion and movement of soils.	Likelihood – 5 Consequence – 3 **Risk – 18 (Very High)**	• Appropriately designed erosion control structures (e.g. rock checks, sedimentation basins, silt fences and sand bags) will be installed, maintained and cleaned regularly. • Locate spoil stockpiles, plant and equipment away from drainage lines, watercourses or stormwater drains in accordance with established criteria. • Install clean water diversions to ensure clean and dirty water are not mixed on site. • Storage, compound access and parking areas sealed, as early during works as practicable. • Chemical storage meets bunding requirements. • Wheel mud reduction/ cleaning measures at exit of all sites where required. • Buffer zones of vegetation will be maintained adjacent to waterways for as long as practical. • Rehabilitation and landscaping works of disturbed areas undertaken as soon as the works are completed and/or progressively where possible. • Implement concrete washout process within bunded areas. • Provide and maintain spill kits. • Establish clean water catch drains/ diversion early in Project before topsoil stripping. • Design drainage to maximise dirty water to sediment basins. • Establish dedicated ERSED crews for the Project. • Install signage at discharge points to assist workers to understand implications of dirty water release in sensitive areas. • Meet TfNSW Dewatering guidelines.	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	SWMP EWMS Basin management procedure Project induction Targeted ERSED training
		Captured dirty water discharge from basins.	Likelihood – 4 Consequence – 3 **Risk – 17 (Very High)**		Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	
		Dirty water not captured and leaves site without controls.	Likelihood – 4 Consequence – 3 **Risk – 17 (Very High)**		Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	
		Haul road washout from flood event.	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
Flooding	• Transverse drainage. • Haul roads and Freeway.	Restriction to flow paths causing localised flooding.	Likelihood – 4 Consequence – 3 **Risk – 17 (Very High)**	• Design drainage structures to cope with design flood events and Environmental Assessment commitments. • Locate compounds / plant / storage above 1 in 20 years flood level events. • Design and build temporary crossings to be stabilised and minimise scour / erosion during flood events. • Install scour protection as early as possible. • Look at predicting flood events from gauges or rainfall predictions. • Design and construct Project in accordance with CoA .	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	SWMP EWMS
		Changes to flood levels – increased impact to receivers.	Likelihood – 3 Consequence – 4 **Risk – 19 (Very High)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Stormwater inflow to site – clean stormwater getting mixed with dirty site water.	Likelihood – 5 Consequence – 3 **Risk – 18 (Very High)**		Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	
		Flood damage to plant / equipment / satellite compounds.	Likelihood – 3 Consequence – 3 **Risk – 13 (High)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Erosion of haul/ access road	Likelihood – 3		Likelihood – 2	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
		during large flood events.	Consequence – 2 **Risk – 8 (Moderate)**		Consequence – 2 **Risk – 7 (Low)**	
Spoil and Fill	• Cuts • Fill areas • Haulage of spoil and fill • Stockpiling • Spoil areas • Site establishment utility • Service relocations • Earthworks • Drainage works	Demand on local resources – local quarries / suppliers.	Likelihood – 4 Consequence – 1 **Risk – 4 (Low)**	• Design for balanced earthworks. • Offsite spoil movements to be monitored and tracked on the site waste disposal register to ensure spoil movements meet EPA guidelines, including characterisation of the spoil to determine correct disposal locations and volumes. • Spoil to be beneficially reused, on or off site, where applicable and meeting environmental requirements. Includes reuse of excavated material, either as fill, or as earth mounds for noise control, or beautification, shielding or revegetation mounds on site. • All loads accessing public roads to be covered to prevent any loss of material, which may cause driver safety issues. • Only locate stockpiles in accordance with criteria in CEMP/SWMP • Classify and dispose of any contaminated land in accordance with EPA guidelines.	Likelihood – 3 Consequence – 1 **Risk – 3 (Low)**	SWMP EWMS and Work Packs AQMP CEMP Contaminated Land Management Procedure
		ERSED issues from cuts / batters / stockpiles.	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**		Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**	
		Sensitive area damage from stockpiling.	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Contaminated land.	Likelihood – 3 Consequence – 3 **Risk – 13 (High)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
Waste Management	• Generation of waste during construction activities including building materials, excess unsuitable spoil material, vegetation material.	Excessive waste being directed to landfill.	Likelihood – 3 Consequence – 1 **Risk – 3 (Low)**	• Apply waste hierarchy principles – avoid-reduce-reuse-recycle. • Waste materials contained in waste bins or other suitable containers, and collected for recycling, reuse or disposal by the licensed waste contractor. • Separate, contain, manage and dispose contaminated waste to prevent migration and further contamination whilst maintaining compliance with EPA requirements. • Label and store all liquid waste containers in a bunded area prior to removal off-site. • Undertake inspections of the worksite and waste storage areas to ensure litter / debris is regularly cleaned up and contained on site. • Establish recycling system early on in Project. • Establish good segregation areas for concrete and waste concrete is not to be transported off site for land disposal. • Section 143 Notices Under the POEO Act and provision of a letter to landholder highlighting the need for a “s.143 Notice”, the Contractor’s role and the respective roles of the TfNSW and the landholder in ensuring that the waste is appropriately managed. • Consider types of waste, how each waste type will be used as a beneficial use and address in the approvals that no other type of waste will be used.	Likelihood – 2 Consequence – 1 **Risk – 2 (Low)**	Waste and Energy Management Plan (WEMP) EWMS Waste register
		Incorrect disposal of contaminated waste.	Likelihood – 3 Consequence – 4 **Risk – 19 Very High**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Meeting POEO Act requirements for VENM, ENM, Recovered Aggregate, Reclaimed Asphalt pavement and mulch	Likelihood – 3 Consequence – 3 **Risk – 13 (High)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
Traffic and transport	• Haulage of material. • Import of material / plant / equipment. • Travel to / from site. • Loss of street parking	Accidents - Safety of commuters, pedestrians, cyclists, contractors and subcontractors. Delays Noise Vibrations and Dust nuisance to residents on haul routes Unapproved use of local roads	Likelihood – 4 Consequence – 4 **Risk – 20 (Very High)**	• Develop and update Traffic Control Plans for all stages of work. • Identify and assess roads likely to be affected by Project construction and develop methods to minimise traffic increases. • Undertake before and after dilapidation surveys on local roads • Traffic controllers and / or signage for both egress and ingress off the work sites. • All vehicles carrying materials to be adequately covered to prevent any loss of material, which may cause driver safety issues. • Toolbox workforce on approved access routes • Consult with affected communities prior to removing spaces for street parking	Likelihood – 3 Consequence – 3 **Risk – 13 (High)**	Traffic Management Plan (TMP) EWMS AQMP WEMP Project induction Toolbox talks

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
Visual Impact, Landscaping and Rehabilitation	• Cuttings and cut finishes. • Bridge design Revegetation / landscaping. • Removal of visually prominent native vegetation. • Evening / night works.	General public aesthetic impacts	Likelihood – 3 Consequence – 1 **Risk – 3 (Low)**	• Landscape and rehabilitation plan including extensive seeding planting in required areas will be developed and implemented. • Landscape treatments will incorporate the surrounding landscape types and vegetation patterns and address view scapes. • Embankments and cuttings will be stabilised by the use of appropriate landscape treatments. • The use of night-lighting will be minimised where possible during the construction phase and directed away from residential areas. • Site compounds and areas surrounding them will be kept tidy and be regularly cleaned and maintained. • Undertake landscaping and revegetation works in accordance with the approved Urban Design and Landscape Management Plan.	Likelihood – 2 Consequence – 1 **Risk – 2 (Low)**	Urban Design and Landscape Management Plan (UDLMP) FFMP
		Heritage related visual	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**		Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	
Contamination	• Discovery of contaminated soils/ asbestos • Management of known contamination	Contamination of land and /or waterways from spills/ asbestos/ land contamination.	Likelihood – 4 Consequence – 3 **Risk – 17 (Very High)**	• Implement unexpected finds contamination management measures • Undertake Detailed Site Investigations to determine location and extent of contamination	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	Contaminated Land Management Procedure EPA guidelines
General Environmental Management	• Environmental management / supervision • Incident response	Poor environmental culture leading to peer environment outcomes. Non-compliance with CEMP, EPL, MCoA and legislative requirements.	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**	• Ensure all environmental personnel are trained in the CEMP and all associated documents. • Environment team diligence in including requirements from CEMP and procedures into EWMS and training. • Regular review of environmental management documents. • Regular environment team and ERG meetings. • Environmental Manager to be involved in design and construction meetings. • Training in environmental emergency response. • Ensure NCR process is followed. • Early consultation with regards to proposed upcoming works and approvals to be sought. • Implementation of high operating standards & in accordance with accepted industry standards.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	CEMP Procedures (in CEMP and sub-plans) TfNSW Incident Management procedures EWMS Compliance Tracking Program Internal / external audits ERG
		Failure to follow requirements of strategies / procedures.	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Failure to report environmental issues and incidents.	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Inconsistent advice to construction personnel.	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Inadequate response to environmental incident/ emergency.	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
Planning Approvals	• Approvals/ Legislative Compliance	Lost opportunities to implement innovations leading to better environmental outcomes	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**	• Early consultation in preparing approvals and CEMP. • Ensure all environmental personnel are trained in the CEMP and all associated documents. • Environment team diligence in including requirements from CEMP and procedures into EWMS and training. • Regular review of environmental management documents. • Regular review of compliance with environmental management documents, MCoA etc. • Regular environment team and ERG meetings. • Early consultation with regards to proposed upcoming works and approvals to be sought.	Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	CEMP Compliance Tracking Program Internal / external audits ERG
		Poor working relationships with regulators	Likelihood – 3 Consequence – 2 **Risk – 8 (Moderate)**		Likelihood – 2 Consequence – 2 **Risk – 7 (Low)**	
		Delays due to receipt of approvals (e.g. CEMP, Planning Modifications, Environment Assessments for Ancillary Facilities)	Likelihood – 4 Consequence – 2 **Risk – 9 (Moderate)**		Likelihood – 1 Consequence – 2 **Risk – 6 (Low)**	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required

Appendix A3

Environmental and Sustainability Policy

Warringah Freeway Upgrade

November 2021

CPB Contractors Pty Limited Environment Policy

Purpose

This Policy sets out the minimum mandatory requirements for the management of environmental risks and impacts from our construction activities.

Application

This Policy applies to all business entities controlled by the business, including alliances, joint ventures and consortia where the business exerts management control. It applies at all levels of the organisation including Corporate, Business Unit and Project.

Minimum Requirements

- Senior leaders must demonstrate a personal visible commitment to our SH&E Cultural Framework and ensure all workers understand the requirements of the Management System as it applies to the work they are undertaking, so that work is undertaken to minimise our environmental impact.
- Environment Management Plans (EMP) must be developed and implemented for each Project to outline how the project environmental risk will be managed and controlled.
- Environmental objectives, targets and key performance indicators must be established at all levels of the organisation, with performance against these monitored and analysed to provide a baseline for continual improvement.
- The Environment Procedures must be used to eliminate or minimise environmental risk from construction activities.
- Construction Area Plans and Work Packs must be developed and include an assessment of environmental risk and associated controls.
- Site Environment Plans must be developed for Work Packs where environmental risk dictates; these must be used to inform as content of Daily Pre Starts.
- As part of the risk management process, personnel and teams at the Project, Business Unit and Corporate level should seek to identify opportunities for improving efficiency in the use of natural resources, enhancing positive environmental impacts and driving innovation.
- All environmental incidents must be reported in accordance with the incident notification requirements. They must be thoroughly investigated and appropriate corrective action undertaken with the aim of preventing recurrence of the incident.
- Reporting of energy consumption, water use and waste generation, as well as reporting on initiatives and environmental achievements must be completed by projects and business units as requested.
- All levels of the organisation must be prepared to respond to an emergency and in the event of an emergency, plans and capabilities are in place to eliminate or minimise damage to the environment, preserve ongoing operations and our reputation.
- Effective communication, cooperation and consultation channels must be in place to consult with workers who may impact upon the environment.
- All project personnel responsible for environmental risk shall be appropriately trained and competent and understand their legal obligations with regard to environment management.

SUSTAINABILITY POLICY

This Policy sets out requirements for sustainability across CIMIC Group Limited and entities it controls (**the Group**). Sustainability is the integration of environmental, social and governance factors into decision making to maximize short and long term shareholder value, seek competitive advantage, and contribute to safe and healthy employees, communities and ecosystems.

This Policy should be read in conjunction with the *Group Code of Conduct*, the *Procurement*, *Environment*, *Health and Safety*, and *Diversity and Inclusion* policies, and the *NGER Annual Compliance Report* template.

This Policy applies to all employees of the Group, and third parties engaged by the Group, including alliances and joint ventures in all jurisdictions.

Any employee of the Group found to have breached this Policy may be subject to disciplinary action.

The **objectives** of this Sustainability Policy are to:

- Focus the Group's efforts on managing sustainability risks and opportunities, enhancing business performance and supporting the long-term interests of the Group;
- Promote a culture of accountability for sustainability outcomes and improve the sustainability knowledge and skills of employees;
- Integrate consideration of environmentally and socially responsible sourcing and governance factors into the Group's operating and procurement processes, and seek opportunities to collaborate with the supply chain to drive innovation and create mutual value;
- Drive the efficient use of resources and continual innovation in the delivery of projects;
- Support the adoption and delivery of appropriate industry rating schemes and standards that drive sustainability outcomes for clients;
- Encourage initiatives and successfully deliver projects that meet client expectations, provide value for money, and leave net positive legacies for the CIMIC Group, our clients, users, the environment and communities; and
- Enhance the Group's resilience to climate change.

1. Governance

The Group will abide by the principles of the UN Global Compact and acknowledges its role in contributing to the UN Sustainable Development Goals.

The Ethics Compliance and Sustainability Committee (**ECSC**) assists the Board in fulfilling its governance and oversight responsibilities in the area of sustainability.

CIMIC will coordinate and support the Operating Companies to develop tailored sustainability strategies and implement initiatives that help to achieve the Group's commitments and objectives.

CIMIC will facilitate sustainability knowledge sharing across the Group so as to encourage innovation, mitigate risk, drive competitive advantage and create shareholder value.

Operating Companies are responsible for meeting their contractual and compliance obligations regarding the operational aspects of sustainability such as project delivery, health, safety, people development, environment, community relations, procurement, risk, governance and ethical behaviour, within the Group's governance framework.

2. Reporting

CIMIC will coordinate the annual publication of a Global Reporting Initiative (**GRI**) based Group Sustainability Report. The ECSC approves the Sustainability Report and any sustainability disclosures in the Annual Report.

CIMIC will participate in recognised sustainability surveys including the Dow Jones Sustainability Index and CDP so as to promote the Group's reputation as an industry leader in the sustainable delivery of projects.

The Operating Companies are responsible for:

- Internal reporting of operational health, safety, environment and community related initiatives and performance information to CIMIC management and the ECSC;
- The provision of sustainability data and information to CIMIC to inform corporate sustainability reporting requirements, and to support the submission of sustainability surveys as required by CIMIC; and
- Direct external reporting to meet legislative obligations (such as the National Greenhouse and Energy Reporting Act, including the completion of an annual compliance report) where appropriate.

CIMIC will regularly review Operating Company strategies, reporting and performance to ensure they demonstrate compliance with all legislative requirements and support continuous improvement in sustainability and business performance.

Policy Information

Owner:	Executive General Manager, Sustainability, CIMIC
Approved by:	Chief Executive Officer, CIMIC
Effective date:	June 2017

Note: CIMIC Group policies may be amended from time to time.

Appendix A4

Document register

Warringah Freeway Upgrade

November 2021

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Table 1: Environmental document register

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Ancillary Site Establishment Management Plan	To detail the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facilities MCoA A17	WHTBLWFU-CPBD-NWW-EV-PLN-000001	Review at least bi-annually Last review 5 November 2021	DPIE ER One month before the installation of any ancillary facilities	
Construction Environmental Management Plan	Policy Legal and other requirements Risk assessment Objectives and targets Roles and responsibilities Communication and training Monitoring, auditing and reporting Corrective action Management review Management actions MCoA C3	WHTBLWFU-CPBD-NWW-EV-PLN-000002	Review at least bi-annually Last review 5 November 2021	DPIE ER AA Submit one month before the commencement of construction	EPA North Sydney Council

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Traffic, Transport and Access Management Sub-plan	Manage traffic and access impacts during construction MCoA C5	WHTBLWFU-CPBD-NWW-TF-PLN-000003	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	TfNSW North Sydney Council
Flora and Fauna Management Sub-plan	Manage biodiversity impacts during construction MCoA C5 MCoA C6	WHTBLWFU-CPBD-NWW-EO-PLN-000004	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	DPI Fisheries DPIE Water EESG North Sydney Council
Noise and Vibration Management Sub-plan	Manage noise and vibration impacts during construction MCoA C5	WHTBLWFU-CPBD-NWW-NV-PLN-000005	Review at least bi-annually Last review 5 November 2021	DPIE ER AA Submit one month before the commencement of construction	NSW Health North Sydney Council

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Noise and Vibration Monitoring Program	Identifies noise and vibration monitoring requirements and procedures	WHTBLWFU-CPBD-NWW-NV-PRG-000001	Review at least bi-annually Last review 5 November 2021	DPIE ER AA Submit one month before the commencement of construction	EPA
Noise and Vibration Construction Monitoring Report	C21				
Soil and Water Quality Management Sub-plan	Manage soil and water impacts during construction MCoA C5	WHTBLWFU-CPBD-NWW-WA-PLN-000006	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	DPIE Water EESG EPA Sydney Water North Sydney Council
Surface Water Monitoring Program	Identifies surface water monitoring requirements and procedures MCoA C11(c)	WHTBLWFU-CPBD-NWW-WA-PRG-000003	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	DPIE Water EPA

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Surface Water Quality Construction Monitoring Report	Provide the results of the Surface Water quality Monitoring Program MCoA C21	WHTBLWFU-CPBD-NWW-WA-PRG-000003	Provide annually	To DPIE for information	To DPIE Water and EPA for information
Groundwater Monitoring Program	Identifies groundwater monitoring requirements and procedures MCoA C11(d)	WHTBLWFU-CPBD-NWW-WA-PLN-000006	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	DPIE Water EPA
Groundwater Quality Construction Monitoring Report	Provide the results of the Groundwater Quality Monitoring Program MCoA C21	[Detail to be provided]	Provide annually	To DPIE for information	To DPIE Water and EPA for information
Heritage Management Sub-plan	Manage heritage impacts during construction MCoA C5 MCoA C7	WHTBLWFU-CPBD-NWW-HE-PLN-000007	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	Heritage NSW North Sydney Council

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Air Quality and Odour Management Sub-plan	Manage air quality and odour impacts during construction MCoA C9	WHTBLWFU-CPBD-NWW-AH-PLN-000008	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	NSW Health North Sydney Council
Air Quality (including odour) Monitoring Program	Identifies air quality monitoring requirements and procedures MCoA C11(b)	WHTBLWFU-CPBD-NWW-AH-PRG-000002	Review at least bi-annually Last review 5 November 2021	DPIE ER Submit one month before the commencement of construction	NSW Health North Sydney Council
Air Quality Construction Monitoring Report	Provide the results of the Air Quality Monitoring Program MCoA C21	[Detail to be provided]	Provide annually	To DPIE for information	To NSW Health and North Sydney Council for information
Contaminated Land Management Sub-plan	To ensure all MCoA, REMMs, licence/permit requirements and contract requirements relevant to contaminated land are described, scheduled and assigned responsibility	WHTBLWFU-CPBD-NWW-CT-PLN-000009	Review at least bi-annually	To DPIE for information	

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Waste and Resource Management Sub-plan	REMM SG10	WHTBLWFU-CPBD-NWW-WM-PLN-000010	Last review 5 November 2021	To DPIE for information	
Compliance tracking program	Monitor project compliance during construction G36 – 3.2.2	[Detail to be provided]	Review at least bi-annually Last review 5 November 2021	TfNSW	
Community Communication Strategy	To provide mechanisms to facilitate communication about construction and operation of the Project with community, stakeholders and regulators MCoA B1- B5	[Detail to be provided]	Review at least annually Last review 1 October 2021	Submit one month before the commencement of construction	
Archaeological Research Design and Excavation Methodology	Provides guidance on any archaeological program MCoA E58	[Detail to be provided]	To be prepared	DPIE for information Submit prior to the commencement of construction with the potential to impact on areas of archaeological significance	Heritage NSW

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Final Excavation Report	To document archaeological excavation programs, archival recordings and research	[Detail to be provided]	To be prepared	DPIE for information Submit 12 months after the completion of archaeological excavation programs	Heritage NSW North Sydney Council
Unexpected Heritage Finds and Humans Remains Procedure	Management of heritage finds MCoA E63	WHTBLWFU-CPBD-NWW-HE-PLN-000007		DPIE for information Submit one month before commencement of construction	
Out-of-Hours Work Protocol	MCoA 69	WHTBLWFU-CPBD-NWW-NV-PLN-000005	Review at least annually Last review 1 October 2021	ER AA DPIE Submit one month before commencement of construction	EPA
Noise Insulation Program	Delivery of at property noise treatments to mitigate the impact of operational and construction noise at eligible properties MCoA E84	TfNSW 20.326 ISBN: 978-1-922463-25-8	Approved by DPIE 21 January 2021	Approved by DPIE 21 January 2021	Completed

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Operational Noise Review	Confirmation of noise control measures for operation MCoA E89	E89	To be prepared	DPIE Submitted within 12 months of commencement of construction	EPA North Sydney Council
Detailed Site Investigation Report(s)	Investigate potential for contamination to be present on site MCoA E116	[Detail to be provided]	To be prepared	DPIE Site Auditor Following the completion of Detailed Site Investigations	
Remediation Action Plan	Details steps to remediate contamination at the site (if identified) MCoA E118	[Detail to be provided]	TBC if required (pending results of Detailed Investigation Report)	Site Auditor Prior to undertaking remediation	
Site Audit Statement / Report	Outlines outcomes of remedial action at the site MCoA E121	[Detail to be provided]	TBC if required (pending results of Detailed Investigation Report)	Site Auditor One month before the commencement of operation	EPA
Unexpected Finds Procedure for Contamination	Procedure to be followed in the event of discovering unknown contamination MCoA E124	WHTBLWFU-CPBD-NWW-WA-PLN-000006		DPIE for information Before the commencement of work	

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Sustainability Strategy	Strategy prepared to achieve a minimum "Excellent" 'Design' and 'As built' rating under the ISCA infrastructure rating tool MCoA 125	WHTBLWFU-CPBD-NWW-SB-PLN-000011	Review at least annually Last review 22 October 2021	DPIE One month before the commencement of construction	
Water Reuse Strategy	Detail options for the reuse of collected stormwater and groundwater during construction MCoA 127	[Detail to be provided]	Review at least annually To be prepared	DPIE Prior to construction and operation commencing	Nil (publicly available on website)
Construction Parking and Access Strategy	To identify and mitigate impacts resulting from on- and off-street parking changes during construction MCoA E140	[Detail to be provided]	Review and report 3 monthly Last review 1 October 2021	DPIE One month before the commencement of any works that impact existing parking	TfNSW North Sydney Council

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Correspondence
Place, Design and Landscape Plan	Prepared to inform the final design of the Project and to give effect to the outcomes informed by design review and the place making, design and landscape outcomes contained in the EIS MCoA E177	[Detail to be provided]	Review at least annually To be prepared	DPIE Construction of permanent built work or landscaping that are the subject of the PDLP must not be commenced (in the area to which the PDLP applies) until the PDLP has been approved by the Planning Secretary	Design Review Panel (MCoA E166)
Landscape Strategy Report	Details the type, size, number and location of replacement trees MCoA E187	[Detail to be provided]	Review at least annually To be prepared	DPIE No later than nine months following the commencement of operation	

Legend

- Roads
  - Tunnel
  - Roads
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- Construction support site
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- Potential Non-Aboriginal Heritage Items
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- EIS Disturbance Footprint

Warring ah - CPB - DRG - DWG - LOT No. - DRG No. - REV

Ref. No.	Completion rec.	Work package	Description	Designed	Verified	Approved
Freeway Upgrade Ref No.	Comp. rec.	Package	not provided	5/11/2021	5/11/2021	5/11/2021

Scale 1: 3,500

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Coordinate System: GDA 1994 MGA Zone 56 - Height Datum: AHD

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Warringah Freeway Upgrade

Sensitive Area Plan

FILE No:	n/a
SHEET No:	1
STATUS:	verified
DRG No:	DRG No.
EDMS No:	n/a

Legend

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Warringah Freeway Upgrade
Sensitive Area Plan

FILE No:	n/a
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STATUS:	verified
DRG No:	DRG No.
EDMS No:	n/a

Legend

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Warringah Freeway Upgrade
Sensitive Area Plan

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DRG No:	DRG No.
EDMS No:	n/a

Legend

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Warringah Freeway Upgrade
Sensitive Area Plan

FILE No:	n/a
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STATUS:	verified
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Legend

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Warringah Freeway Upgrade
Sensitive Area Plan

FILE No:	n/a
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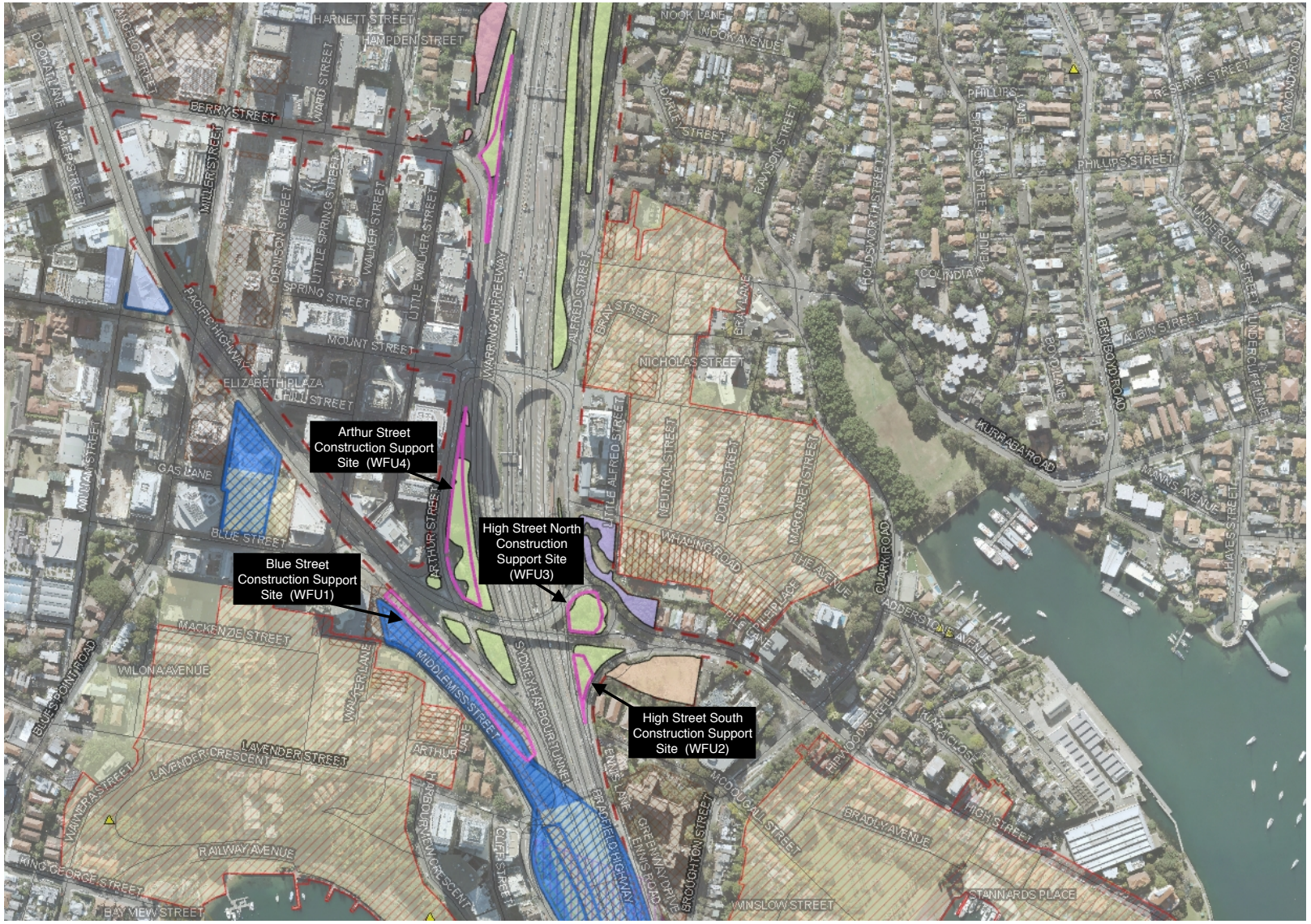

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Warringah - CPB - DRG - DWG - LOT No. - DRG No. - REV

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Ref No.	Comp. rec.	Package	not provided	5/11/2021	5/11/2021	5/11/2021

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Warringah Freeway Upgrade
Sensitive Area Plan

FILE No:	n/a
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Legend

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Warringah Freeway Upgrade
Sensitive Area Plan

FILE No:	n/a
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STATUS:	verified
DRG No:	DRG No.
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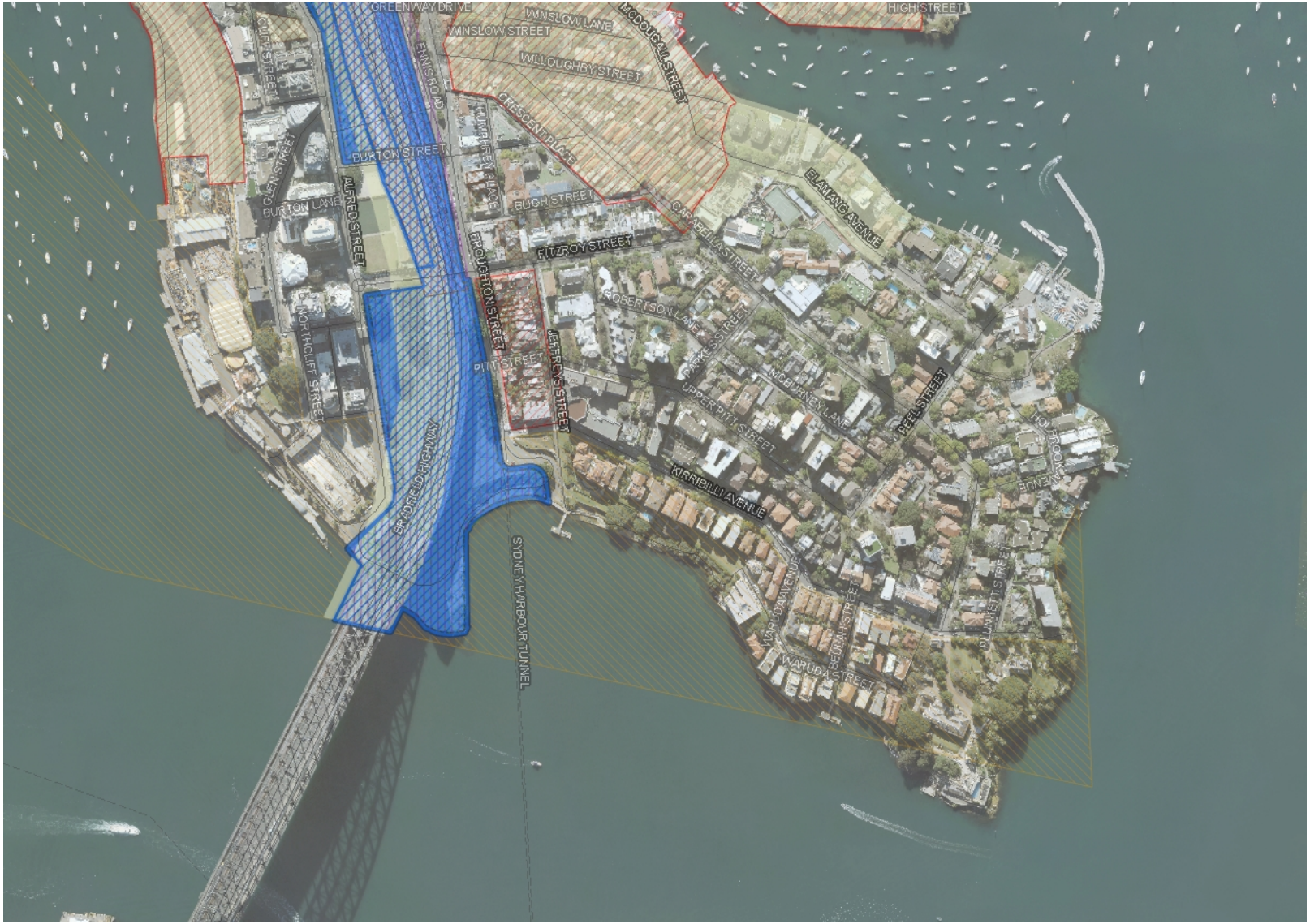

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Warringah Freeway Upgrade
Sensitive Area Plan

FILE No:	n/a
SHEET No:	8
STATUS:	verified
DRG No:	DRG No.
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Appendix A6

Environmental Incident Classification and Reporting Procedure

Warringah Freeway Upgrade

November 2021

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Environmental Incident Procedure

Procedure Number: EMF-EM-PR-0001 Environmental Incident Procedure
Effective Date: 19/07/2021
Review Date: 19/07/2023

1 Who is this document for?

All Ongoing / Temporary/ Seconded/Casual staff of TfNSW	**YES**
Transport Service Senior Managers and Executives	**YES**
Labour Hire, Consultants and Professional Service Contractors	**YES**
Delivery Partners / Contractors	**YES**

2 Purpose and Scope

2.1 Purpose

The purpose of this document (Procedure) is to set out the procedure to be followed if, during an activity being carried out by or on behalf of TfNSW, there is:

- a report-only event
- a non-compliance
- regulatory action received
- an environmental incident.

The Procedure sets out the steps for the:

- identification,
- classification and
- reporting

of report-only events, non-compliances, regulatory action and environmental incidents.

2.2 Scope

The Procedure sets out internal only reporting processes for environmental events and the additional process for 'notifiable events', which are environmental incidents that must be reported externally (see section 3.3).

The Procedure is applicable to all TfNSW activities where report-only events, non-compliances, regulatory action and environmental incidents may occur. The requirements of the Procedure must be communicated to all TfNSW employees and contractors (e.g. during inductions) who undertake those activities.

This includes (but is not limited to):

- Activities undertaken by contractors on behalf of TfNSW
- Temporary activities, such as preliminary investigations (e.g. geotechnical and environmental surveys)
- Construction and maintenance of TfNSW assets
- Activities at TfNSW properties and facilities (including TAHE)
- Maritime vessels operated by TfNSW.

The procedure does NOT cover report-only events, non-compliances, regulatory action and environmental incidents relating to:

- Operating agencies embedded within TfNSW, such as Sydney Metro. At the time of release of the Procedure, there was a Corporate Functions Review underway, which sought to incorporate Sydney Trains and NSW TrainLink into TfNSW. The single operating model may involve the future amalgamation of environmental incident procedures. Regardless, it is noted that all agencies provide their incident data to Environment and Sustainability (E&S) Branch for the purposes of cluster reporting;
- Operational road and traffic activities of the general public (e.g. vehicle accidents, fires caused by discarded cigarette butts);
- Boating accidents (except those involving TfNSW Maritime vessels);
- Dumping of materials by members of the public on TfNSW managed land (except where hazardous materials are unexpectedly found during construction or maintenance activities);
- Marine oil and chemical spills covered by the National Plan for Maritime Environmental Emergencies (Australian Maritime Safety Authority, 2014).

The Procedure does not provide guidance on management responses or corrective actions required following environmental incidents and non-compliances, which are site specific and should be addressed by those with responsibility for the activity that caused the incident or non-compliance.

However, TfNSW E&S Branch is available to provide advice on appropriate responses and corrective actions in relation to individual incidents or non-compliances.

3 Requirements

3.1 Environmental incidents, report-only events, non-compliances and regulatory action

This Procedure is applicable to a range of environmental incidents, report-only events, non-compliances and regulatory action that may occur during activities undertaken by, or on behalf of, TfNSW. Each of these events and their reporting requirements are described in the following sections.

Personnel using this Procedure should consider the definitions of each of these events when reporting. Definitions are provided in Section 6.

Note that a set of circumstances may be both a non-compliance and an environmental incident. An environmental incident could also result in regulatory action.

3.1.1 Environmental incidents

Environmental incidents are defined in section 6. Reporting requirements are detailed in section 3.2.

The person responsible for operational management of the site/activity that caused the incident should assume responsibility for reporting in accordance with this Procedure, together with coordinating the response to the incident, including directing actions as necessary.

The TfNSW Environment Manager will classify reported incidents for the purposes of internal environmental performance reporting and analysis of environmental incident trends (as outlined in Figure 3.2.1).

Environmental incident classifications are described in Table 3.1.1, below. The classification system is aligned to the consequence levels (C6 – C1) from the TfNSW Enterprise Risk Management Standard and considers the key risk areas of:

- Environment

- Reputation and Integrity
- Regulations and Compliance.

The appropriate consequence level for each of the three key risk areas will be recorded for each incident, but only the highest recorded consequence level will be used as the incident classification for reporting purposes.

Note that not all criteria described for each consequence level in Table 3.1.1 need to be met in order to assign an incident classification – the most appropriate criteria should be considered when determining the consequence level for each key risk area for each incident.

Table 3.1.1: Environmental Incident Classification

	Incident Category					
Key risk area	**C6 Insignificant**	**C5 Minor**	**C4 Moderate**	**C3 Major**	**C2 Severe**	**C1 Catastrophic**
Environment	No appreciable changes to environment.	Change from existing conditions that can be rectified immediately (< 1 day) with available resources.	Short-term (< 1 year) and/or well-contained environmental impact. Minor remedial actions probably required.	Short to medium term (between 1 and <5 years) environmental impact. Considerable remedial actions probably required.	Medium-term (>5 years) environmental impact. Extensive remedial actions probably required.	Long-term (>10 years) large-scale environmental impact. Extensive and ongoing remedial actions probably required.
Reputation and integrity	Single negative article in local media. Limited social media commentary. Goodwill, confidence and trust retained. Confined to the Branch. Local council may want to discuss.	Series of negative articles in local media (District / electorate based adverse media). Some social media commentary. Confidence remains - minor loss of goodwill. Confined to Branch but requiring notification to Division. Council requires written explanation. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Extended local media coverage with some broader Regional media coverage. Extended negative social media coverage. Confidence and trust of stakeholders dented (recoverable at modest cost within existing budget and resources). Division formal response needed to State Government/Regulator.	State media coverage, short term negative national media coverage. Widespread social media coverage Confidence/trust impaired. Project/activity credibility under question. TfNSW and/or Ministers Department requires update.	Sustained negative State media coverage. Regular 'talk-back' programs questioning credibility and capability. Confidence and trust are severely damaged. Widespread negative social media coverage. Regular updates demanded by Minister. Stakeholders withdraw their support recoverable at considerable cost, time and staff effort.	Sustained, high profile media attention at National level. Material change in the public perception of the Agency. Extensive negative social media coverage Confidence and trust non-existing. Government forced to reverse decision. Stakeholders are actively campaigning against the organisation.

Table 3.1.1: Environmental Incident Classification

	Incident Category					
Key risk area	**C6 Insignificant**	**C5 Minor**	**C4 Moderate**	**C3 Major**	**C2 Severe**	**C1 Catastrophic**
Regulations and compliance	Low-level/Technical non-compliance with legal and/or regulatory requirement or duty by individuals or TfNSW- not reportable. Minor non-compliance to a low impact contract clause – little or no interest by either party to pursue or rectify.	Non-compliance with whole or significant aspects of Government policy not reportable but requiring internal activity to put in place. Formal investigation and/or formal notification to regulator. Minor breach of contract by either party rectified through local management discussion.	Non-compliance with key Government policy - reportable and/or explanation required – need to put in place as soon as possible. Non-compliance – key obligation. Formal notification to regulator. Agency on notice. Breach of contract by either party rectified at Branch level management discussion. Small fine and no disruption to services.	Technical non-compliance with a minor Government Policy - not reportable. Low level non-compliance. Technical non-conformance. Minor non-compliance to a low impact contract clause – little or no interest by either party to pursue or rectify. Substantial fine and no disruption to services.	Non-compliance with high profile, outward facing Government policy or Ministerial decree - immediately reportable to Government body (e.g. Treasury) and action to put in place required immediately (high priority). Continuous breach resulting in prohibition notices. Breach of significant, key aspects of contract by either party leading to lodgement (threat) to sue and recompense at severe financial levels Cessation of contract may occur. Large fines as a result of non-compliance. Licence or accreditation restricted or conditional affecting ability to operate.	Non-compliance with high profile Government policy or Ministerial decree - immediately reportable to Ministerial level requiring actions to put in place immediately (high priority) and progress to be reported to the Minister on an agreed and appropriate schedule. Litigation and potentially imprisonment. Loss of Operating licenses. Continued breach cannot be tolerated. Major contract breach by either party leading to significant litigation and financial costs . Total breakdown and cessation of contract. Criminal prosecution as a result of non-compliance.

3.1.2 Significant environmental incidents

Significant Incidents are environmental incidents that are serious in nature and have significant consequences warranting escalation to TfNSW senior management.

An environmental incident is to be defined and treated by the TfNSW Environment Manager as a potential Significant Incident if it meets one or both of the following:

- the severity of the incident is likely to be classified as C3, C2, or C1 in accordance with Section 3.1.1
- the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to be the subject of a penalty notice or prosecution

Potential Significant Incidents are escalated by TfNSW to the Executive Director Environment and Sustainability, who will determine whether the incident is deemed to be a Significant Incident and require further escalation to the Secretary and other senior management, to ensure they are aware of the incident and can implement or authorise any required responses.

The Significant Incident escalation process is detailed in Appendix A and Figure 3.2.1.

3.1.3 Report-only events

Report-only events are defined in section 6. Reporting requirements are detailed in section 3.2. Examples of report-only events include:

- Environmental incidents caused by weather events that are beyond the design capacity of environmental controls and/or mitigation measures in accordance with project specific requirements;
- Environmental incidents caused by persons or entities not associated with an activity being undertaken by TfNSW;
- Pre-existing conditions not associated with an activity being undertaken by TfNSW;
- Unexpected finds that are managed in accordance with relevant procedures / guidelines.

Despite these events being outside the scope of control of an activity, it is likely that a management response will be required to address them. As such, it is important that they are still reported (see section 3.2) to understand any resulting environmental impacts, inform trend analysis and any future activities in that location and allow any required management responses to be developed.

Report-only events can be considered to be unavoidable and so not reflecting the performance of a site, and will not be included in performance reporting. However, the response to a report-only event should be taken into account when considering site performance, as a deficient or inappropriate management response could result in a non-compliance and/or an environmental incident.

Where a report-only event relates to an unexpected find and the same issue can then reasonably expected to be found at the same location in future, additional finds from that location need not be reported.

3.1.4 Non-compliances

Non-compliance is defined in section 6. Reporting requirements are detailed in section 3.2.

A non-compliance could also be an environmental incident.

3.1.5 Regulatory action

Regulatory action is defined in section 6. Reporting requirements are detailed in section 3.2.

Regulatory action includes, but is not limited to:

- Prosecutions
- Penalty notices
- Clean up notices
- Prevention notices
- Official cautions
- Formal warnings
- EPA show cause notifications.

Copies of any regulatory action issued by an environmental regulator must be provided as part of the reporting that is undertaken in accordance with section 3.2.

3.2 Reporting process

3.2.1 Standard reporting process

The standard reporting process for all environmental incidents, significant environmental incidents, report-only events, non-compliances and regulatory action is detailed in Figure 3.2.1.

Where the reporting process requires submission of a written report to TfNSW, the person making the report must use the following formats and meet the information requirements detailed within each:

- Road based and maritime projects: Environmental Event Reporting Form (624/400)
- Rail based projects: INX reporting system

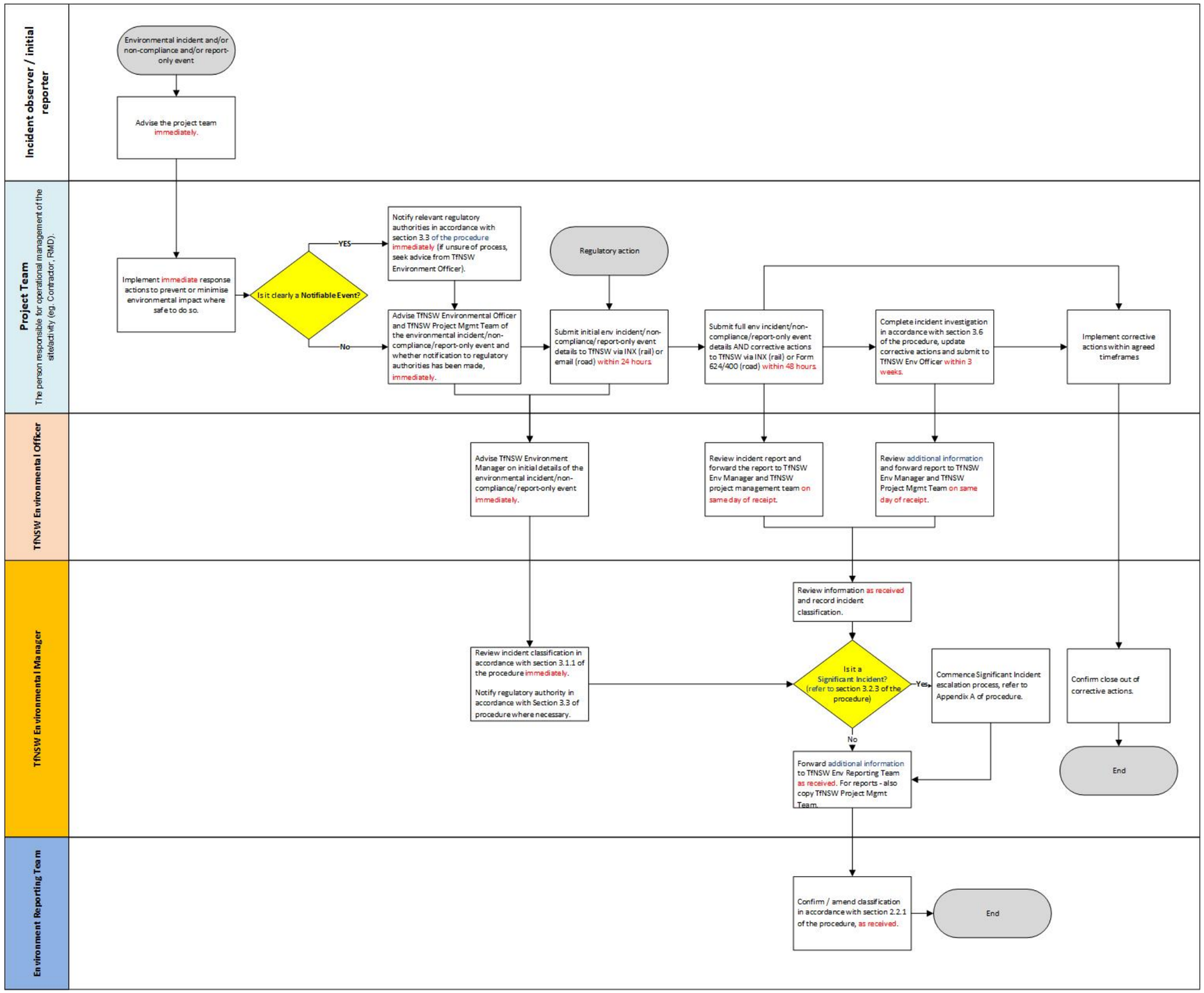
Information included in reporting must be factual and accurate.

For the initial 24-hour email notification for road projects, the following information must be provided:

- Date of event
- Project / site name
- Type of event that has occurred (ie- environmental incident, incident and non-compliance, non-compliance, report-only or regulatory action)
- Description of the event
- Quantity / volume
- Immediate response actions that were implemented
- Notification/s undertaken.

In the case that regulatory action is received relating to a previously reported environmental incident, non-compliance or report-only event, reference to the relevant event must be made in the report for the regulatory action.

Figure 3.2.1: Reporting process



3.2.2 Other internal notifications

When reporting in accordance with Figure 3.2.1, TfNSW project management teams should also undertake the following internal notifications as appropriate:

- Corporate Communications / Media for any environmental incidents, report-only events, non-compliances and regulatory action that have potential for negative community or media attention;
- Legal Branch, for any environmental incidents, report-only events, non-compliances and regulatory action that could result in a (further, in the case of the latter) regulatory response against TfNSW. In these instances, limit written commentary on the incident by all staff, including emails;
- Safety Branch for any incidents that involve actual or potential risks to the health and safety of workers or the general public.

3.3 Notifiable events

A notifiable event is any environmental incident, report-only event or non-compliance (see section 3.1, above) that triggers a specific statutory requirement to notify an authority.

The key notification requirements are described below. Note each statutory requirement to notify may specify a particular person who is responsible to make the notification as well as the timing of when this must occur. The details of any notification conducted must be included in the reporting that is undertaken in accordance with section 3.2.

3.3.1 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 3.3.2) 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.

3.3.2 Notification of Material Harm pollution incidents

The relevant authorities that must be notified for a Material Harm pollution incident are listed in tables 3.3.2a and 3.3.2b 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 3.3.2a: 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 NSW Health Website
4	SafeWork NSW	131 050
5	The Appropriate Regulatory Authority*, being either: • Local council • Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council).	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website Western Lands Commissioner – phone 6883 5400

Table 3.3.2b: 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: • Local council • Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council).	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website 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 NSW Health Website
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.*

When notifying authorities, do not speculate on the origin, causes or outcomes of a pollution incident. Rather, state very simply and concisely the following only:

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

b) The location of the place where pollution is occurring or is likely to occur, the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
c) The circumstances in which the incident occurred (including the cause of the incident, if known)
d) The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

If further information becomes known after the initial notification, that information must immediately be notified to all authorities in accordance with Section 150 of the POEO Act. The verbal notification must be followed by written notification to each relevant authority within seven days of the date on which the incident occurred, setting out the above information.

3.3.3 Summary of other regulatory agency notification requirements

A summary of the other key statutory notification requirements that could arise from TfNSW environmental incidents, report-only events and non-compliances is provided in Table 3.3.3.

Table 3.3.3: Regulatory agency notification requirements				
Event type	**Legislation**	**Part / section**	**Agency**	**Notification requirement**
Discover Aboriginal object	*National Parks and Wildlife Act 1974*	Section 89A	Heritage NSW	Notify the Secretary of the Department of Planning, Industry and Environment in writing using the form approved by the Secretary (if any) within a reasonable time after becoming aware
Discover Aboriginal remains	*Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984*	Section 20	Commonwealth Department of Agriculture, Water and the Environment	Notify the Commonwealth Minister in writing as soon as practicable after becoming aware, giving particulars of the remains and their location
Discover non-Aboriginal relic	*Heritage Act 1977*	Section 146	Heritage NSW	Notify the Heritage Council in writing within a reasonable time after becoming aware
Fires	*Rural Fires Act 1997*	Section 64	NSW Rural Fire Services	Notify an appropriate fire officer of the inability to extinguish any fire burning during a bush fire danger period applicable to the land.
Land contamination	*Contaminated Land Management Act, 1997*	Section 60(1)	EPA	Notify EPA in writing as soon as practicable after becoming aware of the contamination, where required as prescribed in the EPA 'Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997'
Non-compliance	Various	N/A	Various	Requirements to notify the relevant regulatory authority when a non-compliance has occurred (eg- with a Condition of Approval issued under Division 5.2 of the EP&A Act)
Pollution incident (material harm)	*Protection of the Environment Operations Act, 1997*	Part 5.7	EPA	See section 3.3.2
Pollution incident in water supply catchment area	Various	N/A	N/A	Notify the relevant water supply authority if an environmental incident has the potential for unapproved impacts on a drinking water supply

3.4 Requests for written reports from regulatory authorities

If TfNSW receives a request from an environment regulatory authority for a written report regarding an environmental incident, report-only event or non-compliance, the relevant Environment Manager must be immediately contacted for advice. No further correspondence (including email) about the event should be distributed either internally or externally until advice is received. E&S will then coordinate with Legal Branch to:

- assist in the investigation of the environmental incident, report-only event or non-compliance
- provide legal advice to the project
- co-ordinate the preparation of the written response to the regulatory authority.

3.5 Corrective actions

A key aspect of the TfNSW Environment and Sustainability Policy that is addressed through this procedure is being accountable for addressing and minimising the environmental impacts of TfNSW activities. This can be achieved by developing appropriate corrective actions and implementing them within a timely manner following an environmental incident, with the aim of avoiding a repeat of that incident.

There are a variety of scenarios in which an environmental event may occur on a TfNSW project. It is important that corrective actions are:

- specific to the incident that has occurred
- meaningfully address the root cause(s) of the incident
- designed to prevent incident reoccurrence.

Corrective actions could include (but are not limited to) the following:

- physical works to install, augment or rectify controls or a site issue
- testing and/or monitoring
- review and improvement of construction methods or work practices
- review and update of management plans, procedures or other tools
- communication, training and awareness initiatives for workers.

In most cases it will not be sufficient to simply notify workers of correct systems / procedures (e.g. via toolbox talk). A review should be undertaken by the project team following an incident or non-compliance to determine why the systems / procedures failed (or alternatively a formal investigation, when required by section 3.6), and necessary changes made to ensure they do not fail in future. Site staff should then be made aware of the changes and trained as necessary.

Immediate/short-term corrective actions including timeframes for completion must be clearly described in incident/non-compliance reporting. Updates about longer-term corrective actions including timeframes for completion can be provided to the TfNSW Environment Officer and TfNSW Project Management Team post submission of the incident/non-compliance report.

3.6 Investigations

Serious environmental incidents and non-compliances must be investigated to identify the causes, with the purpose of preventing a recurrence. A root cause analysis investigation must be completed by the project team for all environmental incidents with a classification of C1, C2 or C3, or any other environmental incidents or non-compliances as determined by TfNSW.

The scope of the investigation will be determined by the TfNSW Environment Officer or Environment Manager. The project team must provide TfNSW with a final investigation report

within three weeks of the environmental incident or non-compliance being identified. The report must include the minimum information described in Table 3.6 (below).

Table 3.6: Investigations

Element	Description
Sequence of events	The sequence of events that led to the incident or non-compliance
Findings	Given the sequence of events, what are the key findings of the investigation (i.e. what are the main causes of the incident or non-compliance).
Management methods	A record of the management methods to be changed and/or implemented to avoid the incident or non-compliance reoccurring.
Key learnings	Describe the key learnings from the investigation into the incident or non-compliance. Detail which learnings may be relevant to other transport projects.

4 Accountabilities

Table 4 details the key accountabilities for implementing this Procedure.

Table 4: Key accountabilities

Requirement	Detail
Environment Director	Oversee compliance with the procedure and make the final determination on the classification of all environmental incidents, report-only events and non-compliances
Environment reporting team	Recording of all environmental incidents, report-only events, non-compliances and regulatory action, confirm / amend the classification of environmental incidents, report-only events and non-compliances in accordance with section 3.1 and monitor compliance with the Procedure
Executive Director Environment and Sustainability	Make determinations on whether an environmental incident will be considered a Significant Incident (see section 3.1.2). Assume the role of Information Distributor when a Significant Incident has occurred (see Appendix A).
Observer of environmental incident, report-only event, non-compliance or regulatory action	Immediately report in accordance with Figure 3.2.1
Person/s responsible for environmental incident, report-only event, non-compliance or regulatory action	Report and respond in accordance with Figure 3.2.1
Project Managers	Provide appropriate resources to respond to an environmental incident, report-only event, non-compliance or regulatory action in accordance with this Procedure

Table 4: Key accountabilities	
Requirement	**Detail**
TfNSW Environment Manager	Report environmental incidents, report-only events, non-compliances or regulatory action in accordance with Figure 3.2.1, assign initial classification in accordance with section 3.1.1, monitor corrective actions, and actively promote compliance with this procedure at a program level. Assume the role of Information Controller when a Significant Incident has occurred (see Appendix A).
TfNSW Environment Officer	Report environmental incidents, report-only events, non-compliances or regulatory action in accordance with Figure 3.2.1, monitor corrective actions and actively promote compliance with this procedure at a project level

5 Related policy, systems and documents

The following documents and systems are available on agency intranets and the internet:

- Environmental Event Report Form (for use by road and maritime sites and projects)
- INX system (for use by rail and light rail sites and projects)
- Environment and Sustainability Policy
- Unexpected finds procedures – refer to relevant guideline/procedure

6 Definitions and acronyms

All terminology in this Procedure is taken to mean the generally accepted or dictionary definition with the exception of the following terms which have a specifically defined meaning:

- **Significant incident** – an environmental incident that is likely to receive a classification of C3, C2 or C1, OR the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to receive a penalty notice or be subject to prosecution, and therefore requires escalation to the Secretary and other TfNSW senior management
- **DPIE** – Department of Planning, Industry and Environment
- **Environment Director –** consists of Associate Director Environmental Management; Director Environment Motorways; Director Environment Regions; Director Environment Sydney
- **Environment Manager** – consists of Environment Manager or Senior Manager Environment from Environment and Sustainability Branch
- **Environment Officer** – consists of Environment Officer and Environment and Planning Manager from Environment and Sustainability Branch
- **Environment Reporting team** – consists of those in Environment and Sustainability Branch responsible for administering and maintaining the EnvOps mailbox and INX reporting system (for environment entries)
- **Environmental event** – a report-only event, non-compliance, regulatory action or environmental incident
- **Environmental incident** - An environmental incident is an event or set of circumstances, as a consequence of which pollution (air, water, noise, or 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. An unexpected find that is not managed in accordance with relevant procedures / guidelines is also considered an environmental incident

- **EPA** - NSW Environment Protection Authority
- **EPL** – Environment Protection Licence (issued by EPA)
- **E&S** – (Safety, Environment and Regulation) Environment and Sustainability Branch
- **Investigation** – The process by which the cause(s) of an environmental incident is examined and identified.
- **INX reporting system** – the online system used to record and track environmental incidents, report-only events, non-compliances and regulatory action relating to rail projects and premises.
- **Non-compliance** - a failure to comply with any condition of approval, environmental assessment safeguard / mitigation measure, licence condition, permit or any other statutory approval relevant to the activity and/or area where the activity occurs;
- **Notifiable event** - Any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.
- **POEO Act** - Protection of the Environment Operations Act 1997
- **Pollution** – Pollution (including air pollution, water pollution, noise pollution and land pollution) as defined in the dictionary to the POEO Act.
- **Pollution incident** – Has the same meaning as defined in the dictionary to the POEO Act.
- **Regulatory action** - any formal regulatory response from an environmental regulator including but not limited to penalty notices, clean-up notices, prevention notices, official cautions, show cause notices and formal warnings.
- **Report-only event** - An environmental incident or unexpected find resulting from circumstances outside the scope of controls and of an activity.
- **RMS** – Roads and Maritime Services
- **TfNSW** – Transport for NSW (excludes the operating agencies: Sydney Trains; Sydney Metro; State Transit Authority; NSW TrainLink)
- **Transport Cluster** – all TfNSW divisions and operating agencies (includes the operating agencies: Sydney Trains; Sydney Metro; State Transit Authority; NSW TrainLink)
- **Unexpected find** – An unexpected discovery such as a heritage item, threatened species, contamination, asbestos or hazardous substance.
- **WHS** – Work Health and Safety

7 Document control

7.1 Superseded documents

This Procedure replaces the following documents:

- Roads and Maritime Services Environmental Incident Classification and Reporting Procedure (RMS 17.374)
- Transport for NSW Environmental Incident Classification and Reporting (PR-105)

7.2 Document history

Date & Procedure No	Document owner	Approved by	Amendment notes
19/07/2021 EMF-13/PR-0001	Environment Manager Performance Improvement	Executive Director Environment and Sustainability	N/A

7.3 Feedback and help

For advice on using this Procedure please contact:

Environment Manager Performance Improvement

Email: envops@rms.nsw.gov.au

Phone: (02) 8849 2586.

Appendix A: Significant Incident escalation process

A1 Confirmation of a Significant Incident

Where an Environment Manager believes that a Significant Incident has occurred (see section 3.1.2 and Figure 3.2.1), they must immediately phone the relevant Environment Director. The Environment Director will consult with the Executive Director Environment and Sustainability, who will determine whether the incident will be considered a Significant Incident. Once a Significant Incident has been determined, the escalation process will commence in accordance with sections A2 and A3, below.

A2 Significant Incident information management

Following determination of a Significant Incident (see section A1, above), it is essential that there is fast, consistent and accurate reporting of information to the TfNSW senior management. As such, clear roles and responsibilities must be established in two key areas, as described in Table A2.

Table A2: Roles and responsibilities during a Significant Incident

Role	Who	Responsibilities
Information Controller	Environment Manager (or relevant Environment Officer in their absence)	• Liaise between the on-site TfNSW project management team and the Information Distributor (below) • Be the single point of contact to provide information and updates about the status of the Significant Incident to the Information Distributor
Information Distributor	Executive Director Environment and Sustainability (or relevant Environment Director in their absence)	• Identify the relevant members of the Executive and other senior management that will form the distribution group to be informed about the Significant Incident (see Table A3) • Consolidate information from the Information Controller, and distribute it to the distribution group • Provide key ongoing updates to the distribution group as it becomes available • Respond to enquiries from the distribution group, ensuring all members of the distribution group are copied into every response

A3 Parties to be notified

As described in Table A2, the Information Distributor must identify relevant TfNSW senior management from delivery and client divisions that will form the distribution group to be informed about the Significant Incident, including ongoing updates. Table A3 provides the key positions that must be included (at a minimum), depending on who is undertaking the activity. Depending on the type and location of the activity, there may be other areas of TfNSW that should be included in the distribution group – see section 3.2.2.

Appendix A7

Environmental Inspection Template

Warringah Freeway Upgrade

November 2021

Weekly Environmental Inspection Checklist

Date:		**Location(s):**	
Rainfall (mm): _____ 24hr _____ 5 day			
Inspection Type: Wet / Dry			
Inspection By:			
(name / position)			

Questions relate to the period since the last inspection (i.e. one week). If *Yes* is selected below, details must be provided or referenced in the *Remarks* column. Attach additional sheets and information if required.

Inspection Description		Remarks / Action Required/ Location
1. Erosion and Sedimentation Control		
Do sediment fences, hay bales, or similar devices need alteration or maintenance or are new devices required to adequately control sedimentation?	☐ Yes ☐ No ☐ N/A	
Do catch or diversion drains need alteration or maintenance to adequately control run-off water?	☐ Yes ☐ No ☐ N/A	
Do any barriers require removal of silt?	☐ Yes ☐ No ☐ N/A	
Do stockpiles and bare areas require stabilisation with spray seed or equivalent?	☐ Yes ☐ No ☐ N/A	
Is there any visible discolouration of site run-off water?	☐ Yes ☐ No ☐ N/A	
Do bunded areas (e.g. concrete washout) require pumping out? If so, has the Environmental Manager been contacted prior to proceeding?	☐ Yes ☐ No ☐ N/A	
Is flocculation required (e.g. turbid water)?	☐ Yes ☐ No ☐ N/A	
Is repair needed on bunds?	☐ Yes ☐ No ☐ N/A	
Is there any area where sediment or contaminated water discharges from the site uncontrolled?	☐ Yes ☐ No ☐ N/A	
Is mud / soil from vehicle wheels present on public roads?	☐ Yes ☐ No ☐ N/A	
Do access ways require maintenance?	☐ Yes ☐ No ☐ N/A	

Inspection Description		Remarks / Action Required/ Location
2. Air Quality		
Is visible dust generated by site work activities, stockpiles, disturbed areas or site roads?	☐ Yes ☐ No ☐ N/A	
Are trucks carrying uncovered loose material entering or leaving the site?	☐ Yes ☐ No ☐ N/A	
3. Noise and Vibration		
Are any unusually high noise-generating activities being undertaken?	☐ Yes ☐ No ☐ N/A	
Are there any new noise intensive works that require start-up monitoring?	☐ Yes ☐ No ☐ N/A	
Is noise likely to impact on nearby sensitive receptors?	☐ Yes ☐ No ☐ N/A	
Is work outside approved hours being undertaken without approval?	☐ Yes ☐ No ☐ N/A	
Are vibration-generating activities being carried out likely to affect nearby structures or sensitive areas?	☐ Yes ☐ No ☐ N/A	
4. Waste Management		
Is waste being deposited or stored in places other than designated areas and collection facilities?	☐ Yes ☐ No ☐ N/A	
Has stored waste reached levels requiring disposal (e.g. oil, sewerage, materials)?	☐ Yes ☐ No ☐ N/A	
Are unlicensed contractors being used to dispose of waste?	☐ Yes ☐ No ☐ N/A	
Have any spillages of potentially contaminating substances occurred on site?	☐ Yes ☐ No ☐ N/A	
Do on-site storage and collection areas need repair or maintenance?	☐ Yes ☐ No ☐ N/A	
Is litter or poor housekeeping evident on site?	☐ Yes ☐ No ☐ N/A	
5. Flora and Fauna		
Have findings or sightings of any native animal species occurred?	☐ Yes ☐ No ☐ N/A	
Are there noxious or environmental weeds on the work site which still need to be controlled (e.g. blackberry)?	☐ Yes ☐ No ☐ N/A	
Is retained vegetation unidentified or poorly delineated?	☐ Yes ☐ No ☐ N/A	

Inspection Description		Remarks / Action Required/ Location
Has clearing of vegetation occurred outside the clearing zone? Have any hollow trees been removed?	☐ Yes ☐ No ☐ N/A	
Has any impact occurred to EECs outside of the approved clearing limits?	☐ Yes ☐ No ☐ N/A	
Has any impact occurred to threatened flora species outside of the approved clearing limits?	☐ Yes ☐ No ☐ N/A	
Have construction activities affected any fauna species (e.g. kills, injuries, isolation of habitat, disturbance of breeding or nesting sites, destruction of food sources)?	☐ Yes ☐ No ☐ N/A	
Are there recently completed areas where revegetation works can commence?	☐ Yes ☐ No ☐ N/A	
Are there areas where revegetation has been ineffective or adversely affected by construction activities or predation that require attention?	☐ Yes ☐ No ☐ N/A	
If works are adjacent to a waterway, are any dead fish present?	☐ Yes ☐ No ☐ N/A	
6. Archaeology and Heritage		
Have any new finds of cultural or heritage value been identified?	☐ Yes ☐ No ☐ N/A	
Has any damage occurred to site or items of cultural or heritage value?	☐ Yes ☐ No ☐ N/A	
7. Hazardous Materials and Dangerous Goods		
Has any contamination been uncovered on the site?	☐ Yes ☐ No ☐ N/A	
Has any hazardous waste been generated by the Project?	☐ Yes ☐ No ☐ N/A	
Are there any ACM stockpile(s) without geofabric covering, assigned stockpile number and sign, or asbestos warning sign?	☐ Yes ☐ No ☐ N/A	
Are any hazardous materials or dangerous goods incorrectly stored on site?	☐ Yes ☐ No ☐ N/A	
Do any bunds or storage containers of hazardous materials or dangerous goods need repair or maintenance?	☐ Yes ☐ No ☐ N/A	
Is on-site servicing and fuelling of plant and equipment carried out in an uncontrolled manner or within 40m of a creek?	☐ Yes ☐ No ☐ N/A	
Are emergency spill kits required on site or in need of restocking?	☐ Yes ☐ No ☐ N/A	

Inspection Description		Remarks / Action Required/ Location
8. Community Relations		
Does the community need to be advised of pending operations likely to cause a nuisance?	☐ Yes ☐ No ☐ N/A	
9. Sustainability		
Are there any water re-use/reduction opportunities being missed, poorly implemented or ineffective on site?	☐ Yes ☐ No ☐ N/A	
Are there any energy/fuel re-use/reduction opportunities being missed, poorly implemented or ineffective on site?	☐ Yes ☐ No ☐ N/A	
Are there any materials re-use/reduction opportunities being missed, poorly implemented or ineffective on site?	☐ Yes ☐ No ☐ N/A	
Is waste being segregated ineffectively or not segregated?	☐ Yes ☐ No ☐ N/A	
10. General		
Are any controls (e.g. fences) delineating work areas inadequate or in need of maintenance maintained?	☐ Yes ☐ No ☐ N/A	

Any Other Comments:

Action No.	Location	Details of action	Area supervisor

Signed:	**Position:**	**Date:**
Signed:	**Position:**	**Date:**