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00	06/06/16	CDS-JV				
01	21/07/16	CDS-JV				
02	20/12/17	CDS-JV				
Signat	ture:					





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Details of Revision Amendments

Document Control

The Project Director is responsible for ensuring that this Plan is reviewed and approved. The Support Services Director (SSD) is responsible for updating this Plan to reflect changes to the Project, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Director before being distributed or implemented.

Revision Details

Revision	Details				
00	Prepared for DP&E approval				
01	Update to address DP&E comments. Issued for DP&E approval.				
Minor update to training & awareness section based on external audit findings					





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1. Introduction

1.1 Project description

WestConnex is Australia's largest road project, linking Sydney's west and south-west with the city, airport and port in a 33 kilometre continuous motorway. It will facilitate economic growth and urban revitalisation by providing new opportunities for residential and commercial development.

The WestConnex Project is being delivered in three stages:

- WestConnex Stage 1: M4 Parramatta to Haberfield (the "M4 East")
- WestConnex Stage 2: M5 Beverly Hills to St Peters ("the New M5"), and
- WestConnex Stage 3: M4-M5 Link Haberfield to St Peters ("Stage 3").

The WestConnex Project also includes the design and construction of other ancillary infrastructure including road upgrades in the vicinity of Sydney Airport and Port Botany (the "Sydney Gateway").

Sydney Motorway Corporation (SMC, previously WestConnex Delivery Authority) has been established to facilitate, lead and manage the procurement and delivery of the WestConnex Project.



The New M5 Project (New M5, the project) is designated as State Significant Infrastructure (SSI 6788) and is the Stage 2 component of the WestConnex scheme. The proponent for the project is Roads and Maritime Services (RMS) and the project company (WCX M5 AT). WCX M5 AT has engaged the CPB Samsung Dragados Joint Venture (CDS-JV) to deliver the design and construction of the project. The project was approved by the Minister for Planning on 20 April 2016, subject to conditions.

The Project will run from the existing M5 East corridor at Beverly Hills via tunnel to St Peters, providing improved access to the airport, south Sydney and Port Botany precincts. The Project will substantially improve the east - west corridor access between the Sydney CBD, Port Botany and Sydney Airport precincts and the South West growth areas.

The project comprises the following key features:

- Twin motorway tunnels between the existing M5 East Motorway (between King Georges Road and Bexley Road) and St Peters. Each tunnel would be around nine kilometres in length and would be configured as follows:
 - Detween the western portals and Arncliffe, the tunnels would be built to be three lanes wide but marked for two lanes as part of the project. Any change from two lanes to three lanes would be subject to future environmental assessment and approval





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- Between Arncliffe and St Peters, the tunnels would be built to be five lanes wide but marked for two
 lanes as part of the project. Any change from two lanes to any of three, four or five lanes would be
 subject to future environmental assessment and approval
- Tunnel stubs to allow for a future connection to the M4-M5 Link and a future connection to southern Sydney via a future Southern extension
- Surface road widening works along the M5 East Motorway between east of King Georges Road and the new tunnel portals
- A new road interchange at St Peters, which would initially provide road connections from the main alignment tunnels to Campbell Road and Euston Road, St Peters
- Two new road bridges across Alexandra Canal which would connect St Peters interchange with Gardeners Road and Bourke Road, Mascot
- Closure and remediation of the Alexandria Landfill site, to enable the construction and operation of the new St Peters interchange
- Works to enhance and upgrade local roads near the St Peters interchange
- Ancillary infrastructure and operational facilities for electronic tolling, signage (including electronic signage), ventilation structures and systems, fire and life safety systems, and emergency evacuation and smoke extraction infrastructure
- A motorway control centre that would include operation and maintenance facilities
- New service utilities and modifications to existing service utilities
- Temporary construction facilities and temporary works to facilitate the construction of the project
- Infrastructure to introduce tolling on the existing M5 East Motorway

Surface road upgrade works within the corridor of the M5 East Motorway.

1.2 Staging

Roads and Maritime has elected to stage the New M5 project in accordance with CoA A10. The stages are described in detail in the New M5 Staging Report and are summarised in Table 1.

Table 1: Project staging

Stage	Sub- stage	Project location	Description
1	a)	Kingsgrove construction compounds (C1, C2 and C3)	Site establishment activities e.g.: minor vegetation clearance, demolition, installation of environmental controls, services
	b)	Bexley Road North (C4), Bexley Road South (C5), Bexley Road East (C6), Arncliffe (C7), Canal Road (C8), Campbell Road (C9), Landfill Closure (C10) and Burrows Road (C11) Construction Compounds.	protection/installation/relocation, installation of access arrangements, installation of site fencing, installation of noise walls including associated piling, installation of compound facilities including offices, amenities and workshops.
	c)	HV power alignments as described in Addendum No. 1 to the Ancillary Facilities Management Plan (AFMP):	Provision of High Voltage (HV) power to construction compounds C3, C4, C7 and C8 including protection and/or relocation of
		Alignment 1: Rockdale substation to Arncliffe construction compound (C7);	existing services, trenching, pipe-jacking, horizontal directional drilling, cable-pulling, backfilling of trenches, temporary stockpiling
		Alignment 2: Commercial Road to Kingsgrove construction compound (C3);	and reinstatement/rehabilitation of pavements and surfaces.
		Alignment 3: May St substation to Canal Road construction compound (C8);	
		Alignment 4: Campsie substation to Bexley North construction compound (C4).	
2	a)	Kingsgrove construction compounds (C1, C2 and C3)	Continuation of Stage 1 activities, and commencement of all other establishment

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Stage	Sub- stage	Project location	Description
	b)	Bexley construction compounds (C4-C6)	and construction activities, including installation of acoustic sheds, excavation of
	c)	Arncliffe construction compound (C7)	shafts/declines, demobilisation and rehabilitation.
	d)	St Peters Interchange construction compounds (C8-C11)	
	e)	Local Roads construction compounds (C12-C14)	
3		Mainline tunnelling	Mainline tunnelling works including excavation with roadheaders, tunnel fit-out and commissioning works.

The key distinguishing feature of Stage 2 is the commencement of construction as defined under the Infrastructure Approval. Stage 3 comprises mainline tunneling activities, which includes roadheader excavation, tunnel fit-out and commissioning.

Stage 1 activities are anticipated to commence in July 2016, Stage 2 activities in August 2016 and Stage 3 activities in February 2017.

1.3 Purpose

The purpose of this Compliance Tracking Program (CTP) is to satisfy CoA A14 of the planning approval and to describe the compliance reporting requirements of the project against conditions and requirements for the construction and operational phases. Under CoA A14, the compliance tracking program requires the following compliance reports:

- A pre-construction compliance report;
- Quarterly construction compliance reports, likely to commence July 2016 and to continue for the duration of construction; and
- A pre-operation compliance report, prior to the commencement of operation, and six monthly operational compliance reports.

The CTP will operate throughout construction and for a minimum of 24 months after the commencement of operation. The CDS-JV, WCX M5 AT and RMS together, are responsible for compliance with the project conditions of approval and other requirements.

The scope of this report is based on CoA A14. The requirements relevant to the Compliance Tracking Program are provided in Table 3.

An indicative program for construction is provided in Table 2 below.

Table 2: Indicative construction program

Activity		2016			2017			2018				2019			
Site establishment															
Landfill closure works															
Construction of western surface works															
Tunnel construction															
Construction of St Peters Interchange															







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Activity		2016			2017			2018			2019			
Portal construction														
Construction of local road upgrades														
Construction of permanent operational facilities														
Mechanical and electrical fit-out														
Establishment of tolling facilities														
Demobilisation and rehabilitation														

1.4 **Environmental management system overview**

The environmental management system (EMS) is the primary system to manage and control the environmental aspects of the project during pre-construction and construction. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative requirements are fulfilled.

The CDS-JV EMS is based on the CPB Contractors EMS, which was adapted to address project and joint venture requirements.

The Construction Environmental Management Plan (CEMP) is the key document of the EMS. The strategies defined in the CEMP have been developed with consideration of the CoA and the revised environmental management measures (REMMs) presented in the New M5 Submissions Report. The CEMP establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the project on the environment and community.

This CTP is separate from the CEMP, but is part of a suite of environmental management documents prepared for the New M5 project.





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2. Program requirements

This CTP has been prepared as a requirement of CoA A14. The requirements of this condition are detailed in Table 3.

Table 3: Conditions of Approval for the CTP

No.	Relevant requirement	Where addressed
A14	The Proponent must prepare and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Compliance Tracking Program must be submitted to the Secretary for approval prior to the commencement of construction and operate for a minimum of 24 months following commencement of operation, subject to the Secretary's review of the outcomes of the Independent Environmental Audit Report required by condition E51. The operation of the program may be extended if the Secretary determines that there has been unsatisfactory compliance.	This document. This CTP will be provided to the Secretary for approval, prior to the commencement of construction and will operate for a minimum of 24 months following commencement of operation.
	The Compliance Tracking Program must include, but not be limited to:	
(a)	provision for the notification of the Secretary prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);	Section 2.2
(b)	provision for periodic review of the compliance status of the SSI against the requirements of this approval and the environmental management measures committed to in the document referred to in condition A2(c);	Section 2.3
(c)	provision for periodic reporting of compliance status to the Secretary, including but not limited to:	Section 2.4
	(i) a Pre-Construction Compliance Report prior to the commencement of construction,	
	(ii) quarterly Construction Compliance Reports, for the duration of construction,	
	(iii) a Pre-Operation Compliance Report prior to the commencement of operation, and six monthly operational compliance reports;	
(e)	a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014- Guidelines for Auditing Management Systems;	Section 2.5
(f)	mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;	Section 2.6
(g)	procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and	Section 2.7
(h)	provision for ensuring all employees, contractors and sub- contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.	Section 2.8

2.1 Assessment under the Instrument of Approval and REMMs

The CTP is prepared in accordance with CoA A14 and is required to address the project requirements contained in the Minister's Conditions of Approval and the Revised Environmental Management Measures (REMMs) provided in the Submissions Report. The New M5 must demonstrate continuous compliance with all associated requirements.

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Table 4 provides a definition for the assessment criteria, to be used during reporting of compliance required by CoA A14.

Table 4: Assessment criteria for compliance

Status	Description			
Compliant	The intent and all specific requirements of the consent conditions have been met.			
Verification	In the absence of formal written verification the auditor is able to verify by other demonstrable means (visual inspection, personal communication etc) that a condition has been met then, in most cases, the operation should be considered to be in compliance for that condition.			
Non-compliant	The intent or one or more specific requirements of the conditions or management measures have not been met.			
Administrative non-compliance	A technical non-conformance with a condition of the consent that would not impact on environmental performance and that is considered minor in nature (eg. Report submitted but not on the due date). This would not apply to performance-related aspects (eg. Exceedances of a noise limit) or where a condition or management measure has not been met at all (eg. Noise management plan not prepared and submitted for approval at all).			
Not triggered	A condition or requirement has an activation or timing requirement that has not been sufficiently triggered at the time of the review, therefore a determination of compliance should not be made.			
Observation	An observation made or improvement opportunity has been identified.			

2.2 Department of Planning and Environment notification

CDS-JV will commence construction as defined by the Instrument of Approval once all appropriate safety and environmental approvals/consents are in place, including the approval of the CEMP by the Secretary of Department of Planning and Environment (DP&E).

CDS-JV will provide written notification to the Secretary prior to the commencement of construction, prior to the the commencement of each stage and prior to the commencement of operation. CDS-JV will also submit an updated Staging Report to the Secretary that provides compliance status against each condition, as required by CoA A10, prior to the commencement of each stage.

2.3 Periodic review

Regular compliance activities, such as inspections, observations and monitoring will be undertaken in accordance with the CEMP

Environmental controls are to be inspected regularly to ensure their ongoing suitability and effectiveness. Environmental monitoring is carried out to establish pre-construction benchmarks, confirm compliance with the conditions of environmental approvals, licences and laws and to provide early indication of potential adverse impacts to the environment or community.

A summary of monitoring requirements specifically identified in the Conditions of Approval for the construction phase of the project are summarised in Table 5. Monitoring requirements are addressed within specific programs or plans as identified in the final column.

Table 5: Project monitoring requirements identified in the CoA

CoA ref	Required monitoring	Where addressed						
Construction phase								
B13	A Biodiversity Offset Package is required to be developed. Monitoring must be undertaken for any potential compensatory habitat works if required	Biodiversity Offset Package						
B14(a)	An adaptive monitoring program is to be developed for the Green and Golden Bell Frog Plan of Management	Green and Golden Bell Frog Plan of Management						





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CoA ref	Required monitoring	Where addressed
B15(a)	An adaptive monitoring program to assess the success of the habitat creation, survival and breeding of the released GGBF population at Arncliffe	Habitat Creation and Captive Breeding Plan
B15(j)	Ongoing monitoring, review and amendment of the Habitat Creation and Captive Breeding Plan	Habitat Creation and Captive Breeding Plan
B28(h)	Baseline surface water and groundwater monitoring conducted prior to the commencement of construction.	Water Quality Plan and Monitoring Program
B28(i),(j),(k), (m),(q),(r)	Surface water and groundwater monitoring required at specific locations and frequency and duration that are representative of the potential extent of impacts from the project, including monitoring of discharges from construction and operational water treatment plants, monitoring of streambed fracturing and extracted groundwater volumes	Water Quality Plan and Monitoring Program
B32(a),(e)	Monitoring framework implemented following the cessation of waste disposal and material recycling activities at the Alexandria Landfill and associated waste recycling and transfer facility, including groundwater monitoring bore network	Landfill Closure Management Plan
B61(m)	Monitoring and maintenance procedures for built elements, rehabilitated vegetation and landscaping	Urban Design and Landscape Plan
B66(a)	Monitoring social impacts of the SSI, including cumulative impacts and reviewing the effectiveness of mitigation measures in directly affected precints.	Community and Social Management Plan
D1(b)	The Environmental Representative must monitor the implementation of environmental management plans and monitoring programs required under the CoA.	Construction Environmental Management Plan (CEMP)
D22	Vibration testing and monitoring to identify minimum working distances to retained heritage items to prevent cosmetic damage.	Construction Noise and Vibration Management Plan (CNVMP) Construction Heritage Sub-Plan (CHSP)
D23	Noise monitoring during initial high noise generating activities (such as piling, rock hammering, jack hammering) to confirm the number of sensitive receivers which may experience sleep disturbance.	CNVMP
D28(f)	Appropriate noise and vibration monitoring during blasting activities.	Blast Management Strategy (if blasting is required)
D50(f)	Monitor the impacts resulting from on and off-street parking changes during construction	Construction Parking and Access Strategy
D54(e)	The Construction Contamination Management Plan will describe monitoring of the actions and measures implemented to manage contamination impacts during construction and	Construction Contamination Management Plan
D54(f)	Monitoring, review, and amendment of the Construction Contamination Management Plan	Construction Contamination Management Plan
D57(f)	Details of monitoring specific to each facility to be implemented to minimise environmental and amenity impacts of ancillary facilities, and	Ancillary Facilities Management Plan (AFMP)
D57(I)	Monitoring, review and amendment of the Ancillary Facilities Management Plan.	AFMP
D67(e)	Monitoring of environmental performance across the project.	CEMP
D67(e)(i)	Monitor and manage dust emissions.	Construction Air Quality Sub-Plan (CAQSP)
D67(e)(iii)	Monitor and manage waste generated during construction.	Waste and Resource Sub-Plan (CWRSP)
D67(e)(iv)	Monitor and manage hazard and risks across the project.	CEMP and each sub-plan

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CoA ref	Required monitoring	Where addressed
D67(e)(v)	Monitor and rectify impacts to third party property and infrastructure.	Community Communication Strategy
D68(a)(xi)	Monitor, review and amend the Construction Traffic and Access Management Plan.	Construction Traffic and Access Management Plan (CTAMP)
D68(b)(x)i	Monitor effectiveness of mitigation and management measures implemented during proposed works.	CNVMP
D68(b)(xiii)	Monitor, review and amend the Construction Noise and Vibration Management Plan.	CNVMP
D68(c)(ii)(C)	Monitor and report on impacts to heritage items.	CHSP
D68(c)(iii)	Monitor, review and amend the Construction Heritage Management Plan.	CHSP
D68(d)(vi)	Monitor the effectiveness of flora and fauna management measures.	Construction Flora and Fauna Sub-Plan (CFFSP)
D68(d)(xi)	Monitor the condition of groundwater dependent ecosystems in Bardwell Valley Parkland and Broadford Street Reserve and Stotts Reserve.	CFFSP and Water Quality Plan and Monitoring Program (WQP&MP)
D68(d)(xiii)	Monitor, review and amend the Construction Flora and Fauna Management Plan	CFFSP
D68(d)(xv)	Monitor, review and amend the Construction Soil and Water Management Plan.	CFFSP
D68(e)(iii)	Monitor air quality impacts.	CAQSP
D68(e)(viii)	Provisions for implementation of additional mitigation measures in response to issues identified during monitoring and reporting.	CAQSP
D68(e)(ix)	Monitor, review and amend the Construction Air Quality Management Plan.	CAQSP
D68(f)(v)	Monitor water quality at acid sulfate soils treatment areas.	Acid Sulfate Soils Sub-Plan (ASSSP)
D68(f)(vi)	Monitor the effectiveness of actions and measures for management soil and water impacts.	Construction Soil and Water Quality Sub-Plan (CSWQSP) and WQP&MP
D68(f)(vii)	Monitor, review and amend the Construction Soil and Water Management Plan.	CSWQSP
Operational ph	nase	
E2	Monitor pollutants within the tunnel.	Operational Environmental Management Plan (OEMP)
E10	Monitor pollutants associated with ambient air quality.	OEMP
E11	Monitoring locations must be selected with the objective of achieving like-to-like comparison of monitoring results with available pre-construction data	OEMP
E12	Monitoring results must be made publicly available and must be subject to an independent audit at sixmonthly intervals	OEMP
E13	Monitoring for at least twelve continuous months prior to operation and continue monitoring for at least two years following the commencement of operation.	OEMP
E18	Monitor pollutants from the ventilation outlets.	OEMP
E24	Results of hourly updated real-time ambient monitoring must be provided on a website and made publicly available each month	OEMP
E31(h)	Monitor and manage environmental performance across the project during the operational phase.	OEMP





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CoA ref	Required monitoring	Where addressed
E31(h)	Operation Environmental Management Plan (OEMP) must contain how environmental performance would be managed and monitored to meet acceptable outcomes	ОЕМР
E34(f)(g)	Monitor operational noise, including on surrounding roads which experience significantly increased traffic volumes as a result of the project.	Operational Noise Management Plan (ONMP)
	Monitor noise in response to complaints. Monitor and review the Operational Noise Management Plan.	
E34(i)	Monitoring and review of the Operational Noise Management Plan.	ONMP
E38	Monitor operational noise and vibration to compare actual noise and vibration performance of the project against the noise performance predicted in the Operational Noise and Vibration Review.	Operational Noise and Vibration Compliance Report
E38(a)	Details of the noise and vibration monitoring program including methodology, location and frequency of noise monitoring.	Operational Noise and Vibration Compliance Report
E42(f)	Mechanisms for monitoring of on- and off-street parking impacts and mitigation measures at 12 month intervals to determine the effectiveness of implemented mitigation measures and any supply and demand induced parking issues that are attributable to the SSI.	Operational Parking and Access Strategy (OPAS)
E42(g)	Provision of contingency measures should the results of mitigation monitoring indicate implemented measures are ineffective.	OPAS
E42(h)	Provision of reporting of monitoring results to the Secretary and relevant councils at 12 month intervals for the first five years of operation.	OPAS

2.4 Reporting

2.4.1 Compliance Reporting

The Pre-Construction Compliance Report (PCCR) will provide the first compliance review for the project against the CoA and REMMs. The second review will be undertaken within the first three months of construction and then every three months after. A final review of construction-related compliance will also be undertaken prior to the commencement of operation.

Input and review from the Environmental Representative and WCX M5 AT will be required prior to submission to the Secretary for all construction compliance reporting.

Operational compliance will be reported on every six-months following the commencement of operation.

The indicative timeframe for construction compliance reports is identified in Table 6.

Table 6: Indicative timeframe for construction compliance reporting

Item	Details	Timing / indicative timeframe	Responsibility	Recipient of report
Pre-construction compliance report	Status against CoA and REMM before construction starts	Prior to the commencement of construction - July 2016	Environment and Sustainability Manager	DP&E WCX M5 AT; Environmental Representative
Construction compliance report	Status against CoA and REMM during construction phase	Quarterly throughout construction / October 2016	Environment and	DP&E WCX M5 AT;

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Item	Details	Timing / indicative timeframe	Responsibility	Recipient of report
		January 2017 April 2017 July 2017 October 2017 January 2018 April 2018 July 2018 October 2018 January 2019 April 2019	Sustainability Manager	Environmental Representative
Pre-Operation Compliance Report	Status against CoA and REMM before operation starts	Prior to the commencement of operation - mid 2019	Environment and Sustainability Manager	DP&E WCX M5 AT; Environmental Representative

The compliance reports will include a summary of the activities undertaken during the reporting period. Compliance tracking tables will form an integral part of the compliance reports. The tables will provide a format for recording compliance and will include:

- Condition / environmental requirement;
- Project phase to which the condition or requirement is applicable;
- Compliance status;
- Person / team responsible for the condition / requirement; and
- · Comment or evidence of compliance.

Appendix A contains the details of each CoA. Details regarding the relevant project stage as summarised in Section 1.2, timing and approval details will be included as relevant to each compliance report.

2.4.2 Other Reporting

Additional reporting requirements identified in the project documents are included in Table 7.

Table 7: Additional reporting requirements

Report	Details	Frequency	Standard	Responsibility	Recipient of report
Monthly environmental report	To be incorporated into the project monthly report - to address environmental statistics (e.g. incidents, regulatory action, complaints on environmental issues), monitoring program performance, key environmental issues.	Monthly, by the 5 th Business Day of each month	D&C Deed	Environment and Sustainability Manager	WCX M5 AT; Roads and Maritime; Independent Certifier; parent companies
Environmental Representative monthly report	Report on • the Environmental Representative's actions and decision on matters specified in CoA D1 for the preceding month	Monthly within seven days for the end of each month for the duration of construction	CoA D2	Environmental Representative	DP&E WCX M5 AT CDS-JV





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Report	Details	Frequency	Standard	Responsibility	Recipient of report
	 of site environmental performance following routine inspections any non-conformances with the CEMP and corrective/ management actions required. 	of the Project, or as otherwise agreed by the Secretary			
EPL annual returns	Report on compliance with EPL #20772 and EPL #4627	Annually	EPA annual return pro forma EPL #20772 & #4627 Condition R1	Environment and Sustainability Manager	EPA
Material harm report	Written details of notification of incidents causing or threatening material harm to the environment	Within 7 days of incident causing or threatening material harm	EPL #20772 & #4627 Condition R2	Environment and Sustainability Manager	EPA, DP&E
EPA requested report	As requested by the EPA	As required by EPA	EPL #20772 & #4627 Condition R3	Environment and Sustainability Manager	EPA
Noise and vibration reports	Submit a Preliminary Investigation Report and subsequent Follow-Up Investigation Report in respect of any noise or vibration monitoring undertaken in accordance with the EPL.	As requested by EPA	EPL #20772 & #4627 Condition R4	Environment and Sustainability Manager	EPA

2.5 Environmental auditing

Environmental audits will be conducted at regular intervals during construction of the project to ensure compliance. Internal and external environmental audits will be undertaken in accordance with AS/NZS ISO 19011.

An indicative audit schedule is included in Table 8.

Table 8: Indicative audit schedule

Audit	Details	Timing	Responsibility	Recipient of audit report
Internal audit	Compliance with approval and legal requirements, Roads and Maritime specifications, CEMP	Annually (alternate 6 monthly to the audit below)	Environment and Sustainability Manager	CDS-JV WCX M5 AT





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Audit	Details	Timing	Responsibility	Recipient of audit report
External audit	Compliance with EMS (ISO 14001) in accordance with CPB Contractors requirements	Annually (alternate 6 monthly to the audit above)	External independent auditor	CDS-JV WXC M5 AT
External audit	Compliance with the CEMP in accordance with D&C Deed	Not exceeding every 5 months and 15 business days	WCX M5 AT External independent auditor	CDS-JV WCX M5 AT Independent Certifier

The Proponent will undertake an independent environmental audit as required for the operational phase of the project. The details of the operational audit program would be provided to the Secretary prior to the commencement of operation.

Additional audit requirements identified in the CoA are summarised in Table 9. The document in which the operational audit requirements are addressed may be refined prior to the commencement of operation.

Table 9: Additional audit requirements identified in the CoA

CoA ref	Audit details	Recipient of the audit report	Where addressed
Constr	uction phase		
B31	Site Audit Statement prepared by an accredited Site Auditor if remediation is required, verifying that the disturbed area has been or can be remediated to a standard consistent with the intended land use. Where land is remediated, a final Site Audit Statement will be prepared by an accredited Site Auditor, certifying that the contaminated disturbed areas have been remediated to a standard consistent with the intended land use.	Final Site Audit Statement to be submitted to Secretary and relevant councils prior to operation of the project.	Construction Contamination Management Plan
B49	An independent Road Safety Audit(s) is to be undertaken by an appropriately qualified and experienced person during detailed design to assess the safety performance of any new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the SSI	Audit findings and recommendations will be made available to the Secretary on request.	Construction Traffic Access and Management Plan
Operat	tional phase		
E3	In tunnel air quality sampling points and visibility monitoring points established under this condition must be audited at least two months prior commencing monitoring, for compliance with the requirements set out in Table 4. Verification and compliance auditing is to be undertaken by an independent person(s) or organisation(s) whose appointment has been approved by the Secretary.	N/A	ОЕМР
E12	Ambient air quality monitoring results must be subject to an independent audit at six-monthly intervals (or at a longer interval, if approved by the Secretary). The auditor must be approved by the Secretary in consultation with the NSW Environment Protection Authority and the	The auditor's report must be directly provided to the Proponent and the AQCCC.	ОЕМР





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CoA ref	Audit details	Recipient of the audit	Where addressed
rei	project's Air Quality Community Consultative Committee (AQCCC),	report	Where addressed
E18	Ventilation outlet monitoring equipment must be independently audited prior to its commencement of monitoring. Auditing is to be undertaken by an independent person(s) or organisation(s) approved by the	N/A	OEMP
E26	Secretary Continuous emissions monitoring systems installed and operated as required by CoA E18 must undergo relative accuracy test audits at an interval not exceeding 12 months, or as otherwise agreed to by the Secretary in consultation with the EPA.	N/A	OEMP
E27	Conduct an audit of the air quality monitoring (in tunnel and external) at six-monthly intervals.	All audit data will be available for inspection by the Secretary, upon request. A copy of the audit report must be issued to the Proponent and AQCCC.	OEMP
E40	Traffic mitigation measures recommended as part of the Road Network Performance Review Plan would be subject to independent road safety audits.	N/A	OEMP
E48	Prior to the opening of the project to traffic, a full audit of the fire and life safety system as defined by the fire engineering study developed in condition E42 must be undertaken by an Accredited Fire Engineer.	The results of the audit must be submitted to FRNSW prior to opening of the project to traffic.	OEMP
E51	Within 12 months of the commencement of operation, and at any other stage required by the Secretary, the Proponent must commission an Independent Environmental Audit of the SSI.	The Proponent must submit a copy of the audit report to the Secretary and relevant public authorities, together with its response to any recommendations contained in the audit report.	OEMP

2.6 Incident management

The immediate response to all incidents is to make the area safe and undertake measures to prevent further environmental harm. The Environment and Sustainability Manager and Project Director should be notified immediately in the event of an environmental incident.

The Roads and Maritime's Environmental Incident and Classification and Reporting Procedure (refer to Appendix F of the CEMP) and the Incident Response Plan (M5N-HS-PLN-PWD-0003) shall all be implemented. The CDS-JV procedure Manage and Report Safety, Health & Environment (SH&E) Incidents (M5N-HS-PRC-PWD-0003) shall also be implemented for internal notification and reporting requirements

Environmental incidents shall be notified verbally immediately and in writing within 24 hours of an incident occurring to the WCX M5 AT Representative. Notification will generally be undertaken by the Environment and Sustainability Manager or a member of the CDS-JV environment team. Additional notification of the incident to the relevant authorities in accordance with the Roads and Maritime's Environmental Incident and Classification Reporting Procedure (Appendix F of the CEMP), Environmental Representative and parent companies will also be undertaken as required.

Where required, in accordance with the project environment protection licence (EPL) and the *Protection* of the Environment Operations Act 1997 (POEO Act), notification to the Environment Protection Authority





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(EPA) will be undertaken for any non-conformances with the conditions of the EPL and pollution incidents.

Notification to the Secretary of DP&E

In accordance with CoA A16, CDS-JV will notify and provide a record of any environmental incident to the Secretary with actual or potential significant off-site impacts on people or the biophysical environment immediately (on weekdays, or by the following business day for weekends, public holidays and site shutdown periods) of becoming aware of the incident. CDS-JV will provide full written details of the incident to the Secretary within seven days of the date on which the incident occurred. In accordance with CoA A15, CDS-JV will provide the Secretary with records of any notification of incidents to the EPA as required by the *Protection of the Environment Operations Act 1997*.

Incident reporting

For incidents classified as Category 1 or 2 incidents (in accordance with Roads and Maritime – Environmental Incident and Classification Reporting Procedure (Appendix F of the CEMP)), a Roads and Maritime environmental incident form 624 will be completed and submitted to WCX M5 AT by email within three days of the date of the incident.

All incidents will be recorded in Synergy. Details of environmental incidents and resulting corrective or preventative actions will be included in monthly environmental reports as well the quarterly construction compliance reports. The Environment and Sustainability Manager will identify trends in incidents and trends in root causes to suggest the nature of preventative actions which are warranted.

Incident investigation

Incident investigations will be undertaken for all incidents. The level of investigation will be dependent on the classification of the incident. The incident investigation team will be a mix of both operational and SH&E staff selected by the Project Director based on the severity of the incident and the availability of experienced personnel.

Depending on the severity of the event, the scene of the incident, including any associated plant and equipment, is to be preserved until relevant data and evidence is collected. Environmental incidents, including community complaints, will be entered into and closed out in Synergy.

As part of the incident investigation, corrective and preventative actions will be identified, assigned to the appropriate person and closed out according to set timeframes. Corrective actions will be assigned, tracked and closed out in Synergy. All corrective actions will include reference to the relevant incident record for ease of tracking.

Safety Health & Environment (SH&E) Alerts will be prepared as required for distribution within the project or outside of the project, where appropriate. SH&E Alerts may also be raised at the discretion of the Environment and Sustainability Manager.

Any requirements of the Secretary or relevant public authorities to address the cause or impact of any incident will be undertaken in accordance with CoA A17.

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.

Recording Environmental Incidents

All incidents will be documented, and where required, due to the severity or ongoing nature of the incident, investigations conducted and action plans established in order that the event does not occur again. Where lessons are learnt from the investigation or current procedures are identified as being ineffective, the CEMP will be revised by the Environment and Sustainability Manager to include the improved procedures or requirement.

An environmental investigation includes the following basic elements:

- Identifying the cause, extent and responsibility of the incident.
- Identifying and implementing the necessary corrective action. Implementing or modifying controls necessary to avoid a repeat occurrence of the incident.
- Identifying the personnel responsible for carrying out the above actions.





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- Recording any changes in written procedures required.
- Verification of actions complete and incident close out.

2.7 Addressing non-compliance

Environmental Auditing

The Environment and Sustainability Manager (EM) will be responsible for the close out of non-compliances raised during an environmental audit and their close out will be managed via the audit close out process. When a non-compliance is raised by the auditor, the EM will determine appropriate actions and delegate to the appropriate person for implementation of the corrective / preventative action. The action will then be closed out within the allocated time as set by the EM.

On completion of the agreed actions, the EM will submit evidence (e.g photographs, a revised process or plan etc) of the close out to the auditor. The auditor will then review the evidence supplied and determine if the non compliance has been adequately responded to. If agreed, the audit close out report will be issued by the auditor indicating the non compliance has been dealt with and the audit has been closed.

Review of Compliance

If a non compliance is identified during a review of compliance, the EM will issue an Environmental Actions List or an Environmental Improvement Notice in response to the identified compliance issue. The list or notice will be issued to the appropriate person for implementation of the corrective / preventative action. The action will then be closed out within the allocated time as set by the EM.

On completion of the agreed actions, the appropriate person will submit evidence (e.g photographs, a revised process or plan etc) of the close out to the EM. The EM will then review the evidence supplied and determine if the non compliance has been adequately responded to. If agreed, the list or notice issued by the EM will be closed out.

Incident Management

Following an incident, the EM will initiate an investigation to identify the root causes and contributing factors. Once the roots cause and contributing factors have been identified, the EM will identify corrective and preventative actions to respond to these findings. The EM will then allocate appropriate resources and identify an appropriate person to implement those actions. In addition, CDS-JV will meet the requirements of the Secretary (or relevant public authority, as determined by the Secretary) to address the cause or impact of the incident, in accordance with CoA A17.

On completion of the agreed actions, the appropriate person will submit evidence (e.g photographs, a revised process or plan etc) of the close out to the EM. The EM will then review the evidence supplied and determine if the non compliance has been adequately responded to. If agreed, the incident will be closed out by the EM. Lessons learnt from the investigation will be shared within the project team.

Non-Conformance

A non-conformance is a failure to comply with a requirement, standard or procedure relevant to the project, such as the CoA, CEMP or associated documents. A non-conformance may be raised by the Project team, the ER, Roads and Maritime, the WCX M5 AT Representative or public authority.

Where non-conformances are identified, they will be recorded on an environmental action list. The environmental action list will be issued to the relevant Foreman for action. Actions will be assigned an implementation priority in a collaborative way by the inspection team based on environmental risk. Where more significant deficiencies in environmental controls or in the standard of environmental performance are observed, the EM will issue an Environmental Improvement Notice (EIN) in response to poor or inappropriate work methods or environmental controls, equipment selection, maintenance of controls, or other identified concerns.

Non-conforming activities may be stopped, if necessary, by the EM, Environmental Officers or Project / Site Engineer following consultation with the Area Manager or delegate. The works will not re-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.





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2.8 Training and awareness

To ensure that environmental management is effectively implemented across the project, each level of management is responsible for ensuring that all personnel reporting to them are aware of their responsibilities under the CEMP. The Environment and Sustainability Manager will coordinate the environmental training in conjunction with other training and development activities (e.g. safety).

All personnel, subcontractors and visitors will undergo a project induction before commencing work onsite. Site-specific inductions will also be provided as necessary. Inductions will address general and sitespecific environmental issues, including:

- CDS-JV 's environmental policy;
- · Purpose and objectives of the CEMP;
- How the CEMP will be implemented on-site;
- Requirements of due diligence and duty of care:
- Conditions of environmental licences, permits and approvals;
- High-risk environmental activities on the Project and their controls;
- What to do when working in or near environmentally sensitive areas;
- Potential environmental emergencies on Site;
- What to do in the event of an environmental incident or emergency; and
- Reporting and notification requirements for pollution and other environmental incidents, including the
 existence of the Pollution Incident Response Management Plan (PIRMP) and staff responsibilities
 with regard to the PIRMP.

An assessment will be conducted upon completion of the project induction.

A record of all environmental inductions will be maintained on the project training database. The Environment and Sustainability Manager may authorise amendments to the induction at any time. Possible reasons for changes to the induction may be project modifications, legislative changes, and changes in environmental risks, the occurrence of incidents or amendments to the CEMP or related documentation.

Environmental training needs for the project are identified and documented within the Project's training matrix. In populating the training matrix, the environmental training requirements for each role are addressed, including competency, needs and capability. The Environment and Sustainability Manager will be consulted in developing the training matrix. A Project training schedule will be developed to plan the delivery of training needs identified in the training matrix. Refresher training intervals will also be stated where applicable. Subcontractor training and competency responsibilities will be included in subcontractor agreements. An indicative training schedule for environmental and sustainability aspects of the project is provided in Table 10. These requirements will be developed further in the project training matrix.

Qualifications and experience relevant to project roles shall be incorporated into position descriptions and the professional development review process shall identify and appoint suitable training requirements.

The Environmental Representative will monitor the implementation of induction and training programs for the project and will advise CDS-JV in regards to the achievement of the program.

Ongoing training and awareness will enable project personnel to competently perform their duties and meet environmental obligations. Training and awareness activities may include:

- Project inductions;
- Daily pre-start or activity specific pre-start briefings;
- Toolbox talks;
- Targeted environmental training, appropriate to personnel role and/or responsibility;
- Meetings or forums either dedicated to training and awareness activities or included as an agenda item; and
- Emergency drills.









Table 10: Environmental training requirements

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	Induction							warenes				
Role	Project induction (incl. environmental & sustainability awareness)	Site Induction*	Sustainability (ISCA) Training	Erosion & Sediment Control (incl. dust control)	Hazardous Substances & dangerous goods	Emergency / Spill Response	Flora & Fauna**	Noise & Vibration Management**	Heritage (Aboriginal & Non- Aboriginal)**	Acid Sulfate Soils**	Waste Management**	Environmental/Regulatory Due Diligence
Project Director	Rq		Rm									
Construction												
Construction Director	Rq	Rq	Rm	Rm						Rm		
Construction / Project Manager	Rq	Rq	Rm	Rm			Rm		Rm	Rm		Rq
Supervisor / Foreman	Rq	Rq	Rm	Rq	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rq
Project / Site Engineer	Rq	Rq	Rm	Rq			Rm			Rm		Rq
Graduate Engineer	Rq	Rq	Rm	Rm			Rm			Rm		
Environment & Sust	ainabilit	y										
Support Services Director	Rq	Rq	Rq									
Environment & Sustainability Manager	Rq	Rq	Rq	Rm	Rm	Rm						Rq
Environmental Area Manager	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq
Environmental Advisor	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq	Rq
Sustainability Coordinator	Rq	Rq	Rq		Rm						Rm	
Workforce & Subcontractors												
Plant Operator	Rq	Rq			Rm	Rm	Rm	Rm	Rm	Rm	Rm	
Tradesperson	Rq	Rq			Rm	Rm	Rm	Rm	Rm	Rm	Rm	
Labourer	Rq	Rq			Rm	Rm	Rm	Rm	Rm	Rm	Rm	

Rq - Required; Rm - Recommended





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- * Site Induction to include parking and access awareness as well as basic awareness of erosion and sediment control, hazardous substances and spills, flora and fauna, noise, heritage, acid sulfate soils and waste.
- ** Site Induction to include specific awareness/training for these issues where required.

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Glossary of Terms

Term / acronym	Definition
BMS	Blast Management Strategy
CEMP	Construction Environmental Management Plan
CoA	Minister's Conditions of Approval
CDS-JV	CPB Contractors, Dragados, and Samsung joint venture
СТР	Compliance Tracking Program
D&C	Design and construct
DP&E	NSW Department of Planning and Environment
EIS	Environmental impact statement
EMS	Environmental management system
ER	Environmental Representative
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPL	Environment protection licence
HARD	Historical Archaeological Research Design
Keystone	A web-based document management system that provides the primary document management application for CDS-JV on the project and will be used to manage correspondence, design documentation, electronic distribution and approval processes, records and identified records and quality documentation.
PCCR	Pre-Construction Compliance Report
PIRMP	Pollution Incident Response Management Plan
POEO Act	Protection of the Environment Operations Act 1997
Project	WestConnex New M5 project
Project Company	WCX M5 AT
REMM	Revised environmental management measures, included in the Submissions and Preferred Infrastructure Report
Roads and Maritime, RMS	Roads and Maritime Services
SMC	Sydney Motorway Corporation, formerly WestConnex Delivery Authority
SH&E	Safety, Health & Environment
SPIR	Submissions [and Preferred Infrastructure] Report
SSI	State significant infrastructure
Synergy	Synergy is a safety and environmental reporting application and consists of the following modules: • SHE Management – events including: incidents, near hits, report only, hazards, stakeholder contacts, regulatory visits, drug and alcohol positive tests





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Term / acronym	Definition
	Metrics – work hours, number of people, environmental data such as materials, water, energy and wastes, etc. Campaigns can be tailored to drive specific lead indicators.
	Compliance – general applicability, typically used to track conditions and aid in reporting
	Actions – Assign and track actions.
wcx	WestConnex
WCX M5 AT	Project company







Appendix A: Minister's Conditions of Approval

Re	f Re	ub ef	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
A1			In addition to meeting the specific performance criteria established under this approval, the Proponent must implement all feasible and reasonable measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the SSI.									
A2			The Proponent must carry out the SSI in accordance with the conditions of approval and generally in accordance with the:									
	(a)	a)	State significant infrastructure application (SSI 6788);									
	(b)		New M5 Environmental Impact Statement - Volumes 1A, 1B, 1C, 2A, 2B, 2C, 2D, 2E, 2F, 2G and 2H prepared by AECOM Australia, dated November 2015;									
	(c)	;)	New M5 Submissions Report - Volumes 1A, 1B and 2 prepared by AECOM Australia, dated March 2016;									
	(d)	d)	WestConnex New M5 Addendum to the Submissions and Preferred Infrastructure Report - Temporary Construction Power Enabling Works prepared by RMS, dated April 2016;and									
	(e)	e)	Supplementary material provided as an addendum to the New M5 Submissions and Preferred Infrastructure Report.									
А3			In the event of an inconsistency between:									
	(a)	a)	the conditions of this approval and any document listed in condition A2 inclusive, the conditions of this approval will prevail to the extent of the inconsistency; and									
	(b))	any document listed in condition A2(a) to A2(e) inclusive, the most recent document will prevail to the extent of the inconsistency.									
A4			The Proponent must comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of:									
	(a)	a)	any reports, plans or correspondence that are submitted in accordance with this approval; and									
	(b))	the implementation of any actions or measures contained in these reports, plans or correspondence.									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
A5		This approval will lapse five years after the date on which it is granted, unless the works of this SSI approval are physically commenced on or before that date.									
A6		Where requested by the Secretary, the Proponent must provide evidence as to how feasible and reasonable measures were considered and taken into account. Note: Community expectations must be taken into account but it is not expected that specific community consultation will be required in every instance.									
A7		This approval does not apply to the establishment of ancillary facilities where establishment has been assessed in accordance with any applicable requirements of the <i>Environmental Planning and Assessment Act 1979</i> and site establishment works commenced prior to commencement of construction.									
A8		The Proponent must ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals.									•
A9		This approval does not apply to the operation of off- site spoil receiving locations and facilities. The receipt of spoil at these location and facilities must be undertaken in accordance with approvals or licences applying to those locations or facilities.									
A10		The Proponent may elect to construct and/or operate the SSI in stages. Where staging is proposed, the Proponent must submit a Staging Report to the Secretary prior to the commencement of each proposed stage. The Staging Report must provide details of:									
	(a)	how the SSI would be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence; and									
	(b)	details of the relevant conditions of approval, which would apply to each stage and how these will be complied with across and between the stages of the SSI.									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).									
A11		The Proponent must ensure that any strategy, plan, program, or other document, required by the conditions of this approval is submitted to the Secretary no later than one month prior to the commencement of construction or of the relevant stage(s), if the SSI is to be staged, (as identified in the Staging Report), unless otherwise agreed by the Secretary. While any strategy, plan or program may be									
		submitted on a progressive basis, the Proponent will need to ensure that the activities on site are covered by relevant and suitable strategies, plans or programs at all times; and 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 the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.									
A12		The Proponent will be responsible for any breaches of the conditions of approval resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.									
A13		In the event of a dispute between the Proponent and another public authority in relation to an applicable requirement in this approval, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute will be final and binding on the parties unless further statutory approval is required.									
A14		The Proponent must prepare and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Compliance Tracking Program must be submitted to the Secretary for approval prior to the commencement of construction and operate for a minimum of 24 months following commencement of operation, subject to the Secretary's review of the outcomes of the Independent Environmental Audit Report required by condition E51. The operation of the program may be extended if the Secretary									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		determines that there has been unsatisfactory compliance. The Compliance Tracking Program must include, but not be limited to:									
	(a)	provision for the notification of the Secretary prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);									
	(b)	provision for periodic review of the compliance status of the SSI against the requirements of this approval and the environmental management measures committed to in the document referred to in condition A2(c);									
	(c)	provision for periodic reporting of compliance status to the Secretary, including but not limited to – (i) a Pre-Construction Compliance Report prior to the commencement of construction; (ii) quarterly Construction Compliance Reports, for the duration of construction, and a Pre-Operation Compliance Report prior to the commencement of operation; and six monthly operational compliance reports									
	(d)	a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems;									
	(e)	mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;									
	(f)	provision for reporting environmental incidents to the Secretary during construction, in accordance with conditions A15 and A16;									
	(g)	procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and									
	(h)	provision for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities									
A15		The Proponent must notify the EPA in relation to any pollution incident in carrying out the SSI as required by the <i>Protection of the Environment Operations Act 1997.</i> The Proponent must provide the Secretary with a record of any such notification.									

Re		iub lef	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
A1	6		The Proponent must notify the Secretary (using the contact name and phone number notified by the Department from time to time) of any incident (other than those relating to the <i>Protection of the Environment Operations Act 1997</i>) with actual, or potential, significant off-site impacts on people or the biophysical environment immediately of becoming aware of the incident on weekdays, or the following business day on weekends, public holidays and site shutdown. The Proponent must provide full written details of the incident to the Secretary within seven days of the date on which the incident occurred.									
A1	7		The Proponent must meet the requirements of the Secretary or relevant public authority (as determined by the Secretary) to address the cause or impact of any incident, as it relates to this approval.									
B [*]			The ventilation outlets must be constructed at the locations specified in Appendices A, B and C.									
В	2		Unless otherwise approved by the Secretary, the ventilation outlets must be constructed at an approximate height of:									
	((a)	the Kingsgrove ventilation outlet: RL 53 metres (AHD) being a height of 30 metres above the ground in the location shown in Figure 1 in Appendix A;									
	((b)	the Arncliffe ventilation outlet: RL 39 metres (AHD) being a height of 35 metres above the ground in the location shown in Figure 2 in Appendix B; and									
	((c)	the St Peters ventilation outlet: RL 25.5 metres (AHD) being a height of 20 metres above the ground in the location shown in Figure 3 in Appendix C.									
В	3		The ventilation outlet exit plane must have a minimum exit velocity or variable velocity, as detailed in the WestConnex New M5 Air Quality Assessment Report (RMS, 2015) (a component of the documents listed in condition A2), to be determined in the Tunnel Ventilation, Incident Response and Traffic Management Systems Integration Protocol required under condition B7. This is unless an equivalent or better environmental									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		outcome than presented in the Proponent's most up to date air assessment can be demonstrated to the Secretary, in consultation with the EPA.									
B4		The tunnel ventilation system must be designed, constructed and operated to only release emissions from the ventilation outlets referred to in condition B2, and to avoid emissions from the portals and/or the emergency smoke extraction facilities at Bexley and Arncliffe. Emissions from the emergency smoke extraction facilities are excepted for emergency smoke management purposes in the event of a fire in the tunnel and periodic testing of the system as defined in the Operation Environmental Management Plan required under condition E31(g).									
B5		The tunnel must be designed and constructed so as to allow for future modification of the ventilation system if required. The Proponent must submit a report to the Secretary demonstrating how this will be allowed for prior to finalising detailed design									
В6		The Proponent must install ventilation outlet emission sampling points and associated safe access thereto, during construction of the ventilation outlet. The sampling points must be designed and located in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (EPA, 2007, or as updated), or an equivalent methodology approved by the Secretary in consultation with the EPA.									
B7		Prior to operation, the Proponent must prepare and implement a Tunnel Ventilation, Incident Response and Traffic Management Systems Integration Protocol in consultation with the Transport Management Centre. The Tunnel Ventilation, Incident Response and Traffic Management Systems Integration Protocol must be reviewed by a suitably qualified and experienced independent ventilation specialist to confirm that, before the tunnel is open to traffic, the ventilation/traffic management systems would operate together to ensure that the conditions of this approval are met. The Protocol should include a commissioning procedure to be completed before the tunnel is opened to traffic. The Protocol must be submitted to the Secretary for approval at least six months prior to the operation of the SSI.									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		Tunnel ventilation design and operation, incident response triggers and procedures, and traffic management, should be fully integrated in accordance with the primary objective of ensuring the safety of motorists in the tunnel.									
B8		Prior to operation, the Proponent must install permanent signage at each tunnel entrance and use variable messaging signage provided at regular intervals throughout the tunnel to instruct tunnel users to close windows and turn on recirculated air. Relevant information about this instruction is to be provided on a website, operated by the Proponent, which is maintained throughout operation of the SSI.									
В9		Prior to finalising the detailed design of the SSI and establishing the ambient air quality monitoring stations required under condition E10 the Proponent must establish an Air Quality Community Consultative Committee (AQCCC) to provide input prior to and during the operation of the SSI. The AQCCC must:									
	(a)	(i) two representatives from the Proponent and tunnel operator; (ii) one representative from each of the relevant councils, whose attendance is only required when considering matters relevant to their respective local government area; (iii) three representatives from the local community adjacent to the St Peters ventilation facility or three representatives from the local community adjacent to the Kingsgrove ventilation facility or three representatives adjacent to the Arncliffe ventilation facility whose attendance is only required when considering matters relevant to their respective local area, and whose appointment has been approved by an expression of interest process conducted by the Proponent in consultation with the Secretary, and a Chair who is an independent party put forward by the Proponent and approved by the Secretary;									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
	(b)	meet at least four times a year, or as otherwise agreed by the chair and the Secretary;									
	(c)	review and provide advice on the location of the air quality monitoring stations required under condition E10, operation environmental management plans and other operation stage documents, compliance tracking reporting, audit reports, or complaints as they relate to air quality; and									
	(d)	provide advice on the dissemination of monitoring results and other information on air quality issues									
		The AQCCC must operate for up to two years after commencement of operation, or as otherwise approved or directed by the Secretary, in consultation with the Chair.									
B10		The Proponent must offset the entire community of the Environmental Protection and Biodiversity Conservation Act 1999 listed Cooks River/Castlereagh Ironbark Forest Critically Endangered Ecological Community located at the site adjacent to Rosebank Avenue between Beverly Grove and Canterbury Golf Course. Construction works involving impacts to the listed community must not commence until the offsets required have been fully identified and evidence provided that they should be achievable. All ecosystem credits proposed to provide biodiversity offsets for this community must be generated by native vegetation meeting the definition of this ecological community under the Environment Protection and Biodiversity Conservation Act 1999. Calculation of the credits required for that part of the community not directly impacted by the project (approximately 0.4 hectares) is to be calculated using a pro-rata assessment (i.e. approximate 0.4 hectares divided by area of community directly impacted).									
B11		The Proponent must offset impacts to the Paperbark Swamp Forest and Green and Golden Bell Frog in accordance with the requirements of the Framework for Biodiversity Assessment.									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
B12		The Proponent must prepare a report which details the progress made towards securing the offsets described in the Biodiversity Offset Strategy presented in the document referred to in condition A2(b) and required by conditions B10 and B11. The report must be submitted to the Secretary for approval prior to the commencement of any works that may impact on the vegetation communities and Green and Golden Bell Frog and its habitat.									
B13		Within 12 months of the commencement of construction, unless otherwise agreed by the Secretary, the Proponent must develop and submit to the Secretary for approval, a Biodiversity Offset Package . The Package must be prepared in consultation with OEH and DoE and confirm how the impacts of the SSI will be offset. The Package must be consistent with the biodiversity offset strategy requirements of the <i>NSW Biodiversity Offsets Policy for Major Projects</i> (OEH, 2014). The Package must include, but not necessarily be limited to:									
	(a)	identification of the number of biodiversity credits required to offset the impacts of the SSI;									
	(b)	details on the biodiversity credits identified to offset the impacts of the SSI and evidence that they can be attained and secured in accordance with the NSW Biodiversity Offsets Policy for Major Projects; and									
	(c)	for offsets not secured through the retirement of biodiversity credits, details on the supplementary measures that would be implemented to offset the residual impacts, in accordance with Appendix B of the NSW Biodiversity Offsets Policy for Major Projects and the Framework for Biodiversity Assessment (OEH, 2014).									
		All required offsets must be secured within two years of the commencement of construction unless otherwise agreed by the Secretary, in consultation with the OEH and DoE. The Proponent must submit to the Secretary and DoE a copy of the credit retirement report issued by the OEH once the offsets are secured, within one month of receiving the report.									
		Should supplementary measures be proposed, the Package must also provide details on:									

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	(a)	the management and monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including: (i) the monitoring of condition of species and the ecological communities at offset (including translocation) locations, (ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites; (iii) provisions for the annual reporting of the monitoring results to the Department, OEH and DoE and the public for a set period of time, as determined in consultation with OEH and DoE; timing and responsibilities for the implementation of the supplementary measures; and									
		implemented to ensure that any land offsets are protected and managed in perpetuity. The supplementary measures must be implemented by the Proponent according to the timeframes set out in the Biodiversity Offset Package, unless otherwise agreed by the Secretary.									
B14		The Proponent must prepare and submit to the Secretary for approval an updated Green and Golden Bell Frog Plan of Management for the Arncliffe population of Green and Golden Bell Frog prior to commencing construction at the Arncliffe construction compound. The Plan must be developed from the Green and Golden Bell Frog Management Plan presented in the document referred to in condition A2(b), by a suitably qualified and experienced frog specialist, in consultation with OEH. The updated Plan must include, but not necessarily be limited to:									

(e) an adaptive monitoring program to assess the effectiveness of the construction and opporational mitigation measures and ongoing survival of the Amelife population at the Kogarah Golf Course. The monitoring program must – (i) detail the monitoring that would be undertaken during construction to ascartain the effectiveness of the on-site management and mitigation measures at limiting impacts on the Green and Colden Bell Frogs. NSW Eventual Such time as the use and affectiveness of the Amelife population during operation of the SSI until such time as the use and affectiveness of the proposed mitigation measures can be a minimum of three generations of frogs, unless otherwise agreed by the Secretary in consultation with OEH (iii) nominate the performance criteria against which the ongoing survival of the Amelife proposed mitigation and operation, the SSI, and the timing and responsibilities for monitoring during construction and operation, include goals and performance indicators to measure the effectiveness of the mitigation achievable, residued and performance indicators to measure the effectiveness of the mitigation achievable, residued and performance indicators to measure the effectiveness of the mitigation achievable, residued and performance indicators to measure the effectiveness of the mitigation achievable, residued and performance indicators to measure the effectiveness of the mitigation achievable, residued and performance indicators to measure the effectiveness of the mitigation achievable, residued and performance in effects of the mitigation achievable, residued and performance in effects of the employment of the Creen and Golden Bell Frog. (c) evidence of consultation with the OEH and how its comments have been addressed in the updated Plan:	Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		(b)	effectiveness of the construction and operational mitigation measures and ongoing survival of the Arncliffe population at the Kogarah Golf Course. The monitoring program must – (i) detail the monitoring that would be undertaken during construction to ascertain the effectiveness of the on-site management and mitigation measures at limiting impacts on the Green and Golden Bell Frogs, NSW Government Department of Planning and Environment (ii) include provision for ongoing monitoring of the Arncliffe population during operation of the SSI until such time as the use and effectiveness of the proposed mitigation measures can be demonstrated to have been achieved over a minimum of three generations of frogs, unless otherwise agreed by the Secretary in consultation with OEH (iii) nominate the performance criteria against which the ongoing survival of the Arncliffe population at the Kogarah Golf Course will be measured during construction and operation of the SSI, and the timing and responsibilities for monitoring during construction and operation, (iv) include goals and performance indicators to measure the effectiveness of the mitigation measures that are specific, measurable, achievable, realistic and timely (SMART), (v) provide details of contingency measures and corrective actions that would be implemented in the event of reductions in population numbers, habitat usage and distribution and movement of the Green and Golden Bell Frog, and address densities, distribution and habitat use; evidence of consultation with the OEH and how its comments have been addressed in the updated Plan;									

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	(d)	mechanisms for annual reporting of the monitoring results to the Secretary and publication of the annual report on the Proponent's website.									
		The Green and Golden Bell Frog Management Plan must be implemented.									
B15		The Proponent must prepare and submit to the Secretary for approval within three months of the commencement of construction of the SSI, unless otherwise agreed by the Secretary, an updated Habitat Creation and Captive Breeding Plan. The Plan must be developed from the Habitat Creation and Captive Breeding Plan - Green and Golden Bell Frog at Arncliffe presented in the document referred to in condition A2(c), by a suitably qualified and experienced frog specialist, in consultation with OEH. The updated Plan must include, but not necessarily be limited to:									
	(a)	an adaptive monitoring program to assess the success of the habitat creation and survival and breeding of the released Green and Golden Bell Frog population at the created Marsh Street habitat area. The monitoring program must include – (i) details on the monitoring that would be undertaken to ascertain the effectiveness of the breeding plan, colonisation of the Marsh Street habitat and connectivity with the Kogarah Golf Course; (ii) provision for ongoing monitoring of the Green and Golden Bell Frog population, including densities, distribution and habitat use; (iii) the performance criteria against which the ongoing survival of the frog population will be measured; (iv) performance indicators that are specific, measurable, achievable, realistic and timely (SMART); (v) details on the timing and responsibilities for monitoring, and details of contingency measures and corrective actions that would be implemented in the event of reductions in population numbers, habitat usage and distribution and movement of the Green and Golden Bell Frog;									

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	(b)	details on the husbandry protocols that would be implemented including the experts involved and facility that would conduct the captive breeding program;									
	(c)	adherence to the Guidelines for minimising disease risks associated with captive breeding, raising and restocking programs for Australian frogs (Murray et al, 2011);									
	(d)	processes to ensure that frogs are also available for release at the breeding ponds at the Kogarah Golf Course in the event that the existing population becomes extinct;									
	(e)	detailed disease and predator protocols for the released frogs;									
	(f)	processes for certifying that imported landscaping materials are disease free;									
	(g)	ongoing maintenance and management procedures for the Marsh Street habitat and Green and Golden Bell Frog Population, including timing and responsibilities; and									
	(h)	evidence of consultation with the OEH and how its comments have been addressed in the updated Plan;									
	(i)	responsibilities for the timing and implementation of the Plan;									
	(j)	mechanisms for the ongoing monitoring, review and amendment of this Plan; and									
	(k)	mechanisms for annual reporting of the monitoring results to the Secretary and publication of the annual report on the Proponent's website.									
		The Habitat Creation and Captive Breeding Program must be implemented and the Marsh Street habitat area established within'12 months of the commencement of construction, unless otherwise agreed by the Secretary.									

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B16		Where the results of monitoring undertaken in accordance with condition B14(i) indicates that the implemented mitigation measures at the Kogarah Golf Course are ineffective or adverse changes to the population have occurred, the Proponent must provide the Secretary, within one month of recording the changes, notification of the adverse changes and details of the corrective actions/management measures that are proposed to be implemented. The corrective actions/management measures must be developed in consultation with the OEH. For the purpose of this condition, an 'adverse change' means an observed change in the abundance, growth or structure of the Arncliffe population of Green and Golden Bell Frogs. This includes, but is not limited to:									
	(a)	a decrease in the overall abundance of Green and Golden Bell Frogs in the Arncliffe population;									
	(b)	a shift in the population structure, such as a proportional decrease in the number of sexually mature males or females;									
	(c)	a change in the population growth, such as the documented loss of cohorts of adults and/or juveniles from the [Arncliffe] population; and/or									
	(d)	an increase in the occurrence of a known threat to the survival of individuals of this species at each life stage, including but not limited to the presence of Plague Minnow (Gambusia affinis) and/or Chytrid Fungus (Phylum chytridiomycota).									
B17		If, after 12 months, the corrective actions/mitigation measures are shown to be unsuccessful, the Proponent must submit to the Secretary, for approval, a further offset for the impacts to that part of the Arncliffe population occurring at the Kogarah Golf Course. The approved offset must be in place within 12 months of the Secretary's approval, unless otherwise agreed by the Secretary. The offset must require the retirement of Green and Golden Bell Frog species credits calculated in accordance with the Framework for Biodiversity Assessment, from a BioBanking agreement that includes a breeding site for this species.									

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B18		In the event that the existing Arncliffe population at the Kogarah Golf Course becomes extinct, in addition to the additional offset requirements of condition B17, the Proponent must prepare and implement a program for the release of Green and Golden Bell Frogs from the captive breeding program (undertaken in accordance with condition B15) into the Kogarah Golf Course. The release program must be developed in consultation with the OEH and submitted to the Secretary for approval within 12 months of the local extinction being recorded and before the frogs are released. The release program must be implemented.									
B19		In the event that the release of Green and Golden Bell Frogs from the captive breeding program is unsuccessful, the Proponent must investigate translocation from an alternate population. Any translocation would require licensing under the National Parks and Wildlife Act 1974.									
B20		Except as may be provided by an EPL, the SSI must be constructed and operated to comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> , which prohibits the pollution of waters.									
B21		All activities taking place in, on or under waterfront land, as defined in the <i>Water Management Act 2000</i> should be conducted generally in accordance with the <i>Guidelines for Controlled Activities on Waterfront Land (DPI, 2012).</i>									
B22		Watercourse crossings, including temporary work platforms, waterway crossings and/or coffer dams, where feasible and reasonable, must be consistent with the NSW Guidelines for Controlled Activities Watercourse Crossings (DPI, 2012), Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge, 2003), Policy and Guidelines for Fish Friendly Waterway Crossings (NSW Fisheries February, 2004), and Policy and Guidelines for Fish Habitat Conservation and Management (DPI Fisheries, 2013). Where multiple cell culverts are proposed for crossings of fish habitat streams, at least one cell must be provided for fish passage, with an invert or bed level that mimics watercourse flows.									

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B23		A Flood Mitigation Strategy must be prepared and implemented in respect of the flood prone land and overland flow paths for the waterways and catchments in the vicinity of the SSI. The Flood Mitigation Strategy must be designed to ensure that the SSI, where feasible and reasonable, does not worsen existing flooding characteristics in the vicinity of the SSI during construction and operation. The Flood Mitigation Strategy must include but not be limited to:									
	(a)	the identification of flood risks to the SSI and adjoining areas, including further modelling and the consideration of local drainage catchment assessments, and climate change implications on rainfall and drainage characteristics. This must consider blockages of waterway structures from floating debris in its flood level modelling;									
	(b)	a floor level survey to verify whether inundation would be above the floor levels of residential, commercial and/or industrial buildings;									
	(c)	the identification of design and mitigation measures that would be implemented to protect proposed operations;									
	(d)	not worsen existing flooding characteristics within and in the vicinity of the SSI boundary during construction and operation, including soil erosion and scouring;									
	(e)	consideration of limiting flooding characteristics to the following levels: (i) a maximum increase in inundation time of one hour in a 1 in 100 year ARI rainfall event; (ii) a maximum increase of 10 mm in inundation at properties where floor levels are currently exceeded in a 1 in 100 year ARI rainfall event; (iii) a maximum increase of 50 mm in inundation at properties where floor levels would not be exceeded in a 1 in 100 year ARI rainfall event; and (iv) no inundation of floor levels which are currently not inundated in a 1 in 100 year ARI rainfall event, or else provide alternative flood mitigation solutions consistent with the intent of these limits;									

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	(f)	the processes and actions committed to in the mitigation measures referred to in conditions A2(b) and A2(c);									
	(g)	the identification of measures to be implemented to minimise scour and dissipate energy at locations where flood velocities are predicted to increase as a result of the SSI and cause localised soil erosion or scour;									
	(h)	reconsideration of the proposed flood storage along Marsh Street with the intent of incorporating the flood storage requirements of the SSI into the proposed flood storage for the Cooks Cove development									
	(i)	identification of drainage system upgrades including those upgrades considered as mitigation measures and identified during the processes outlined in condition B29; and									
	(j)	identification of the timing and maintenance responsibility of any necessary works.									
		The Flood Mitigation Strategy must be prepared by a suitably qualified and experienced person in consultation with directly affected landowners, Sydney Water, OEH, and relevant councils.									
		The Flood Mitigation Strategy must be peer reviewed and confirmed as meeting the requirements of this condition by a suitably qualified and experienced independent hydrological engineer. The Flood Mitigation Strategy must be submitted to the Secretary and the relevant council(s) prior to the commencement of works which have been identified in the documents listed in condition A2(b) and A2(c)									
		as potentially increasing flood levels, or as otherwise agreed by the Secretary									
B24		All relevant information must be provided to the relevant council and/or NSW State Emergency Service, to assist in the preparation of any new or necessary update(s) to the relevant plans and documents in relation to flooding, to reflect changes in flooding levels, flows and characteristics as a result of the SSI.									

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B25		Unless otherwise agreed by the Secretary, a Flood Review Report(s) must be prepared within three months after the first defined flood event for any of the following flood magnitudes – the 5 year ARI event, 20 year ARI event, 100 year ARI event and probable maximum flood - to assess the actual flood impact against those predicted in Appendix P of the document referred to in condition A2(b). The Flood Review Report(s) must be prepared by an appropriately qualified person(s) and include:									
	(a)	identification of the properties and infrastructure affected by flooding during the reportable event;									
	(b)	a comparison of the actual extent, level, velocity and duration of the flooding event against the impacts predicted in Appendix P of the document referred to in condition A2(b), or as otherwise altered by the Flood Mitigation Strategy; and									
	(c)	where the actual extent and level of flooding exceeds the predicted level with the consequent effect of adversely impacting of property(ies), structures and infrastructure, identification of the measures to be implemented to reduce future impacts of flooding related to the SSI works including the timing and responsibilities for implementation.									
		Flood mitigation measures must be developed in consultation with the affected property/structure/infrastructure owners, OEH and the relevant council.									
		A copy of the Flood Mitigation Report(s) must be submitted to the Secretary and relevant council(s) within one month of finalising the report(s).									
B26		The Proponent must take all feasible and reasonable measures to limit operational groundwater inflows into each tunnel to no greater than one litre per second across any given kilometre.									

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B27		The Proponent must undertake further modelling of groundwater drawdown, tunnel inflows and saline water migration prior to finalising the design of the tunnel and undertaking any works that would impact on groundwater flows or levels. The modelling must be undertaken in consultation with DPI (Water) and include the results of at least 12 months of current baseline groundwater monitoring data. The results of the modelling must be documented in a Groundwater Modelling Report . The Groundwater Modelling Report must be finalised in accordance with the <i>Australian Groundwater Modelling Guidelines</i> (National Water Commission, 2012) and prepared in consultation with DPI (Water). The Groundwater Modelling Report must include, but not be limited to:										
	(a) (b)	justification for layer choice; specification of matrix hydraulic and storage parameters for each layer										
	(c)	statistical evaluation of the model's calibration;										
	(d)	details of the groundwater monitoring data inputs (levels and quality);										
	(e)	details of the proposed groundwater model update and validation as additional data is collected;										
	(f)	assessment of impacts of groundwater drawdown, taking into consideration the NSW Aquifer Interference Policy (DPI, 2012), including potential impacts on licensed bores and groundwater dependent ecosystems;										
	(g)	a comparison of the results with the modelling results detailed in the document referred to in condition A2(b); and										
	(h)	documentation of any additional measures that would be implemented to manage and/or mitigate groundwater impacts not previously identified or identified but at a smaller scale.										
		A copy of the Groundwater Modelling Report must be submitted to the Secretary prior to finalising the tunnel design. The Groundwater Modelling Report must include details of consultation with DPI (Water)										

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B28		A Water Quality Plan and Monitoring Program must be prepared and implemented to monitor and avoid or mitigate impacts on surface and groundwater quality and resources, during construction and operation. The Water Quality Plan and Monitoring Program must be developed in consultation with DPI (Water), Sydney Water and relevant councils, and must include, but not be limited to:									
	(a)	identification of works and activities during construction and operation of the SSI, including tunnel discharge, runoff, emergencies and spill events, that have the potential to impact on groundwater quality, levels or potentiometric pressure (in confined aquifers), and surface water quality of potentially affected watercourses and riparian land;									
	(b)	a risk management framework for evaluation of the risks to groundwater and surface water resources and dependent ecosystems as a result of groundwater inflows to the tunnels or discharges to surface water receiving environments, including definition of trigger values for contingency and ameliorative measures;									
	(c)	the identification of environmental management measures that would be implemented to manage impacts to surface waters and groundwater during construction and operation, including water treatment, erosion and sediment control and stormwater management measures consistent with Water Sensitive Urban Design measures, where relevant, and consistent with the measures detailed in the documents listed in conditions A2(b) and A2(c);									
	(d)	details of construction water treatment plants and the operational water treatment plants, including treatment processes, discharge water quality criteria (taking into consideration any water uses and proposed rehabilitation measures downstream of the discharge locations), discharge locations and rates (and justification for their location), treatment capacity, and any proposed on-site storage of flows;									

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	(e)	commitment to designing discharge points into watercourses affected by the SSI to emulate a natural stream system, where feasible and reasonable, or where emulation cannot be achieved, adequate scour protection measures are to be implemented;									
	(f)	consideration of any naturalisation or rehabilitation programs occurring upstream or downstream of waterways or drainage lines intersected by the SSI, including the Wolli Creek Riparian Corridor Management Plan;									
	(g)	the presentation of water quality objectives, standards, environmental values and parameters against which any changes to water quality will be assessed, based on the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Agriculture and Resource Management Council of Australia and New Zealand and the Australian and New Zealand Environment and Conservation Council, 2000). Where alternate guidelines are used to establish water quality objectives (including the levels for protection of aquatic ecosystems in receiving waters), justification for this must be provided. In particular, justification must be provided for the classification of waterways as 'highly disturbed' versus 'slightly to moderately disturbed' receiving environments;									
	(h)	details on the current water quality, including at least 12 months of representative background monitoring data (including but not limited to representative data collected by the relevant councils, agencies and organisations where readily available) for surface and groundwater quality, levels and potentiometric pressures (in confined aquifers), to establish baseline water conditions prior to the commencement of construction;									
	(i)	monitoring of the quality of discharges from construction and operational water treatment plants;									
	(j)	identification of construction and operational phase surface water and groundwater monitoring locations including watercourses and waterbodies which are representative of the potential extent of impacts from the SSI, including the relevant analytes and frequency of monitoring;									

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	(k)	groundwater monitoring must be able to demonstrate that groundwater discharge quality is consistent with supporting the water quality objectives defined in accordance with B28(g) and include, but not be limited to - (iii) sites in the vicinity of Bardwell Park (to confirm groundwater quality), (iv) inside and outside the cut-off wall at the Alexandria Landfill, (v) monitoring of groundwater levels at Stotts Reserve, southern bank of Wolli Creek behind the Wolli Creek station and forested areas along Bardwell Creek to ascertain potential impacts on groundwater dependent ecosystems, and monitoring of drawdown along the alignment of the tunnels;									
	(1)	details on the condition and status of licensed bores likely to be impacted by the SSI;									
	(m)	commitment to a minimum monitoring period of three years following the completion of construction or until the affected waterways and/or groundwater resources are certified by a suitably qualified and experienced independent expert as being rehabilitated to an acceptable condition, unless otherwise approved or directed by the Secretary. The monitoring must also confirm the establishment of operational water control measures (such as sedimentation basins and vegetation swales);									
	(n)	details of how the potential impact of discharges on receiving waters would be avoided or minimised, including design and operational measures incorporated into the SSI to protect water quality and, where feasible and reasonable, enhance water quality over time;									
	(0)	contingency and ameliorative measures in the event that adverse impacts to water quality or groundwater flows, levels or potentiometric pressures (in confined aquifers) are identified, with reference to the impact triggers defined in accordance with B28(b);									
	(p)	identification of and commitment to 'make good' provisions for groundwater users to be implemented in the event of a decline in water supply levels, quality and quantity from existing bores associated with groundwater changes from either construction and/or ongoing operational dewatering caused by									

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		the SSI;									
	(q)	procedures for monitoring of streambed fracturing;									
	(r)	procedures for monitoring and annual reporting of extracted groundwater volumes to DPI (Water) for a minimum monitoring period of three years following completion of construction, unless otherwise approved or directed by the Secretary; and									
	(s)	procedures for annual reporting of the monitoring results to the Secretary, DPI (Water), and the relevant councils.									
		The Water Quality Plan and Monitoring Program must be submitted to the Secretary for approval prior to the commencement of construction of the SSI, unless otherwise agreed by the Secretary. A copy of the Water Quality Plan and Monitoring Program must be submitted to the DPI (Water), Sydney Water and relevant councils prior to its implementation. Nothing in this condition prevents the Proponent from preparing separate Water Quality and Monitoring Programs for the construction and operational stages of the SSI. Where a separate Water Quality and Monitoring Program is prepared for the operation of the SSI, this must be submitted to the Secretary for approval at least six months prior to the commencement of operation of the SSI.									
B29		The Proponent must undertake further hydrological and hydraulic modelling based on the detailed design of the SSI to determine the ability of the receiving drainage systems to effectively convey pavement drainage from the SSI once operational. The modelling must be undertaken in consultation with the relevant council(s) and the outcomes documented in a Stormwater Drainage Report . The Stormwater Drainage Report must:									
	(a)	confirm the location, size and capacity of all drainage basin structures associated with the operation of the SSI;									

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	(b)	assess the potential impacts of pavement drainage discharges from the SSI drainage systems on the receiving environment including the hydrology (water quality and quantity) of receiving waterways, riparian vegetation, aquatic ecology and property;									
	(c)	identify all feasible and reasonable mitigation measures to be implemented where pavement drainage from the SSI drainage systems is predicted to adversely impact on the receiving environment;									
	(d)	where pavement drainage from the SSI flows to a council stormwater drainage system, confirm the location of the cross drainage point and, where available, use drainage information obtained from the relevant council, to –									
		(i) confirm the capacity of the council's drainage system and its ability to receive and convey the flows, (ii) identify any consequent upstream and downstream impacts on cross drainage infrastructure capacity, (iii) assess the 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 identify all feasible and reasonable mitigation measures to be implemented where increased flows through cross drainage systems adversely impact on council drainage infrastructure and the receiving environment; and									
	(e)	set out a clear time frame for the implementation of mitigation measures.									
		The Stormwater Drainage Report must be submitted to the Secretary prior to the commencement of any new operational drainage works, modifications to existing stormwater drainage works, or construction of hard surfaces associated with the operation of the SSI that would result in runoff to existing or new stormwater drainage systems, unless otherwise agreed by the Secretary.									
B30		The Proponent must prepare a Water Reuse									

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		Strategy which sets out feasible and reasonable options for the reuse of collected stormwater and groundwater during construction and operation of the SSI. The Water Reuse Strategy must include, but not be limited to:									
	(a)	evaluation of all feasible and reasonable reuse options;									
	(b)	details on the preferred reuse option(s), including volumes of water to be reuse, proposed reuse locations and/or activities, proposed treatment (if required), and any additional licences or approvals that may be required; and									
	(c)	a time frame for the implementation of the preferred reuse option(s).	1								
		Justification must be provided in the event that it is concluded that no feasible or reasonable reuse options prevail.									
		A copy of the Water Reuse Strategy must be submitted to the Secretary for approval prior to commencement of tunnelling works.									
		Nothing in this condition prevents the Proponent from preparing separate Water Reuse Strategies for the construction and operational phases of the SSI. Where a separate Strategy is prepared for the operation of the SSI, this must be submitted to the Secretary for approval at least six months prior to the commencement of operation of the SSI.									

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B31		Prior to the commencement of any activities that would result in the disturbance of land and/or soil, or as otherwise agreed by the Secretary, in areas identified as having a moderate to high risk of contamination, a Soil Contamination Report must be prepared by a suitably qualified person(s) in accordance with the requirements of the Contaminated Land Management Act 1997 and associated guidelines, detailing the outcomes of Phase 2 contamination investigations within these areas. The Soil Contamination Report must detail, where relevant, whether the land is suitable (for the intended land use) or can be made suitable through remediation and/or outline the potential contamination risks from the SSI to human health and receiving waterways. For land to be disturbed by the SSI, where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy, measures to identify, handle and manage potential contaminated soils, materials and groundwater must be identified in the Soil Contamination Report and incorporated into the Construction Environmental Management Plan, unless otherwise agreed by the Secretary. Should a remediation strategy be required, the Soil Contamination Report must include a Remediation Action Plan for addressing the disturbed area, and how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil or groundwater. If remediation is required, the Soil Contamination Report must be accompanied by a Site Audit Statement(s), prepared by an accredited Site Auditor under the Contaminated Land Management Act 1997, verifying that the disturbed area has been or can be remediated to a standard consistent with the intended land use. Where land is remediated, a final Site Audit Statement (s) must be prepared by an accredited Site Auditor, certifying that the contaminated disturbed areas have been remediated to a standard consistent with the intended land use. The fi									

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B32		The Proponent must submit a copy of the final Landfill Closure Management Plan to the Secretary prior to the commencement of any closure or construction works at Lot 2 DP 1168612, 10-16 Albert Street, St Peters (the Alexandria Landfill). The Plan must be accompanied by a statement which sets out where the following have been addressed in the Landfill Closure Management Plan:									
	(a)	the environmental and monitoring framework to be implemented following the cessation of waste disposal and material recycling activities at the Alexandria Landfill and associated waste recycling and transfer facility;									
	(b)	existing operational consents and approvals for use of the site as a waste storage and recycling facility;									
	(c)	the proposed future use of the site;									
	(d)	the closure and stabilisation of the site including details of final capping designs and future landform;									
	(e)	a groundwater monitoring bore network, to monitor the movement of groundwater within and immediately outside the cut-off wall;									
	(f)	material tracking;									
	(g)	occupational health and safety requirements;									
	(h)	community engagement processes;									
	(i)	specific measures for the management, monitoring and reporting of; (i) dust and odour; (ii) asbestos; (iii) leachate and gases; stormwater; and									
	(j)	any outstanding clean-up notices, and									
	(k)	evidence that the EPA has reviewed the Landfill Closure Management Plan and has no outstanding concerns. Where any of the above details have not been included in the final Landfill Closure Management									
		Plan, then the Proponent must provide the details in the statement accompanying the plan required by this condition.									

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B33		The Proponent must not destroy, modify or otherwise physically affect any heritage items, including human remains, outside of the SSI footprint. This approval does not allow the Proponent to harm, modify, or otherwise impact human remains uncovered during the construction and operation of the SSI.									•
B34		The Proponent must salvage sections of the laminated timber from the Rudders Bond Store prior to demolition of the building and assess options for its reuse within the project area at St Peters and maximise its use within the operational facilities. The sections to be salvaged must be determined in consultation with the Heritage Council of NSW (or its delegate). The Proponent must submit to the Secretary written advice from the Heritage Council of NSW that it is satisfied with the proposed level of salvage, prior to the building being demolished.									
B35		The Proponent must salvage items and materials from heritage items as advised by an independent heritage consultant. The list of items and materials to be salvaged must be developed in consultation with the relevant council(s) and submitted to the Secretary for consideration prior to demolition of any heritage items. How the items are reused in the project is to be detailed in the Urban Design and Landscape Plan required by condition B61 Any residual items and materials are to be made available, through a process to be developed by the Proponent in consultation with the relevant council(s), to property owners within the locality from where the material originated.									
B36		Except for necessary stabilisation or maintenance works agreed in consultation with the Secretary, the Proponent must not destroy, modify or otherwise physically affect the Service Garage located at 316 Princes Highway, St Peters									
B37		Identified impacts to heritage items and heritage conservation areas must be minimised through both detailed design and construction. The measures for ensuring this are to be detailed in the Construction Heritage Management Plan required by condition D68(c).									
B38		Prior to conducting acoustic treatment at any heritage items in accordance with this approval, the									

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		Proponent must obtain and implement the advice of an appropriately qualified and experienced heritage expert to ensure such work is carried out in a manner sympathetic to the heritage values of the item.									
B39		Any buildings or structures identified as potential heritage items in the documents listed in conditions A2(b) and A2(c) or identified during detailed design or construction of the SSI, must be dealt with as though they are a locally listed heritage item.									
B40		The Proponent must prepare a Heritage Interpretation Plan which identifies and interprets the key heritage values and stories of heritage items and heritage conservation areas impacted by the SSI. The Heritage Interpretation Plan must include, but not be limited to:									
	(a)	a discussion of the key interpretive themes, stories and messages proposed to interpret the history and significance of the affected heritage items and sections of heritage conservation areas including, but not limited to, St Peters Brickpit Geological site, the Alexandra Canal, Terraces at 28-44 and 82 Campbell Street and the Rudders Bond Store; and									
	(b)	identification and confirmation of interpretive initiatives implemented to mitigate impacts to archaeological relics, heritage items and conservation areas affected by the SSI.									
		The Heritage Interpretation Plan must be prepared in consultation with the NSW Heritage Council and the relevant local councils. A copy of the Plan must be provided to the NSW Heritage Council, the relevant local councils and the Secretary at least six months prior to the operation of the SSI.									
B41		The Proponent must compile photographic records of those parts of the Alexandra Canal to be impacted by the construction of stormwater drainage works both prior to and post the works being undertaken. The photographs taken prior to the works must be included in the Construction Heritage Management Plan required under condition D68(c) and referred to when reinstating the bricks of the canal embankment to ensure that they are correctly replaced. The preand post-works photographs must be made available to the Heritage Council of NSW and the Secretary on request.									
B42		The Proponent shall appoint an appropriately qualified and experienced heritage expert to oversee the removal and reinstatement of sections of the									

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		embankment wall of the Alexandra Canal affected by the construction of stormwater drainage points.									
B43		The SSI is to be designed with the objective of improving, on balance, and not adversely impacting on:									
	(a)	the performance of the road network for all road users, including but not limited to vehicles, freight, public transport and active transport; and									
	(b)	existing access arrangements and services for all road users, including consideration of speed and reliability of public transport services.									
B44		The SSI must be designed to not preclude delivery of the King Street Gateway Project. Consultation with the relevant council(s) must be undertaken during detailed design of the SSI to facilitate integration of the two projects. Current traffic modelling and assessment, and the result of the Road Network Performance Review Plan as required in condition E40 where applicable, must be provided to the relevant authority and used in the development of the King Street Gateway Project.									
B45		Where bus stops are required to be temporarily closed during construction, such closure must not occur until:									
	(a)	for bus stops identified for relocation in the documents referred to in condition A2(b), relocated bus stops are functioning, have similar capacity and are relocated within a 400 metre walking distance of the existing bus stop (where feasible and reasonable); or for bus stops identified for temporary removal in the documents referred to in condition A2(b), bus stops are identified that are within a 400 metre walking distance of the removed bus stop (where feasible and reasonable), have comparable capacity, and are on the same route and in the same direction of the closed bus stop.									
		Where temporary closures of bus stops are required (including relocation or removal), adequate wayfinding signage shall be provided directing commuters to adjacent or relocated bus stops. Any closures or alterations to bus stops during construction are to be undertaken in consultation with Transport for NSW.									
B46		All bus stops temporarily removed or relocated									

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		during construction of the SSI must be reinstated in a manner that provides equal or improved capacity and accessibility in consultation with Transport for NSW and relevant councils prior to the commencement of operation of the SSI									
B47		To improve pedestrian and cycle accessibility, road lane widths, associated medians and intersection geometry are to be minimised, where feasible and reasonable, without compromising safety									
B48		In relation to new or modified local road, parking, pedestrian and cycle infrastructure, the SSI (including ancillary facilities) must be designed to meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice									
B49		An independent Road Safety Audit(s) is to be undertaken by an appropriately qualified and experienced person during detailed design to assess the safety performance of any new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the SSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice. Audit findings and recommendations must be actioned prior to construction of the relevant infrastructure and must be made available to the Secretary on request.									
B50	(a)	The Proponent must undertake a Pedestrian and Cycleway Network Review. The Review must be prepared and approved by the Secretary within six months from the date of this approval (or as otherwise agreed by the Secretary) to identify pedestrian and cycle facilities that are to be provided by the Proponent as part of the SSI. The Review must be prepared by a suitably qualified and experienced person(s) that has been approved by the Secretary. The Review must be undertaken in consultation with the relevant councils and Bicycle NSW and address the matters raised during consultation. The Review must identify (and consider), but not be limited to: current and future land use and associated pedestrian and cycle demand and needs;									

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	(b)	pedestrian and cycle impacts associated with the project;									
	(c)	the King Street Gateway Project, including potential Princes Highway traffic calming initiatives;									
	(d)	Alexander Canal initiatives;									
	(e)	regional and local pedestrian and cycling strategies;									
	(f)	pedestrian and cycle safety, accessibility and connectivity, including the public realm;									
	(g)	Intersection and signal phasing opportunities to reduce waiting and crossing times for pedestrians and cyclists;									
	(h)	provision of upgraded cycle and pedestrian facilities within 1,000 metres of the boundary of the St Peters Interchange, apart from the areas addressed in conditions B62(c) and B64; and									
	(i)	concept designs for pedestrian and cycleway infrastructure and implementation timeframes									
		The Review is also to consider the delivery of the 'M5 East Green Link' between Kingsgrove and Mascot approved as part of the M5 East Motorway project. The review shall address past constraints to the delivery of this project and options to overcome these constraints. The Review must not result in a reduced level of cycle and pedestrian infrastructure as identified in the documents referred to in condition A2, unless required by these conditions.									
B51	(a)	A detailed Pedestrian and Cycle Implementation Strategy must be submitted to the Secretary within 12 months of the date of this approval (or as otherwise agreed by the Secretary) and implemented at the commencement of project operations, except as permitted by this approval. The strategy must be prepared in consultation with relevant councils and Bicycle NSW. The Strategy must be consistent with the approved Pedestrian and Cycleway Network Review and include: pedestrian and cycle engineering and safety standards;									

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	(b)	a safety audit of existing and proposed pedestrian and cycle facilities to address the above standards (including the shared path audit undertaken for the King Georges Road Interchange Project SSI-6547);									
	(c)	details of selected routes and connections to existing local and regional routes;									
	(d)	timing and staging of all works;									
	(e)	infrastructure details including lighting, safety, security and standards compliance;									
	(f)	signage and wayfinding ,measures; and									
	(g)	details of associated landscaping works									
		The Strategy shall be endorsed by a suitably qualified and experienced person(s) approved by the Secretary. The endorsement shall address each of the listed matters in this condition. All identified works arising from this condition are to be implemented by the Proponent.									
B52		Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence or waste exemption under the <i>Protection of the Environment Operations Act 1997</i> , if such a licence is required in relation to that waste.									
B53		The reuse and/or recycling of waste materials generated on site must be maximised as far as practicable, to minimise the need for treatment or disposal of those materials off site.									
B54		All liquid and/or non-liquid waste generated on the site must be assessed and classified in accordance with Waste Classification Guidelines (DECCW, 2009) or any superseding documents.									
B55		All waste materials removed from the SSI site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.									
B56		The handling of spoil generated during construction of the SSI is to be conducted in accordance with the Spoil Management Plan required under condition D51.									

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B57		Utilities, services and other infrastructure potentially affected by construction and operation must be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI must be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required.									
B58		The Proponent must undertake dilapidation surveys and prepare dilapidation reports on the current condition of buildings, services and utilities identified as at risk from settlement or vibration. The dilapidation surveys and reports must be prepared by a suitably qualified and experienced person(s) and must be provided to the owners of the buildings, services and utilities for review prior to the commencement of potentially impacting construction activities. Subsequent dilapidation surveys must be undertaken to assess damage to the building, services and utilities that may have resulted from the construction of the SSI within three months of the completion of construction in an affected area, unless otherwise approved by the Secretary. The Proponent must carry out rectification at its expense and to the reasonable requirements of the property, services and utility owner(s) within three months of completion of the post-dilapidation surveys unless otherwise agreed by the owner of the affected building, service or utility.									
B59		Upon determining the access route(s) for heavy and oversized vehicles associated with the construction of the SSI and site establishment works, a suitably qualified and experienced independent expert must prepare a Local Road Dilapidation Report for those local roads within the control of the relevant councils that would be utilised. The Local Road Dilapidation Report must assess the current condition of the road and describe mechanisms to restore any damage that may result due to its use by traffic and transport related to the construction of the SSI, including site establishment works. The Local Road Dilapidation Report must be submitted to the relevant council(s) for review at least two weeks prior to the use of the local roads by heavy and/or oversized vehicles associated with the construction of									

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		the SSI and site establishment works.									
		A subsequent Local Road Dilapidation Report must be prepared within four weeks of the completion of construction to assess any damage to the road that may have occurred as a result of the use of the roads by heavy and/or over-sized vehicles associated with the construction of the SSI and site establishment works. Measures undertaken to restore or reinstate roads									
		affected by the SSI must be undertaken in accordance with the reasonable requirements of the relevant council(s), including agreed timing, and at the full expense of the Proponent.									
		Note: Nothing in these conditions restricts the Proponent commencing adjustments and minor upgrades to the existing road network to cater for construction traffic and installation of temporary project signage prior to the commencement of construction.									
B60		Within three months of the date of this approval, unless otherwise agreed by the Secretary, the Proponent must establish an Urban Design Review Panel (UDRP) to provide advice and guidance during detailed design and the preparation of the Urban Design and Landscape Plan The UDRP is to provide advice in relation to architecture, heritage values, urban and landscape design and artistic aspects of the SSI and must:									
	(a)	be comprised of (i) representatives from the Proponent, including the Head of Urban Design, (ii) where the works affect places of heritage significance, an independent heritage architect, (iii) two independent architects one of which is a landscape architect, (iv) representatives from the relevant council(s), (v) a maximum of two experts, relevant to the works being considered, as selected by the Proponent, where relevant, and the NSW Government Architect as Chair;									

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	(b)	meet at least four times a year, or as otherwise agreed by the UDRP;									
	(c)	review and provide advice on the detailed design of the SSI and final review of the Urban Design and Landscape Plan (required by condition B61); and									
	(d)	keep a record of meeting minutes and a schedule of action items arising from the meeting,									
		The Proponent may establish a separate UDRP for each precinct									
B61	(a)	Prior to commencement of permanent built surface works and/or landscaping, or as otherwise agreed by the Secretary, an Urban Design and Landscape Plan (UDLP) must be prepared. The UDLP must be prepared by a suitably qualified and experienced person(s), in consultation with the relevant council(s) and community, Heritage Council of NSW (or delegate), and the UDRP (condition B60). The UDLP must be approved by the Secretary. The UDLP must present an integrated urban and landscape design for the SSI, and must include, but not be limited to: identification of design objectives, principles and standards based on — (i) local environmental and heritage values (ii) urban design context (iii) sustainable design and maintenance (iv) community safety, amenity and privacy, including 'safer by design' principles where relevant (v) relevant design standards and guidelines, prioritising the visual amenity and values of adjoining receivers over the road user experience (vii) minimising the footprint of the project (including at operational facilities), and the urban design principles outlined in the									
	(b)	documents referred to in conditions A2 landscaping and building design opportunities to mitigate the visual impacts of the operational fixed facilities (including the ventilation facilities, emergency smoke extraction outlets and the Motorway Operations Complex) in accordance with the following design considerations									
	(c)	details on the location of existing vegetation and proposed landscaping (including use of endemic and advanced tree species where practicable). Details of species to be replanted/revegetated must be provided, including their appropriateness to the area									

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		and habitat for threatened species. Where feasible and reasonable, vegetation to be removed must be reused;									
	(d)	a description of disturbed areas (including compounds) and details of the strategies to progressively rehabilitate, regenerate and/ or revegetate these areas;									
	(e)	a description of the SSI design features, including the graphics such as sections, perspective views and sketches for key elements of the SSI;									
	(f)	information on the reuse of heritage items and materials (condition B34 and B35)									
	(g)	detail safe public access to the exposed sections of the former St Peters Brickpit Geological Site unless demonstrated to be impracticable for safety reasons;.									
	(h)	an assessment of the location, design and impacts of operational lighting associated with the SSI and measures proposed to minimise lighting impacts;									
	(i)	details of where and how recommendations from the UDRP have been incorporated into the plan									
	(j)	the Pedestrian and Cycle Implementation Strategy (condition B51);									
	(k)	the sub-plans identified in conditions B62(a)-(f);									
	(I)	the timing for implementation of access, landscaping and open space initiatives;									
	(m)	monitoring and maintenance procedures for the built elements, rehabilitated vegetation and landscaping (including weed control) including performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and									
	(n)	evidence of consultation with the relevant councils and the community on the proposed urban design and landscape measures, prior to finalisation of the Plan									
		The UDLP must be implemented within one year of operation unless otherwise required by these conditions									
		Note: The UDLP may be submitted in stages to suit a staged construction program of the SSI or in stages to address the built elements of the SSI and									

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		landscaping aspects of the SSI.									
B62		The Urban Design and Landscape Plan must include the following Sub-plans:									
	(a)	a Campbell Road Crossing Sub-plan to assist in the management of access, land use, community amenity and open space impacts associated with the SSI. The Plan must be prepared and approved by the Secretary within twelve months of the date of this approval, unless otherwise agreed by the Secretary. The Plan must be prepared in consultation with the relevant councils and the UDRP, and must address the matters raised during consultation. The Plan must identify and facilitate the construction and establishment of a new land bridge over Campbell Road that is connected to, and contiguous with, the southern end of the existing Sydney Park and the proposed open space area (including active recreation facilities) to the north of the St Peters Interchange. The land bridge is to be designed to satisfy the following objectives - (i) to enrich and enhance the functionality, integration, recreational value and quality of Sydney Park (ii) to provide a high quality park that is landscaped and provides a continuous flow of open space over Campbell Road (iii) to create a new public open space, passive recreation area and garden for the community (iv) to address the severance created by an expanded Campbell Road and to enhance connectivity between existing and proposed open space that enhances the efficiency and resilience of the southern portion of Sydney Park and the new active recreation areas, and to improve and contribute to the quality and safety of the pedestrian and cyclist environment, including consistency with the Pedestrian and Cycleway Network Review required by condition B50									

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		The following parameters are to be incorporated and complied with in the design and delivery of the land bridge: (i) be designed to minimise the amenity impacts on adjacent residential development (including visual and acoustic privacy and overshadowing impacts), (ii) be located at least 35 metres to the west of No. 2 Campbell Road, (iii) be of a width that addresses the objectives of this Plan but be no less than 20 metres (at any point), as measured parallel to Campbell Road, (iv) provide high quality access, including the integration of cycling and pedestrian (v) facilities offering continuous paths of travel, over Campbell Road, including consistency with the Pedestrian and Cycleway Network Review (condition 850 (vi) considers the provision of pedestrian or cycle access along Campbell Road (vii) be of a depth to facilitate the planting across the width and depth of the bridge of a diverse range of vegetation (including species design and maturity) consistent with existing and proposed Sydney Park plantings, and (viii) the provision of high quality design and durable park infrastructure, furniture and lighting that meets the relevant council's requirements The Plan must be consistent with and integrate with the requirements of the UDLP (condition B61) and the St Peters Interchange Recreational Area Sub-plan (condition B62 (b)) This Plan must be fully implemented within four years of the commencement of operations, or as otherwise agreed by the Secretary.									
B62	(b)	a St Peters Interchange Recreational Area Subplan to maximise the amount of open space available for the provision of active recreation areas and multifunctional and adaptable active recreation support facilities on the St Peters interchange site (located to the south of Campbell Road). The Plan must be prepared and approved by the Secretary within 12 months of the date of this approval, unless otherwise agreed by the Secretary. The Plan must be prepared by an experienced and									

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		qualified person(s) in the design and provision of active recreation facilities and in consultation with the relevant councils (including adjoining councils) and the community. The Plan must detail the construction, timing and responsibility for the delivery of active recreation facilities (including, but not limited to, sporting fields) and take into account the following considerations: (i) maximising the availability of active									
		recreational open space (ii) All relevant policies, guidelines and plans (iii) The type of facilities to be provided taking into account the current and future local community recreation preferences and needs (iv) The future use and rationalisation of Albert Street to improve the provision and servicing of open space, including consideration of alternate property access and shared zone treatments (v) Provision of safe and efficient pedestrian and cyclist access connectivity, including									
		integration with the Pedestrian and Cycleway Network Review (condition 850), and Integration with Sydney Park Plan of Management									
		The Plan must be consistent with and integrate with the requirements of the UDLP and the Sydney Park Enhancement Sub-plan. Within four years of the commencement of operations, unless otherwise agreed by the Secretary, the Proponent must implement the sub-plan including providing a flat grassed area to be able to be converted into sporting fields and car parking (should a demand be demonstrated).									
	(c)	A Campbell Street Green Link Sub-plan to provide an enhanced and unified landscaped green link between Sydney Park, Simpson Park and Camdenville Park. The objective of the green link is to facilitate a more legible and navigable open space network by providing a high quality open space link to the northern side of Campbell Street between the three parks.									
		The Plan must be prepared by an experienced and qualified person(s) in the design and provision of open space and in consultation with the relevant councils and the community, and is to take into account the following considerations: (i) The provision of a consistent and coherent landscaping theme between Sydney park and									

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		Camdenville Park; (ii) the establishment of local street conditions, (iii) the provision of enhanced footpath and shared path widths and the separation of walking and cycling paths from the roadway with planted verges or on street car parking, (iv) the provision of crossings along the length of the green link, and (v) reviewing on-street car parking and proposed off-street parking on the southern side of Campbell Road to maximise landscaping, pedestrian and cycling facilities The Plan must be consistent with and integrate with the requirements of the UDLP and the Sydney Park Enhancement Sub-plan. All facilities must be provided within 12 months of operation									
	(d)	a M5 Linear Park Enhancement Sub-plan, for open space bordered by Bexley Road, Bexley, King Georges Road, Beverley Hills, adjoining the M5 Motorway, to connect and enhance the parkland and to offset amenity and open space impacts. The Plan must be prepared and implemented in consultation with relevant Councils, the community and the UDRP and must identify (and consider), but not be limited to:									
		 (i) identification of park users and their needs, (ii) amenity of communities adjoining the park, (iii) outcomes of consultation and how issues raised have been considered, measures to enhance active uses and the recreational value of the park (including (iv) consideration of active recreational and fitness facilities), and (v) measures to activate and enhance the surveillance of the Kindilan Underpass 									
		(including consideration of sight lines, splayed entrances, lighting, public art, and recreational facilities Notwithstanding the above, the Kindilan underpass must include CCTV surveillance that meets the requirements of NSW Police and the relevant council									
	(e)	an Alexandra Canal Sub-plan which details the design and integration of the bridges over the Alexandra Canal, including a Heritage Impact Assessment addressing any heritage impacts to the canal and its setting taking into account future and									

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		current accessibility plans for the Canal and the heritage sensitivity of the setting as set out in the Alexandra Canal Heritage Conservation Plan.									
	(f)	a Noise Barrier Location and Design Sub-plan which includes (i) identification and confirmation of all permanent noise barrier locations associated with the SSI including new, relocated or modified barriers; (ii) the consultation and decision making process for all new, relocated or modified permanent noise barriers associated with the SSI, (iii) assessment of the potential impacts of the permanent noise barriers including visual amenity, overshadowing and connectivity and community cohesion, (iv) consideration of safer safety by design									
		principles, the WestConnex Urban Design Framework, RMS Design Guidelines (v) adjacent property owner concerns and preferences regarding barrier design and location, and (vi) justification for the final design of new, relocated or modified permanent barriers. The permanent barrier design options must be developed in consultation with the UDRP and presented to landowners adjacent to the barriers for consultation prior to the adoption of a final design.									
B63	(a)	The SSI must be designed to retain as many trees as possible and provide a net increase in the number of replacement trees. The Proponent must commission an independent experienced and suitably qualified arborist, to prepare a comprehensive Tree Report(s) prior to removing any trees on the periphery and/or outside the construction footprint as identified in the figures in Section 6 of the document referred to in condition A2(b), including any tree(s) removed along Euston Road. The Tree Report may be prepared for the entire SSI or separate reports may be prepared for individual areas where trees are required to be removed. The report(s) must identify the impacts of the SSI on trees and vegetation within and adjacent to the construction footprint. The report(s) must include:									
	(a) (b)	design, landscape architect, construction team; consideration of all options to amend the SSI where a tree has been identified for removal,									

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	(c)	including realignment, relocation of services, redesign of or relocation of ancillary components (such as substations, fencing, etc.) and reduction of standard offsets to underground services; and measures to avoid the removal of trees or minimise damage to existing trees and is to ensure the health and stability of those trees to be protected. This includes details of any proposed canopy or root pruning, excavation works, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities. In the event that trees are to be removed, then replacement trees are to be planted within, or in close proximity to, the SSI boundary, including along Euston Road where feasible and reasonable The location of the trees must be determined in consultation with the relevant council(s). The replacement trees are to have a minimum pot size of 75 litres. A copy of the report(s) must be submitted to the Secretary for approval prior to the removal, damage and/or pruning of any trees, including those affected by site establishment works. All recommendations of the report must be implemented by the Proponent, unless otherwise agreed by the Secretary									
B64		The Proponent must provide a cycleway along Euston Road consistent with proposal in the document referred to in condition A2(b) and must replace the perimeter plantings along the Euston Road frontage of Sydney Park commensurate with type of plantings impacted by the SSI. Replacement plantings must be in accordance with the pot sizes specified in condition B63.									
B65		Existing residential properties (and approved residential developments) that are affected by overshadowing from the final detailed design of the SSI (including any noise mitigation measures) are to receive a minimum of three hours of direct sunlight in habitable rooms and in at least 50% of the principal private open space area between 9:00 am and 3:00 pm on 21 June. Such properties must be identified for further consideration by the Proponent in a Solar Access and Overshadowing Report which addresses compliance with these requirements. The Solar Access and Overshadowing Report must be submitted to the Secretary within 12									

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		months of the SSI approval or prior to the construction of any structures that may cause overshadowing of residential premises, whichever is the sooner and must include:									
	(a)	identification of potentially affected properties									
	(b)	assessment of the detailed design's compliance at each property, informed by: (i) a review of the habitable rooms within structures, (ii) the size and nature of private open spaces, and shadow diagrams in plan and elevation at hourly intervals between 9.00 am and 3.00pm on 21 June; and									
	(c)	a consultation plan to detail how potential impacts and mitigation measures will be discussed and negotiated with potentially affected property owners in the event that compliance with this condition is not achieved.									
		Where existing residential development currently receives less than the required amount of solar access, existing access to sunlight should not be unreasonably reduced. Where affected properties include dwellings held under strata or community title, this condition must be interpreted in relation to individual units within those properties									
B66	(a)	No later than 12 months after the commencement of construction, unless otherwise agreed to by the Secretary, the Proponent must prepare a Community and Social Management Plan for precincts directly impacted by the SSI. The Community and Social Management Plan must be prepared by a suitably qualified and experienced person(s) and in consultation with relevant council(s) and the community and submitted to the Secretary for approval. The Community and Social Management Plan must include but is not limited to: identification of the social impacts of the SSI, including cumulative impacts resulting from the									
		various stages of the SSI (including construction and operation) in directly affected precincts including – (i) a refined precinct-based spatial analysis based on representative local communities and stakeholders impacted by the SSI,									

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	(b)	 (ii) at what stage the identified impact is likely to occur (iii) identification of stakeholders and communities directly affected by each identified impact (iv) assessment of the identified social impacts including type, probability and consequence (v) details of management and mitigation measures, including responsibilities for the implementation of each measure, and an assessment of the likely effectiveness of the measures (vi) identification of access and connectivity enhancements or new provisions to assist in mitigating community cohesion impacts directly resulting from the SSI including, but not necessarily limited to, community cohesion, public transport and social facility accessibility, connectivity and accessibility to goods and services, (vii) mechanisms for monitoring social impacts and reviewing the effectiveness of mitigation measures (viii) mechanisms for the reporting of social impacts during construction and operation of the SSI, and a Community Cohesion Program to enhance community cohesion in precincts directly affected by the SSI through initiatives including, but not limited to enhancement of open space active community involvement and engagement provision or facilitation 									
		of cycling facilities within Camdenville Park, in consultation with the relevant council, support of community initiatives and programs, and provision of grants to local community groups. The Proponent must maintain and implement the Community and Social Management Plan throughout construction and for the first three years of operation of the SSI.									
B67	(a)	The Proponent must prepare a Residual Land Management Plan in consultation with the relevant councils. The Residual Land Management Plan must be submitted to the Secretary at least 12 months prior to the commencement of operation of the SSI. The Residual Land Management Plan must include, but not be limited to: identification and illustration on a map, of all residual land following construction of the SSI, including the									

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	(b)	physical location, land use characteristics, size and adjacent land uses; identification of proposed uses for the each piece of residual land with consideration given to the provision of additional community uses, public recreation uses and/or affordable or social housing and the justification for the uses chosen;									
B68	(c)	time frames for implementing the various components of the Residual Management Plan Residual land that is to be used for a public use and/or transferred to a public authority is to be in a condition suitable for the end use that does not incur additional cost to the public authority to reasonably rehabilitate or remediate the land for the future development identified in the Residual Land Management Plan									
B69		The Proponent must ensure that all residual land set aside for open space uses in accordance with condition B67 be available to the relevant council within 12 months of the completion of construction, unless otherwise agreed to by the Secretary									
B70		Prior to operations, the Proponent must assist the City of Sydney Council to update and amend the Sydney Park Plan of Management to reflect the changes to the park as a result of the project. This must include investigations into enhancing Sydney Park through maximising the open space area at the eastern edge of Sydney Park, such as future integration of privately owned land along the Euston Road frontage									
B71		The Canterbury Golf Course golf ball deflection fence must meet the height and width requirements of Canterbury Council. Property adjustments at the golf course must not introduce additional ongoing maintenance requirements for Canterbury Council									
B72		The Proponent must design and construct the SSI with the objective of minimising impacts to, and interference with, third party property and infrastructure and that such infrastructure and property is protected during construction and operation. Any damage caused to property as a result of the SSI must be rectified or the landowner compensated, within a timeframe defined in the Construction Environmental Management Plan									
B73		The Proponent must construct and operate the SSI with the objective of minimising light spillage to residential properties and be generally consistent with the requirements of <i>Australian Standard 4282</i> -									

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		1997 Control of the obtrusive effects of outdoor lighting. Notwithstanding, the Proponent must provide mitigation measures to manage any residual night lighting impacts to protect properties adjoining or adjacent to the project, in consultation with affected landowners									
B74		The SSI must be designed and constructed to achieve an excellent 'Design' and 'As built' rating under the Infrastructure Sustainability Council of Australia infrastructure rating tool.									
B75		Opportunities to reduce operational greenhouse gas emissions must be investigated during detailed design. The sustainability initiatives identified must be regularly reviewed, updated and implemented throughout the design development and construction phase, and annually during the operational phases.									
C1		Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Proponent must prepare and implement a Community Communication Strategy. The Community Communication Strategy must be submitted to the Secretary for approval. The Community Communication Strategy must provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative (refer condition D1), the relevant council(s) and community stakeholders (particularly adjoining landowners) on the design and construction environmental management of the SSI. The Community Communication Strategy must include, but not be limited to									
	(a)	identification of stakeholders to be consulted as part of the Community Communication Strategy, including affected and adjoining landowners, key community and business groups, and community and social service organisations									
	(b)	procedures and mechanisms for the regular distribution of accessible information to community stakeholders on construction progress and matters associated with environmental management, including provision of information in appropriate community languages;									
	(c)	the formation of community-based forums that focus on key environmental management issues for the SSI. The Community Communication Strategy must provide detail on the structure, scope, objectives and frequency of the community-based forums;									

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	(d)	procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the SSI;									
	(e)	procedures and mechanisms through which the Proponent can respond to enquiries or feedback from the community stakeholders in relation to the environmental management and delivery of the SSI;									
	(f)	procedures and mechanisms that would be implemented to resolve issues/disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSI. This may include the use of a suitably qualified and experienced independent mediator; and									
	(g)	procedures and mechanisms to manage the ongoing provision of services for the WestConnex Acquisition Assistance Line, as required by condition C2, and procedures for the notification of the contact details for this assistance line to relocated persons									
		Issues that must be addressed through the Community Communication Strategy include (but are not limited to):									
	(a)	Traffic management (including property access, pedestrian access);									
	(b)	Air quality									
	(c)	Heritage matters									
	(d)	Landscaping and urban design matters									
	(e)	Construction staging, hours and activities	1								
	(f)	Noise, vibration mitigation and management, and	1								
	(g)	Water quality, hydrology and flooding matetrs	1								
		The Proponent must maintain and implement the Community Communication Strategy throughout construction of the SSI.									

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C2		The Proponent must maintain and operate a toll-free WestConnex Acquisition Assistance Line for a period of up to six months following completion of the final acquisition required for the SSI, unless otherwise agreed by the Secretary. The WestConnex Acquisition Assistance Line must provide an ongoing dispute resolution, counselling program and contact information to relevant services for all relocated persons. The WestConnex Acquisition Assistance Line must also provide first language support for households with English as a second language.									•
		The management of the assistance line is to be outlined within the Community Communication Strategy as required by condition C1 and is to be maintained and operated separately from the standard complaints and enquiries procedure. The Proponent must provide all relevant contact details for the WestConnex Acquisition Assistance Line to relocated persons prior to the commencement of construction.									
C3		Prior to the commencement of site establishment works, or as otherwise agreed by the Secretary, the Proponent must ensure that the following are available for community enquiries and complaints for the duration of construction:									
	(a)	a toll-free 24 hour telephone number(s) on which complaints and enquiries about the SSI may be registered;									
	(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;									
	(d)	a mediation system for complaints unable to be resolved; and									
	(e)	a mechanism for community members to make enquiries in common community languages of the area									
		The telephone number, the postal address and the email address must be published in newspaper(s) circulating in the local area including in newspapers of culturally and linguistically diverse communities affected by the SSI prior to the commencement of									

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		construction and prior to the commencement of operation. This information must also be provided on the website (or dedicated pages) required by this approval and available in common community languages.									
C4		Prior to the commencement of site establishment works, or as otherwise agreed by the Secretary, the Proponent must prepare and implement a Construction Complaints Management System consistent with AS/NZS 10002:2014 Guidelines for Complaint management in Organisations and maintain the Construction Complaints Management System for the duration of construction and up to 12 months following completion of construction of the SSI. Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, must be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the Construction Complaints Management System must be made available to the Secretary on request.									
C5	(a) (b)	Prior to the commencement of site establishment works, or as otherwise agreed by the Secretary, the Proponent must establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following commencement of operation of the SSI. The Proponent must, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not limited to: Information on the current implementation status of the SSI a copy of the documents referred to in condition A2, and any documentation supporting modifications to this approval that may be granted from time to time a copy of this approval and any future modification to this approval									

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	(d)	a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI									
	(e)	a copy of each current report, plan, or other document required under this approval									
	(f)	the outcomes of compliance tracking in accordance with condition A14 of this approval									
	(g)	details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address; and									
	(h)	information on how to receive important information in the common community languages of the area									
D1		Prior to the commencement of construction of the SSI, or as otherwise agreed by the Secretary, the Proponent must appoint a suitably qualified and experienced Environmental Representative(s) that is independent of the design and construction personnel, and that has been approved by the Secretary. The Proponent must employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Secretary. The Environment Representative(s) must:									
	(a)	be the principal point of advice in relation to the environmental performance of the SSI;									
	(b)	monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/programs;									
	(c)	have responsibility for considering, and advising the Proponent on, matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the SSI;									
	(d)	ensure that environmental auditing is undertaken (but not undertake the audit) in accordance with the Proponent's Environmental Management System(s);									
	(e)	be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor"									

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		amendment must be clearly explained in the Construction Environment Management Plan;									
	(f)	be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and									
	(g)	be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required.									
D2		The Environmental Representative must prepare and submit to the Secretary a monthly report on the Environmental Representative's actions and decisions on matters specified in condition D1 for the preceding month. The reports must be submitted within seven days for the end of each month for the duration of construction of the SSI, or as otherwise agreed by the Secretary. Notwithstanding, the Environmental Representative must be given the independence to report to the Secretary at any time and/or at the request of the Secretary.									
D3		Soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) must be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters. Where available and practicable, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources must be used in preference to potable water for construction activities, including dust control.									
D4		The Proponent must ensure any siphonic based water management system implemented during construction is removed and, where applicable, replaced with an adequate permanent drainage system.									
D5		The Proponent must immediately notify DPI (Water) of any groundwater bores removed or damaged during construction and operation of the SSI. In the event that a groundwater bore is removed or damaged, the Proponent must repair or replace the bore (unless otherwise advised by DPI (Water)), as applicable within a timeframe agreed to by DPI									

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		(Water).									
D6		A geotechnical model of representative geological and groundwater conditions must be prepared prior to excavation and tunnelling in subject area(s) to identify geological structures and groundwater features. This model must include details of proposed excavations and tunnels, construction staging, and identify surface and sub-surface structures and infrastructure which may be impacted by the SSI, including the specific attributes of those structures. The Proponent must use this model to assess the predicted settlement, ground movement, stress redistribution and horizontal strain profiles caused by excavation and tunnelling on adjacent property and infrastructure.									
D7		The Proponent must undertake a review of property and infrastructure at risk from damage to determine appropriate settlement criteria to prevent damage, prior to commencement of construction activities that may pose a settlement risk.									
D8		Should the geotechnical model in condition D6 identify exceedances of the criteria established in condition 0 or in Table 1 (whichever is the lower), the Proponent must identify and implement mitigation measures such as appropriate support and stabilisation structures in consultation with the relevant land and/or infrastructure owners prior to the commencement of construction to ensure where possible that underground services, infrastructure and adjacent buildings will not experience settlements exceeding the criteria. Table 1 - Settlement Criteria Beneath Maximum Settlement Pacility Distortion Buildings - Low or non-sensitive properties 10 mm 1 mm 1 mm 1 mm 350									
		(i.e. ≤ 2 levels and carparks)									

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		Buildings - High or sensitive properties (i.e. ≥ 3 levels and heritage									
		Roads and Parking areas 40 mm vi 1 in 250									
		The above criteria do not remove any responsibility from the Proponent for the protection of existing structures or for rectifying any damage resulting from the SSI									
D9		Settlement criteria for individual utility structures and infrastructure must be determined in consultation with the relevant authorities prior to the commencement of any construction potentially affecting the individual utility structure or infrastructure.									
D10		A detailed land use survey must be undertaken to confirm sensitive receivers (including critical working areas such as operating theatres and precision laboratories) potentially exposed to construction 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 prior to the commencement of construction works which generate construction vibration or ground-borne noise in that area. The results of the survey must be included in the (or an updated) Construction Noise and Vibration Management Plan as required by condition D68(b)									
D11		Prior to construction, properties that are at risk from construction vibration must be notified and incorporated into the Construction Noise and Vibration Management Plan as required by condition D68(b).									

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D12		Construction activities associated with the SSI must be undertaken during the following standard construction hours:									
	(a)	7:00 am to 6:00 pm Mondays to Fridays, inclusive									
	(b)	8:00am to 1:00pm Saturdays; and									
	(c)	at no time on Sundays or public holidays									
D13		Notwithstanding condition D12, tunnelling may be undertaken 24 hours, seven days per week. Other activities associated with tunnelling (such as spoil haulage if approved under the Spoil Management Plan, deliveries, work area establishment, temporary road and intersection modifications, roads/cut-and-cover/dive structures and approach roads and ramps, excavation and ground support, civil, mechanical, and electrical, and ventilation facilities construction) may be undertaken outside of the hours specified in condition D12 where allowed in accordance with condition D15.									
D14		Except as permitted by an EPL, activities resulting in impulsive or tonal noise emissions must only be undertaken:									
	(a)	between the hours of 8:00 am to 6:00 pm Monday to Friday									
	(b)	between the hours of 8:00am to 1:00 pm Saturday; and									
	(c)	in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block									
		For the purposes of this condition, 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.									
D15		Notwithstanding conditions D12 and D14, construction works associated with the SSI may be undertaken outside the hours specified under those conditions in the following circumstances:									

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	(a)	construction works that cause LAeq (15 minute) noise levels that are: (i) No more than 5 dB(A) above rating background level at any residence in accordance with the Interim Construction Noise guideline (DECC, 2009), and (ii) no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses, and (iii) continuous or impulsive vibration values, measured at the most affected residence are no more than those for human exposure to vibration, specified in table 2.2 of Assessing vibration: a technical guideline (DEC, 2006), and intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of Assessing vibration: a technical guideline (DEC, 2006); or									
	(b)	where a negotiated agreement has been reached with affected receivers, where the prescribed noise and/or vibration levels cannot be achieved; or									
	(c)	for the delivery of materials required by the police or other authorities for safety reasons; or									
	(d)	where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or									
	(e)	construction works approved through an Out-Of-Hours Work Protocol prepared as part of the Construction Noise and Vibration Management Plan required by condition D68(b), provided the relevant council, local residents and other affected stakeholders and sensitive receivers are informed of the timing and duration at least five days and no more than 14 days prior to the commencement of the works; or									
	(f)	construction works approved through an EPL.									
D16		The Proponent must implement all reasonable and feasible noise mitigation measures with the aim of achieving the following construction noise									

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		management levels and vibration criteria:									
	(a)	construction noise management levels established using the <i>Interim Construction Noise Guideline</i> (DECC, 2009);									
	(b)	vibration criteria established using the Assessing vibration: a technical guideline (DEC, 2006) (for human exposure);									
	(c)	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 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 construction activities identified as exceeding the construction noise management levels and/or vibration criteria must be managed in accordance with the Construction Noise and Vibration Management Plan required by condition D68(b).									
		Note: The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction NML.									
D17		Feasible and reasonable noise mitigation measures should be applied to construction activities when the following residential ground-borne noise levels are exceeded:									
	(a)	evening (6:00 pm to 10:00 pm)-internal $L_{\text{Aeq(15 minute)}}$: 40 dB(A); and									
	(b)	night (10:00pm to 7:00am)- internal $L_{\text{Aeq(15 minute):}}\ 35$ dB(A).									
		The mitigation measures should be outlined in the Construction Noise and Vibration Management Plan, including the Out-of-Hours Work Protocol, required by condition D68(b).									
D18		Wherever practical, piling activities that affect sensitive receivers must be undertaken using									

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		quieter alternative methods than impact or percussion piling, such as bored piles or vibrated piles.									
D19		The Proponent must implement operational noise mitigation measures (such as noise barriers or atproperty architectural treatments) in areas where the documents referred to in conditions A2(b) and A2(c) have identified the receivers would be subject to construction noise impacts and in areas where existing noise barriers are to be altered or removed prior to commencement of construction, where feasible and reasonable. Where this is not feasible and reasonable, the Proponent must submit to the Secretary for approval a report providing justification as to why along with details of the 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 provided to the Secretary prior to the commencement of construction works which would affect the identified receivers. Nothing in this condition prevents the Proponent from submitting separate reports for separate areas of construction.									
D20		The Proponent must develop and implement a Temporary Noise Barrier Strategy which includes: Identification and confirmation of all temporary noise barriers including - (i) the provision of a temporary noise barrier on the northern side of the Kingsgrove North construction compound to provide noise mitigation to highly affected residents at a level greater than that identified in the documents referred to in condition A2(b), (ii) consideration of the installation of temporary noise barriers on the southern and northern side of the M5 East Motorway during the relocation of the existing permanent noise barriers (or detail on why these noise barriers are not considered feasible and reasonable), (iii) consideration of the installation of temporary noise barriers along Campbell Road, Campbell Street and Euston Road (or detail on why these noise barriers are not considered feasible and reasonable), and temporary noise barriers around construction									

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		compounds;									
	(b)	the consultation and decision-making process for all temporary noise barriers; and									
	(c)	an acoustic report detailing the final barrier heights, material analysis and predicted benefits									
D21		The temporary barrier options must be developed in consultation with the landowners adjacent to the barrier locations prior to the adoption of a final design. The Temporary Noise Barrier Strategy must be approved by the Secretary prior to site establishment works or construction works at the Kingsgrove North construction compound, the permanent noise barriers on the northern and southern side of the MS East Motorway are removed, and/or road widening works are undertaken along Campbell Road, Campbell Street or Euston Road. All acoustic sheds and non-acoustic sheds must be									
		erected at construction ancillary facilities as soon as site establishment works at the facilities are completed and prior to undertaking any works or activities which are required to be conducted within the sheds.									
D22		The Proponent must conduct vibration testing prior to commencing vibration generating activities that have the potential to impact on heritage items and vibration monitoring during initial vibration generating activities to identify minimum working distances to retained heritage items to prevent cosmetic damage to these items. In the event that the vibration testing and 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 feasible and reasonable mitigation measures, unless otherwise agreed to by the Secretary. Vibration monitoring must be undertaken where structures are identified to be within safe working distances of vibration generating equipment activities									
D23		The Proponent must undertake noise monitoring during initial high noise generating activities (such as piling, rock hammering, jack hammering) to					_				

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		accurately establish the L _{Aeq} to L _{A1(1 minute)} differential and confirm the number of sensitive receivers which may experience sleep disturbance as a result of construction of the SSI during the evening and night-time periods. Management measures must be employed to minimise sleep disturbance impacts in accordance with the Construction Noise and Vibration Management Plan required by condition D68(b).									
D24		The Proponent must consult with potentially-affected community, religious, educational institutions and vibration-sensitive business and critical working areas (such as theatres, laboratories and operating theatres) to ensure that, where feasible and reasonable, noise generating construction works in the vicinity of the affected receivers are not timetabled during sensitive periods, unless other reasonable arrangements to the affected institutions are made at no cost to the affected institution. Consultation must be undertaken at least five days prior to undertaking noise generating construction works that would impact on the potentially affected vibration-sensitive receivers.									
D25		During construction, proponents of other construction works in the vicinity of the SSI must be consulted and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for, affected sensitive receivers.									
D26		The Proponent is to ensure that construction vehicle contractors operate so as to minimise any sleep disturbance impacts. Measures that could be used include toolbox talks, contracts that include provisions to deal with unsatisfactory noise performance for the vehicle and/or the operator, and specifying non-tonal movement alarms in place of reversing beepers or alternatives such as reversing cameras and proximity alarms, or a combination of these, where tonal alarms are not mandated by legislation.									
D27		Use of compression brakes must not be permitted for construction vehicles associated with the SSI during construction, unless in an emergency situation									
D28		Should blasting be required, the Proponent must prepare a Blast Management Strategy in consultation with the EPA and submit the Blast									

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		Management Strategy to the Secretary prior to any blasting. The Blast Management Strategy must demonstrate that all blasting and associated activities will be undertaken in a manner that will not generate unacceptable noise and vibration impacts or pose a significant risk impact to residences and sensitive receptors. The Blast Management Strategy must also address the principles outlined in Hazardous Industry Planning Advisory Paper No 6: Hazard Analysis (Department of Planning, January 2011) and Assessment Guideline: Multi-Level Risk Assessment (Department of Planning and Infrastructure, May 2011) for the handling and storage of hazardous materials. Issues to be considered in the Blast Management Strategy must include, but not be limited to:									
	(a)	details of blasting to be performed, including location, method and justification of the need to blast;									
	(b)	identification of any potentially affected noise and vibration sensitive sites including heritage buildings and utilities;									
	(c)	establishment of appropriate criteria for blast overpressure and ground vibration levels at each category of noise sensitive site;									
	(d)	details of the storage and handling arrangements for explosive materials and the proposed transport of those materials to the construction site;									
	(e)	identification of hazardous situations that may arise from the storage and handling of explosives, the blasting process and recovery of the blast site after detonation of the explosives;									
	(f)	determination of potential noise and vibration and risk impacts from blasting and appropriate monitoring and best management practices to minimise and manage any blasting impacts and assess compliance with conditions D34 and D35; and									
	(g)	community consultation procedures.									
D29		The vibration levels for blasting activities, including both above ground and underground work, must meet the requirements of conditions D34 and D35.									

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D30		Blasts must be limited to an average of one single detonation in any one day, per sensitive receiver, and a maximum of six per week per sensitive receiver, unless otherwise agreed by the EPA through consultation on the Blast Management Strategy. Note: For the purposes of this condition a single detonation may involve a number of individual blasts fired in quick succession in a discrete area.									
D31		For any section of tunnel construction where blasting is proposed, a series of initial trials at reduced scale must be conducted prior to production blasting to determine site-specific blast response characteristics and to define allowable blast sizes to meet the airblast overpressure and ground vibration limits in conditions D34 and D35.									
D32		Blasting associated with the project must only be undertaken during the following hours:									
	(a)	9:00 am to 5:00 pm, Monday to Friday, inclusive;									
	(b)	9:00 am to 1:00 pm Saturday; and									
	(c)	at no time on Sunday or on a public holiday,									
		or as otherwise allowed for by the EPA and outlined in the Blast Management Strategy.									
		This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons to avoid loss of life, property loss and/or to prevent environmental harm.									
D33		Where vibration levels generated by blasting exceed the acceptable vibration dose values, feasible and reasonable mitigation measures must be considered and implemented.									
D34		Airblast overpressure generated by blasting associated with the SSI must not exceed the criteria specified in Table 2 when measured at the most affected residence or other sensitive receiver.									
		Table 2 - Airblast Overpressure Criteria									

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		Airblast overpressure (dB(Lin Peak)) 115	Allowable exceed to total blasts month process with the second se	number of over a 12									
D35		human comfort when measured other sensitive re Table 3 - Groun	h the SSI mu to the criteria s at the most aff eceiver.	ist be limited for specified in Table 3 rected residence or hits for Human									
		Sensitive site*	longer than 12 months or more than 20 blasts	xii 5 mm/s for 95% blasts per year 10 mm/s maximu m unless agreem ent is reache d with the occupie r that a higher limit may apply									

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		Sensitive site* xiii									

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		Occupied non- sensitive sites, such as factories and commercial premises Sensitive sites, such as factories and commercial premises Sensitive sites, such as factories and commercial premises Sensitive site includes houses and low rise residential buildings, theatres, schools, and other similar buildings occupied by people. The recommendations in Table J4.5(A) of AS 2187.2 – 2006 Explosives – Storage and Use – Use of Explosives are intended to be informative and do not override statutory requirements with respect to human comfort limits set by various authorities. They should be read in conjunction with any such statutory requirements and with regard to their respective jurisdictions.									
D36		The blasting criteria identified in conditions D 34 and D 35 do not apply where the Proponent has a written agreement with the relevant landowners to exceed the criteria. The Proponent must submit									

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		to the Secretary details on the propose increased blasting limits, where and when the blasting would occur, the mitigation and monitoring procedures that would be implemented and details of the consultation undertaken with the relevant landowners.									
		The following exclusions apply to the application of this condition:									
	(a)	any agreements reached may be terminated by the landowner at any time should concerns about the increased blasting limits be unresolved									
	(b)	the blasting limit agreed to under any agreement can at no time exceed a maximum Peak Particle Velocity vibration level of 25 mm/s or maximum airblast overpressure level of 125 dBL(Peak); and									
	(c)	the provisions under this condition (to increase applicable blast criteria in agreement with the relevant landowners) do not apply where the property is a heritage item									
D37		Prior to the commencement of construction in proximity to, or affecting, a heritage item or contributory item in a heritage conservation area, the Proponent must complete the archival recordings, including photographic recording of the heritage items, unless otherwise agreed by the Secretary									
		The archival recording must be undertaken by a qualified and experienced heritage consultant, in accordance with the <i>How to Prepare Archival Records of Heritage Items (2003)</i> guidelines issued by the Heritage Council of NSW. Within 12 months of completing the archival recording, or as otherwise agreed by the Secretary, the Proponent must submit a Heritage and Contributory Item Archival Recording and Research Report containing the archival and photographic recordings and historical research, to the Department, the Heritage Council of NSW, the local library, and the local Historical Society in the respective local government area(s).									
D38		The Proponent must complete archival recordings for any impacted part of the heritage conservation area prior to the commencement of construction within a respective heritage conservation area.									

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		Consultation with the NSW Heritage Council (or its delegate), the National Trust and the relevant council is to be carried out to determine the objectives and approaches to the archival recording. The archival recording of heritage conservation areas is to include, but not be limited to:									
	(a)	comprehensive photographic recording of buildings, structures, open spaces, public realm, architecture, urban design, landscaping and streetscapes;									
	(b)	surveying and mapping of land use arrangements, street patterns and layouts, subdivision layouts, landscape design and street tree plantings; and									
	(c)	any other feasible recording requested and agreed to following consultation with the aforementioned stakeholders.									
		The archival recording of heritage conservation areas must be undertaken by a qualified and experienced heritage consultant, and should be undertaken in a manner generally reflective of the How to Prepare Archival Records of Heritage Items (2003) guidelines issued by the NSW Heritage Council. Within 12 months of completing the archival recording, or as otherwise agreed by the Secretary, the Proponent must submit a Heritage Conservation Area Archival Recording and Research Report, for each relevant heritage conservation area, containing the archival and photographic recordings, mapping and historical research, to the Department, the Heritage Council of NSW, the local library, the local Historical Society in the respective local government area(s).									
D39		Prior to excavation works adjacent to the Alexandra Canal and St Peters Interchange the Proponent must engage a suitably qualified archaeologist whose experience complies with the Heritage Council of NSW's Criteria for Assessment of Excavation Directors (July, 2011) (referred to as the Excavation Director) to oversee and advise on matters associated with historic archaeology and to prepare an Archaeological Research Design and Excavation Methodology. The Archaeological Research Design and Excavation Methodology is to be submitted to the Heritage Council of NSW for review and comment prior to finalisation. The Archaeological Research Design and Excavation									

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		Methodology must:									
	(a)	be consistent with the NSW Heritage Council's Archaeological Assessments Guideline (1996);									
	(b)	provide for the detailed analysis of any heritage items discovered during the investigations;									
	(c)	include management options for discovered heritage items (including options for relocation and display); and									
	(d)	if the findings of the investigations are significant, provide for the preparation and implementation of a heritage interpretation plan.									
		Where excavation works are required in the vicinity of potential archaeological sites, the Excavation Director must be present to advise on archaeological issues and oversee excavation works. The Excavation Director must be given the authority to advise on the duration and extent of oversight required during excavation.									
D40		In the event that archaeological relics are discovered during construction, all work must cease in the affected area and the Excavation Director must be notified and attend the site to assess the finds, identify their significance level and provide mitigation advice according to the significance level and the impact proposed. In the event that the relics are identified as being of State or local significance, the NSW Heritage Council must be notified in writing in accordance with section 146 of the <i>Heritage Act</i> 1977. An Archaeological Relics Management Plan specific to the relics or site encountered is to be prepared in consultation with the NSW Heritage Council which is to outline all feasible and reasonable measures to be implemented to avoid and/or minimise harm to the State or locally significant heritage items. Works within the vicinity of the find must not recommence without the approval of the NSW Heritage Council. The Proponent must notify the Secretary in writing of any such encounter of an archaeological relic triggering this condition and must also notify the Secretary of the outcome of consultation with the NSW Heritage Council.									
D41		In the event that archaeological relics are discovered, within 12 months of completing all archaeological investigations, unless otherwise									

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		agreed by the Secretary, the Proponent must prepare an Excavation Report containing the findings of any excavations, including artefact analysis and the identification of a final repository of any finds. The Excavation Report must be submitted to the Department, the NSW Heritage Council, and the local library and the local Historical Society in the relevant local government area(s). A copy of the Excavation Report must be retained with the relics at all times.									
D42		The Proponent must undertake photographic and drawn archival recordings of the geological features of the St Peters Brickpit Geological Site prior to undertaking any works that would result in the features being obscured. The recordings should be included in the Heritage Interpretation Plan required by condition B40.									
D43		The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact any Aboriginal heritage item associated with the SSI.									
D44		Where previously unidentified Aboriginal objects are discovered during construction of the SSI, all work should stop in the affected area and a suitably qualified and experienced Aboriginal heritage expert should be contacted to provide specialist heritage advice. The measures to consider and manage this process must be specified in the Construction Heritage Management Plan required by condition 0(c) and, where relevant, include registration in the OEH's Aboriginal Heritage Information Management System (AHIMS) register.									
D45		The Proponent must undertake a program of geotechnical coring at each pile location adjacent to Alexandra Canal to obtain sediment samples to a depth of seven metres. The sediment cores are to be examined by a suitably qualified and experienced archaeologist engaged by the Proponent to determine the potential for Aboriginal archaeological artefacts. The assessment by the archaeologist must be carried out prior to the commencement of excavation and/or piling works adjacent to the Canal. In the event that artefacts are uncovered, the Proponent must implement the procedures for unexpected finds required by condition D68(c)(i) and update the Construction Heritage Management Plan required by condition									

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		D68(c).									
D46		Unless otherwise approved by the Secretary, heavy vehicle movements associated with the construction of the SSI are not permitted to use Wirega Avenue and Garema Circuit at Kingsgrove, or any other local road not identified for use in the documents referred to in conditions A2(b) and A2(c), unless approved by the Secretary. When seeking the Secretary's approval for use of such local roads, justification must be provided as to why use of the local road(s) is the only feasible and reasonable route along with details on how impacts on surrounding sensitive receivers will be managed.									
D47		Construction vehicles (including staff vehicles) associated with the SSI must be managed so that:									
	(a)	parking or queuing on public roads is minimised;									
	(b)	idling and queuing in local residential streets is minimised, where practicable;									
	(c)	heavy vehicles adhere to the nominated haulage routes identified in the Construction Traffic and Access Management Plan required under condition 0(a); and									
	(d)	access and egress from construction compounds is undertaken in a safe and lawful manner, with particular regard be given to this compounds located in the vicinity of schools and the potential implementation of traffic management or signalisation, in consultation with the relevant council.									
D48		Functional and safe pedestrian and cyclist access through and around worksites must be maintained during construction. This includes the consideration of 'safer by design' principles including the provision of appropriate sight lines and lighting. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a satisfactory alternate route must be provided and signposted, including provision of footpaths where pedestrian access is reliant on grassed verges.									
D49		Access to all properties must be maintained during construction, where feasible and reasonable, unless otherwise agreed by the relevant property owner or									

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		occupier. Any access physically affected by the SSI must be reinstated to at least an equivalent standard, unless agreed with by the property owner.									
D50		The Proponent must prepare and implement a Construction Parking and Access Strategy to further identify and effectively mitigate impacts resulting from on-and off-street parking changes during construction of the SSI. The Strategy must include, but not necessarily be limited to:									
	(a)	confirmation and timing of the removal of on- and off-street parking associated with construction of the project;									
	(b)	comprehensive parking surveys of all parking spaces to be removed to determine current demand during peak, off-peak, school drop off and pickup, and weekend periods;									
	(c)	consultation with affected stakeholders utilising existing on- and off-street parking stock which will be impacted as a result of construction;									
	(d)	assessment of the impacts of changes to on- and off-street parking stock taking into consideration outcomes of consultation with affected stakeholders									
	(e)	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 councils to introduce parking restrictions adjacent to work sites and compounds;									
	(f)	mechanisms for monitoring over appropriate intervals to determine the effectiveness of implemented mitigation measures;									
	(g)	provision of contingency measures should the results of mitigation monitoring indicate implemented measures are ineffective; and									
	(h)	provision of reporting of monitoring results to the Secretary and relevant councils at appropriate intervals.									
		The Construction Parking and Access Strategy must be submitted to the Secretary for approval prior to									

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		the commencement of construction.									
D51		Prior to commencement of any tunnelling works, the Proponent must prepare and implement a Spoil Management Plan for the SSI. The Spoil Management Plan is to be developed, in consultation the relevant council(s), for the approval of the Secretary. The Spoil Management Plan must incorporate detailed information on the handling and transport of spoil generated during construction of the SSI, and provide information regarding each of the broad parameters specified in the documents listed in conditions A2(b) and A2(c). The Spoil Management Plan is to be prepared separate to, but consistent with, the Construction Traffic and Access Management Plan required under condition D68(a).									
D52		The clearing of native vegetation must be minimised with the objective of reducing impacts to any threatened species, populations and ecological communities to the greatest extent practicable. Impacted vegetation must be rehabilitated with endemic species (in the first instance) and locally native species to the greatest extent practicable.									
D53		Prior to removing/clearing any vegetation, preclearing surveys and inspections for threatened species, populations and ecological communities must be undertaken to confirm the on-site location of those entities. The surveys and inspections, and any subsequent relocation of species and associated management/offset measures, must be undertaken under the guidance of a suitably qualified and experienced ecologist. Methodologies must be incorporated into the Construction Flora and Fauna Management Plan required under condition D68(d) and Ancillary Facilities Management Plan required under condition D57. The agreement of OEH or DPI, whichever is the relevant agency, is required for any proposed amendments to the location or reclassification of threatened species, populations and ecological communities.									
D54		The Proponent must prepare and implement a Construction Contamination Management Plan to manage potential contamination impacts during construction of the SSI (excluding contamination covered by the Landfill Closure Management Plan									

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		for the Alexandria Landfill site). The Construction Contamination Management Plan must be developed in consultation with the EPA and relevant councils, and include, but not be limited to:									
	(a)	details of construction activities and their locations which have the potential to expose areas known to contain, or potentially contain, contaminated soils and/or materials;									
	(b)	details of management measures to minimise bed sediment mobilisation in Alexandra Canal. All measures must comply with the actions required of Remediation Order H01833, 23004/ Area #3151 issued by the EPA on 10 May 2004;									
	(c)	measures for the handling, treatment and management of hazardous and contaminated soils, materials and groundwater including measures to manage and/or minimise public health and safety concerns with regards to exposure to contamination;									
	(d)	an Unexpected Finds Procedure detailing procedures and management measures to be implemented in the event that contaminated material is uncovered in any area not identified in the documents referred to in conditions A2(b), A2(c) and A2(e);									
	(e)	a description of how the effectiveness of the actions and measures for managing contamination impacts would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, and how the results of the monitoring would be recorded and reported; and									
	(f)	mechanisms for the monitoring, review and amendment of this Construction Contamination Management Plan.									
		The Construction Contamination Management Plan must be submitted to the Secretary prior to undertaking any works which may result in the disturbance of contaminated soil, land or materials. Nothing in this condition prevents the Proponent from preparing separate Construction Contamination Management Plans for specific areas of work, rather than a plan which addresses the entire SSI									

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D55		Dangerous goods, as defined by the Australian Dangerous Goods Code, must be stored and handled strictly in accordance with:									
	(a)	all relevant Australian Standards;									
	(b)	for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume, within the bund; and									
	(c)	the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (EPA, 1997).									
		In the event of an inconsistency between the requirements listed from (a) to (c) above, the most stringent requirement must prevail to the extent of the inconsistency.									
D56		The Proponent must provide boundary screening within all construction sites that adjoin or are adjacent to residential and/or commercial properties, consistent with the surrounding context, in consultation with affected property owners.									
D57		Prior to the establishment of the ancillary facilities described in the documents listed in conditions A2(b) and A2(c), the Proponent must prepare and implement an Ancillary Facilities Management Plan which outlines the environmental management practices and procedures for the establishment and operation of the ancillary facilities. The Ancillary Facilities Management Plan must be prepared in consultation with the EPA and the relevant council and submitted to the Secretary for approval. The Ancillary Facilities Management Plan must detail the management of these ancillary facilities, and include, but not be limited to:									
	(a)	a description of each ancillary facility (including a site layout plan), its components and details of the existing environment on and in the vicinity of the site;									
	(b)	a description of the works proposed to be undertaken during site establishment;									
	(c)	details of the activities to be carried out at each facility, including the hours of operation, staging of operation and predicted date of commissioning;									
	(d)	a description of the plant, equipment and materials									

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		to be used and/or stored on each site, including dangerous and hazardous goods;									
	(e)	a summary of the potential environmental impacts associated with the establishment and operation of the facility;									
	(f)	details of the mitigation, monitoring and management procedures specific to each facility that would be implemented to minimise environmental and amenity impacts or, where this is not possible, feasible and reasonable measures to offset these impacts;									
	(g)	measures to minimise and manage flora and fauna impacts including-									
		(i) clearing procedures incorporating preclearing surveys and inspections and measures for minimising the extent of clearing, (ii) measures to protect the remaining portion of Cooks River/Castlereagh Ironbark Forest and ensure that it is not impacted by the establishment and operation of construction compounds, (iii) procedures for removal and relocation of fauna during clearing, and construction worker induction and education;									
	(h)	a description of how the management and mitigation measures set out in the documents referred to in conditions A2(b) and A2(c) will be implemented on each site, and if not, justification for any departures from those management and mitigation measures;									
	(i)	details of the community consultation to be undertaken with affected and adjoining landowners and sensitive receivers									
	(j)	details on the height and materials of noise barriers/hoardings at each facility;									
	(k)	identification of the timing for the completion of site activities at each facility and how each site will be decommissioned (including any necessary rehabilitation); and									
	(I)	mechanisms for the monitoring, review and amendment of the Ancillary Facilities Management									

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		Plan.									
		In considering the approval of the Ancillary Facilities Management Plan, the Secretary will take into account the Proponent's response to public authority and relevant council comments on the plan.									
		The Proponent must update the Ancillary Facilities Management Plan to incorporate the site establishment and operation practices required for any additional ancillary facilities approved by the Secretary under condition 063. No construction-related works or activities are to be undertaken on the ancillary facility sites prior to approval of the Construction Environment Management Plan required under condition D67. For the purposes of this condition, site establishment									
		works does not include:									
	(a)	piling (except for piling required for the erection of noise barriers around construction compounds); or									
	(b)	the erection of acoustic sheds at ancillary facilities; or									
	(c)	excavation activities (excluding excavation associated with trenching for services, site levelling for the erection of construction site offices and parking and storage and maintenance sheds; or excavation of sediment ponds for construction sediment and erosion control) Such works are considered to be construction.									
		Nothing in this condition exempts the Proponent from fulfilling the requirements of any conditions in this approval which require certain plans, programs or actions to be undertaken prior to site establishment works or operation of an ancillary facility proceeding.									
D58		The Ancillary Facilities Management Plan must include an Arncliffe Construction Compound Subplan, prepared in consultation with OEH, which includes the following:									
	(a)	the management measures as specified in rows									

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		4-12 of Table 1 of the Green and Golden Bell Frog Plan of Management presented in Appendix K of Appendix S, Volume 2H of the document referred to in condition A2(b) and any additional measures included in the updated management plan required by condition B14;									
	(b)	procedures for decommissioning of the surface water bodies within the construction compound; and									
	(c)	a stop-work procedure in the event that Green and Golden Bell Frogs are identified on site.									
		The management measures should specifically describe:									
	(a)	what information would be included in the site inductions, who would be inducted and the timing and responsibilities for induction;									
	(b)	the location and type of erosion and sediment controls to be implemented;									
	(c)	the methods for dust suppression;									
	(d)	acid sulphate soil management procedures; and									
	(e)	hygiene protocol to minimise the potential for the introduction and spread of Chytrid Fungus by plant, equipment, construction vehicles, construction workers and materials.									
		The Proponent is not required to consult with the relevant council on the Arncliffe Construction Compound Sub-plan.									
D59		Prior to establishing the Arncliffe construction compound (C7), the Proponent must implement the following management measures as specified in the first three rows of Table 1 of the Green and Golden Bell Frog Plan of Management presented in Appendix K of Appendix S, Volume 2H of the document referred to in condition A2(b):									
	(a)	define the construction clearing area;									
	(b)	establish a frog exclusion zone; and									
	(c)	undertake pre-clearance survey and salvage activities (i.e. frog collection).									
		The Proponent must also establish a procedure for the collection of Green and Golden Bell Frog									

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		tadpoles from the existing surface waterbodies at the Kogarah Golf Course that will be impacted by the Arncliffe construction compound, and implement the procedure if tadpoles are present prior to decommissioning of the waterbodies. Any salvaged frogs and tadpoles must be either relocated to the RTA ponds or an appropriate holding facility which is staffed by appropriately trained and experienced frog specialists. No site establishment or construction-related activities or works are permitted at the proposed Arncliffe construction compound site until such time that the above management measures have									
		been implemented and written notice to this effect has been provided to the Secretary by a suitably qualified and experienced frog specialist. The management measures specified in (a) to (c) and above and tadpole collection may be undertaken prior to the Proponent implementing any actions that are required by the conditions set out in Parts B, C, D and E of this approval.									
D60		Site establishment works at ancillary facilities must be undertaken in accordance with the construction hours specified in conditions D12 and D14. Notwithstanding, the following activities can be undertaken outside of the hours specified in conditions D12 and D14.									
	(a)	the delivery of materials/equipment/plant where it is required by the police or other authorities for safety reasons;									
	(b)	works required in an emergency to avoid the loss of lives, property and/or prevent environmental harm;									
	(c)	utility connections where the utility provider requires the connections be performed outside of the specified hours; or works which have the potential to impact on road/traffic safety and must be carried out as a result of RMS Traffic Management Centre requirements									
D61		The Proponent must comply with the requirements of conditions D16, D18, D22 and D24, when establishing ancillary facilities.									

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D62		Other than ancillary facilities described in the documents listed in conditions A2(b) and A2(c), or those ancillary facilities approved by the Secretary under condition 0, or allowed under condition 0, the location of ancillary facilities must comply with the following locational criteria:									
	(a)	be located more than 50 metres from a waterway;									
	(b)	be located within or adjacent to land where the SSI is being carried out;									
	(c)	have ready access to the road network;									
	(d)	be located to minimise the need for heavy vehicles to travel on local streets and/or through residential areas;									
	(e)	be sited on relatively level land;									
	(f)	be separated from nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);									
	(g)	not require vegetation clearing beyond that already required by the SSI;									
	(h)	not impact on heritage items (including areas of archaeological sensitivity) beyond those already impacted by the SSI;									
	(i)	not unreasonably affect the land use of adjacent properties;									
	(j)	be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; and									
	(k)	provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.									
D63		Prior to establishment of any ancillary facility not described in the documents listed in conditions A2 (b) and A2(c) and which does not meet the locational criteria in condition D52, the Proponent must prepare and implement a Site-Specific Ancillary Facilities Management Plan. The Site-Specific Ancillary Facilities Management Plan must be prepared for the approval of the Secretary, and									

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		include:									
	(a)	a detailed description of the ancillary facility, including proposed use and access arrangements;									
	(b)	a review of the environmental and social impacts of the ancillary facility, including an analysis of compliance with the locational criteria specified in condition 0;									
	(c)	measures to avoid, mitigate and manage environmental and social impacts associated with the ancillary facility; and									
	(d)	demonstration that, with the measures proposed in accordance with (c), the impacts of the ancillary site are consistent with –									
		(i) the overall project impacts described in documents listed in conditions A2(b) and A2(c), and									
		all relevant conditions of this approval.									
D64		The Secretary's approval is not required for minor ancillary facilities (e.g. lunch sheds, office sheds, and portable toilet facilities, etc.) that do not comply with the criteria set out in condition 0 of this approval and which:									
	(a)	are located within an active construction zone within the approved SSI footprint; and									
	(b)	have been assessed by the Environmental Representative to have –									
		(i) minimal amenity impacts to surrounding residences, with consideration to matters such as noise and vibration impacts, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and									
		minimal environmental impact in respect to waste management, and no impacts on flora and fauna, soil and water, and heritage beyond those approved for the SSI; and									
	(c)	have environmental and amenity impacts that can be managed through the implementation of environmental measures detailed in the Construction Environment Management Plan required under condition D66.									

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D65		All ancillary facilities and supporting infrastructure must be rehabilitated to at least their preconstruction condition or better, unless otherwise agreed by the landowner where relevant. Where the rehabilitated site is residual land then condition B67applies.									
D66		The privacy of adjoining residential development is to be considered in the design and establishment of ancillary facilities. Where an ancillary facility overlooks residential property, privacy measures will be provided in consultation with the affected property owner.									
D67		Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Proponent must prepare and implement a Construction Environmental Management Plan (CEMP) for the SSI. The CEMP is to be prepared in consultation with the EPA, OEH, and the relevant council. The CEMP must outline the environmental management practices and procedures that are to be followed during construction. The CEMP is to be prepared in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004). The CEMP must include, but not be limited to:									
	(a)	a description of activities to be undertaken during construction of the SSI (including staging and scheduling);									
	(b)	statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;									
	(c)	a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors, are aware of their environmental and compliance obligations under these conditions of approval;									
	(d)	an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and									

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	(e)	details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues must be addressed in the CEMP – i. measures to monitor and manage dust emissions including dust from stockpiles, blasting, traffic on unsealed public roads and materials tracking from construction sites onto public roads, ii. measures for the handling, treatment and management of hazardous and contaminated materials (including asbestos), iii. measures to monitor and manage waste generated during construction including but not limited to general procedures for waste classification, handling, reuse, and disposal, use of secondary waste material in construction wherever feasible and reasonable, procedures or dealing with green waste including timber and mulch from clearing activities. and measures for reducing demand on water resources (including potential for reuse of treated water from sediment control basins); v. measures to monitor and manage hazard and risks, v. measures to monitor and rectify any impacts to third party property and infrastructure, including details of the process for rectification or compensation of affected landowners, and timeframes for rectification works or compensation processes, and the sub-plans identified in condition D68 The CEMP must include procedures for its periodic review and update (including the sub-plans required under condition 068), as necessary (including where minor changes can be approved by the Environmental Representative).									
		Nothing in this condition prevents the Proponent from preparing a Stockpile Management Protocol as									

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		part of the CEMP. The CEMP must be submitted for the approval of the Secretary no later than one month prior to the commencement of construction, or as otherwise agreed by the Secretary. The CEMP may be prepared in stages; however, construction works must not commence until written approval of the relevant stage has been received from the Secretary. The approval of a CEMP does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved CEMP and the conditions of this SSI approval will prevail.									
D68		As part of the CEMP for the SSI, the Proponent must prepare and implement:									
	(a)	a Construction Traffic and Access Management Plan to ensure traffic and access controls are implemented to avoid or minimise impacts on traffic, pedestrian and cyclist access, and the amenity of the surrounding environment. The Construction Traffic and Access Management Plan must be developed in consultation with the relevant council(s), emergency services, road user groups, and pedestrian and bicycle user groups, and include, but not be limited to: i. identification of construction traffic routes including any known road closures and consideration of alternate routes and construction traffic volumes (including heavy vehicle/spoil haulage) on these routes; ii. details of vehicle movements for construction sites and ancillary facilities including parking, dedicated vehicle turning areas, and ingress and egress points; ii. demonstration that sufficient on-site parking is provided at construction compounds to accommodate all construction staff at any one time, v. discussion of construction impacts that could result in disruption of traffic, public transport, pedestrian and cycle access, access to public land, property access, including details of									

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		oversize load movements, and the nature and duration of those impacts;									
		v. details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas and management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access;									
		 details of measures to maintain or provide alternative safe and accessible routes for pedestrians throughout the duration of construction; 									
		ii. details of measures to maintain connectivity for cyclists, with particular emphasis on providing adequate access between key existing cycle routes for commuter cyclists;									
		ii. details of measures to manage traffic movements, parking, loading and unloading at ancillary facilities during out-of-hours work;									
		 details of methods to be used to communicate proposed future traffic changes to affected road users, pedestrians and cyclists, consistent with the Community Communication Strategy required under condition C1; 									
		x. an adaptive response plan which sets out a process for response to any traffic, construction or other incident; and									
		mechanisms for the monitoring, review and amendment of the Construction Traffic and Access Management Plan.									
	(b)	a Construction Noise and Vibration Management Plan to detail how construction noise and vibration impacts will be minimised and managed. The Plan must be consistent with the guidelines contained in the Interim Construction Noise Guidelines (DECC, 2009). The Construction Noise and Vibration Management Plan must be developed in consultation with the EPA and must include, but not be limited to:									
		i. identification of the work areas, site compounds and access points;									
		ii. identification of sensitive receivers and relevant construction noise and vibration goals									

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			applicable to the SSI and stipulated in the conditions above;									
		ii.	details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas;									
		v.	details of the predicted worst-case noise and vibration levels based on the refined background noise levels determined under condition 0, including cumulative impacts arising from concurrent construction works and potential for sleep disturbance;									
		V.	figures illustrating the predicted safe working distances for vibration intensive activities and equipment;									
		vi.	an Out-of-Hours Work Protocol for the assessment, management and approval of works outside of standard construction hours as defined in condition 0 of this approval, for the Secretary's approval. The Out-of-Hours Work Protocol must be consistent with the out-of-hours work procedure detailed in the <i>Construction Noise Strategy</i> (Transport Construction Authority, 2011) and-									
		A.	provide an assessment of out-of-hours works against the relevant noise and vibration criteria,									
		B.	provide detailed mitigation measures for any residual impacts (that is, additional to general mitigation measures), including extent of atreceiver treatments, and									
		C.	set out proposed notification arrangements;									
		rii.	justification for any construction works proposed to be undertaken within the Alexandria Landfill site outside of the construction hours specified in condition D12 and which do not meet the requirements of either conditions D13 and D15;									
		ii.	identification of feasible and reasonable procedures and mitigation measures to ensure									

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		relevant vibration and blasting criteria are achieved, including a suitable blast program, applicable buffer distances for vibration intensive works, use of low-vibration generating equipment/vibration dampeners or alternative construction methodology, and preand post- construction dilapidation surveys of sensitive structures where blasting and/or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria); x. details of tunnelling including associated impacts, management and mitigation measures; x. Identification of feasible and reasonable measures proposed to be implemented minimise and manage construction noise and vibration impacts, especially sleep disturbance (including construction traffic noise impacts), including, but not limited to, acoustic enclosures, erection of noise walls (hoardings), at-property architectural treatments, respite periods and the limiting of truck movements during night periods including:									
		 (A) consideration of mitigation measures for sensitive receivers adjoining Campbell Road, Campbell Street and Euston Road, (B) the identification of receivers eligible for at-property acoustic treatment for the mitigation and management of operational noise (at-property acoustic treatments are to be installed prior to construction), (C) the identification of receivers eligible for alternative accommodation as determined by the criteria identified within Table 12-49 of the EIS described within condition A2 (inclusive of the consideration and identification of shift workers for alternate accommodation), and (D) the outcomes of community consultation regarding the implementation of any temporary noise barriers developed in accordance with condition D20 xi. a description of how the effectiveness of mitigation and management measures would 									

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		be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported, and, if any exceedance is detected, how any noncompliance would be rectified;									
		evidence that the EPA has been consulted on the Out-of-Hours Work Protocol and where and how any issues raised by, or requirements of the, EPA have been addressed; and									
		mechanisms for the monitoring, review and amendment of the Construction Noise and Vibration Monitoring Plan.									
	(c)	a Construction Heritage Management Plan to ensure, and provide detail of how, construction impacts on Aboriginal and non-Aboriginal heritage will be appropriately minimised and managed. The Construction Heritage Management Plan must include, but not be limited to:									
		 i. in relation to Aboriginal Heritage – A. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains), including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures, including when works can re-commence, by a suitably qualified and experienced archaeologist in consultation with the OEH, and Aboriginal stakeholders, and assessment of the consistency of any Aboriginal heritage impacts against the approved impacts of the SSI, 									
		B. procedures for dealing with human remains, including cessation of works in the vicinity, notification of, NSW Police Force, OEH and Aboriginal stakeholders, and commitment to cease recommencing any works in the area unless authorised by OEH and/or the NSW Police Force,									
		C. heritage training and induction processes for construction personnel (including procedures for keeping records of inductions and obligations under this approval) including site identification,									

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			protection and conservation of Aboriginal cultural heritage, and									
		D.	procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI, in the event that previously unidentified Aboriginal objects are discovered; and									
		ii.	In relation to non-Aboriginal Heritage –									
		A.	identification of heritage items directly and indirectly affected by the SSI,									
		B.	details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/or measures to protect unaffected sites during construction works in the vicinity),									
		C.	details of monitoring and reporting requirements for impacts on heritage items,									
		D.	procedures for dealing with previously unidentified heritage objects and relics, including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can recommence by a suitably qualified and experienced archaeologist in consultation with the NSW Heritage Council, and assessment of the consistency of any heritage impacts against the approved impacts of the SSI,									
		E.	processes and mechanisms for the reuse and recycling of building and landscape components from contributory, potential and locally listed heritage items within other built or landscaped components of the SSI, and									
		F.	heritage training and induction processes for construction personnel (including procedures for keeping records of inductions and obligations under this approval) including site identification, protection and conservation of non-Aboriginal cultural heritage; and									
		ii.	mechanisms for the monitoring, review and amendment of the Construction Heritage Management Plan.									
			e Construction Heritage Management Plan must developed in consultation with the OEH, NSW									

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		Heritage Council (for non-Aboriginal heritage) and Registered Aboriginal Groups (for Aboriginal heritage).									
	(d)	a Construction Flora and Fauna Management Plan to detail how construction impacts on ecology will be minimised and managed. The Construction Flora and Fauna Management Plan must be endorsed by a suitably qualified and experienced ecologist and be prepared in consultation with the OEH, and must include, but not be limited to: i. detailed maps showing the location of									
		impacted and adjoining flora and fauna habitat areas; ii. detailed maps showing where pre-clearing surveys will be undertaken to confirm the location of threatened species, populations and ecological communities;									
		ii. the identification of areas to be impacted and details of management measures to avoid residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat such as —									
		clearing minimisation procedures (including fencing),									
		B. clearing procedures, C. removal and relocation of fauna during clearing (including microbat management plan),									
		D. habitat tree management, E. fauna fencing, and									
		F. construction worker education;									

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		iv. the management measures as specified in Table 2 and rows 4-12 of Table 1 of the Green and Golden Bell Frog Plan of Management presented in Appendix K of Appendix S, Volume 2H of the document referred to in condition A2(b) and in the updated management plan required by condition B14,									
		v. details of the measures to be implemented to prevent impacts to the retained Green and Golden Bell Frog habitat at the Kogarah Golf Course and Marsh Street ponds including, but not limited to types and amounts of materials to be stored at the sites, bunding around the stores, erosion and sediment control measures and dust suppression measures,									
		vi. proposed monitoring for the Green and Golden Bell Frog population at the Kogarah Golf Course in accordance with the updated management plan required by condition B14,									
		vii. details of the specific measures that would be implemented to protect the remaining portion of Cooks River/Castlereagh Ironbark Forest and ensure that it is not impacted by site establishment and construction activities,									
		 viii. rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas; 									
		ix. a Noxious Weed and Pathogen Management Strategy, incorporating weed management measures focusing on early identification of invasive weeds and effective management controls, controls to prevent the introduction or spread of <i>Phytophthora cinnamomi</i> and myrtle rust (<i>Puccinia psidii s.l.</i>), frog hygiene protocol to control the introduction of the Chytrid fungus (<i>Batrachochytrium dendrobatidis</i>), and predatory fish in Green and Golden Bell Frog habitat at Arncliffe,									
		 where works impact on riparian land, a Vegetation Management Plan consistent with the DPI (2012) Guidelines for Vegetation 									

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		Management Plans on Waterfront Land including (but not limited to), xi. the monitoring of the condition of groundwater dependent ecosystems in Bardwell Valley Parkland and Broadford Street Reserve (Hinterland Sandstone Gully Forest) and Stotts Reserve (Coastal Sandstone Ridgetop Woodland), xii. a nest box plan which addresses the replacement of hollows removed during the construction of the SSI, xiii. a description of how the effectiveness of the flora and fauna management measures would be monitored; xiv. a procedure for dealing with unexpected threatened species, populations and ecological communities identified during construction, including cessation of work and notification to the OEH, determination of appropriate mitigation measures in consultation with the OEH (including relevant re-location measures) and updating of ecological monitoring and/ or biodiversity offset requirements; and mechanisms for the monitoring, review and amendment of the Construction Flora and Fauna Management Plan.									
	(e)	a Construction Air Quality Management Plan to detail how construction impacts on local air quality will be minimised and managed. The Construction Air Quality Management Plan must include, but not be limited to: i. identification of sources (including stockpiles and open work areas) and quantification of airborne pollutants including odour; ii. key performance indicators for local air quality during construction; ii. details of air quality monitoring methods, including location, frequency and duration of monitoring; v. methods for assessing meteorological conditions and measures that would be implemented during adverse meteorological conditions;									

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		 best practice management mitigation measures to minimise impacts on local air quality including, but not limited to, the relevant revised environmental mitigation measures set out in the documents listed in condition A2(c); 									
		vi. measures for minimising the release of construction emissions from the site, including plant and equipment;									
		ii. procedures for record keeping and reporting against key performance indicators;									
		ii. provisions for implementation of additional mitigation measures in response to issues identified during monitoring and reporting; and									
		mechanisms for the monitoring, review and amendment of the Construction Air Quality Management Plan.									
	(f)	a Construction Soil and Water Management Plan to manage surface and groundwater impacts during construction of the SSI. The Construction Soil and Water Management Plan must be developed in consultation with the EPA, DPI (Water) and relevant councils, and include, but not be limited to:									
		i. details of construction activities and their locations, which have the potential to impact on water courses and riparian land, storage facilities, stormwater flows, and groundwater, including identification of all pollutants that may be introduced into the water cycle;									
		ii. processes to ensure that Water Quality Pond No.2 at Arncliffe is not decommissioned until replacement water quality devices are operational;									
		 potential impacts on watercourse bank stability and the development of appropriate mitigation measures as required; 									
		v. measures to manage and/or minimise sediment and erosion, groundwater impacts and surface water quality impacts (including stormwater runoff and groundwater treatment);									
		v. where acid sulfate soils are known to occur or potentially occur, an Acid Sulfate Soils Management Plan, including measures for the management, handling, treatment and disposal of acid sulfate soils, including									

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		monitoring of water quality at acid sulfate soils treatment areas, should the project impact on acid sulfate soils; i. a description of how the effectiveness of the actions and measures for managing soil and water impacts would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any noncompliance can be rectified; and mechanisms for the monitoring, review and amendment of this Construction Soil and Water Management Plan.									
E1		The provision, operation and maintenance (including all auditing and validation of data) of all air quality monitoring and reporting must be funded by the Proponent.									
E2		The Proponent must monitor (by sampling and obtaining results by analysis) the pollutants, within the tunnel using the methodologies and frequency specified in Table 4 throughout the operation of the SSI. Monitoring must commence on the first day of operation of the SSI. Table 4 - In Tunnel monitoring methodology Units of measure Frequency Method									

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		Visibility	×	XXV	×									

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		Note:									
		Special Method 1 means a method approved by the Secretary in consultation with the EPA.									
E3		The number and location of the monitoring stations inside the tunnel must be determined to permit an accurate calculation, per the requirements of conditions E4, E5 and E6, and be independently verified in accordance with a methodology approved by the Secretary in consultation with the EPA, at least six months prior to the operation of the SSI. As a minimum, monitoring stations must be installed at the entry portals, the base of the ventilation outlets, tunnel and ramp junctions and at the emergency smoke extraction facility. All sampling points and visibility monitoring points established under this condition must be audited at least two months prior commencing monitoring, for compliance with the requirements set out in Table 4 . Verification and compliance auditing is to be undertaken by an independent person(s) or organisation(s) whose appointment has been approved by the Secretary. Air quality data is to be made available in as close to real time as possible, under the website reporting requirements of condition E24.									
E4		The Proponent must ensure that the average concentrations of CO and N02, calculated along the length of the tunnel, do not exceed the concentration limit specified for that pollutant in Table 5. Table 5 - In-tunnel average limits along length of tunnel Concentr Units of measure ment Concentr ment									

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	СО	x xxxiii									
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Ref	Sub Ref	Condition o	of Approva			Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
E5		CO as meas must not exc that pollutan (including co	sured at any ceed the co at in Table 6 ongested co	v single po ncentration under all onditions).	ne concentration of nt in the tunnel n limit specified for conditions exposure limits									
				Units of measur ement	Averaging period									
		СО			Rolling 3– minute									
E6		The tunnel voperated so exceed the I	that the vis	ibility in the	t be designed and e tunnel does not e 7.									
		Table 7 - In-	tunnel vis- tunnel	ibility limi	s along length of									
		×	Average extinction co-efficier Limit	ment										
		Visibility		xli) Xiii									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
E7		Prior to commencing operation, an independent person or organisation whose appointment has been approved by the Secretary must:									
	(a)	verify that compliance with in-tunnel limits detailed in Table 5, Table 6 and Table 7, will: (i) supplement/not preclude compliance with the predicted air quality outcomes presented in the documents referred to in condition A2, and (ii) not result in air quality impacts greater than predicted in the documents referred to in condition A2;									
	(b)	assess how the ventilation system has been optimised, taking into consideration energy requirements and air quality impacts for tunnel users; and									
	(c)	validate recorded monitoring data and certify compliance with the in-tunnel air quality limits.									
		The information required in this condition will be made available to the Secretary on request.									
E8		In addition to the general reporting requirements specified in condition E23, the Proponent must notify the Secretary, EPA and NSW Health of any recordings above the limits specified in conditions E4, E5 and E6 within 24 hours of the recorded event. The notification must detail the nature of the event, the concentration or visibility levels that occurred, the duration of the event, and the measures employed to minimise the concentration levels and/or improve the visibility levels. This notification must provide details of the circumstances of the event, including:									
	(a)	the nature and location of the event, including any details relating to the cause;									

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	(b)	the duration of the event;									
	(c)	the extent and severity of the event;									
	(d)	the measures employed to minimise the concentration levels, and measures to improve visibility levels in the event that visibility levels were above the specified limit; and									
	(e)	the frequency of the event, including whether an event with the same or similar circumstances has occurred previously.									
		Based on consideration of the circumstances of the event, the Secretary may request the Proponent to prepare a Tunnel Air Quality Management Systems Effectiveness Report, in accordance with condition E9.									
E9		Within 20 working days of any request by the Secretary under condition E8, the Proponent must prepare and submit to the Secretary a Tunnel Air Quality Management Systems Effectiveness Report on the overall system performance and cause and major contributor of any exceedances, including:									
	(a)	the overall performance and concentration levels in the tunnel for the preceding six month period (or since commencement of operation, where the SSI has operated for under six months), including average and maximum levels and time periods;									
	(b)	details of any instances throughout the operation of the SSI where pollutant concentration levels in the tunnel have exceeded the limits specified in conditions E4, E5 and E6; and									
	(c)	consideration of improvements to the tunnel air quality management system.									
		The Tunnel Air Quality Management Systems Effectiveness Report is to be prepared by the Proponent and reviewed by a suitably qualified and experienced independent specialist(s) whose appointment has been approved by the Secretary.									
		The Proponent must comply with any requirements									

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		arising from the Secretary's review of the Tunnel Air Quality Management Systems Effectiveness Report.									
E10		The Proponent must monitor (by sampling and obtaining results by analysis) the pollutants and parameters specified in Table 8 at the following locations as a minimum:									
	(a)	two ground level receptors near the Kingsgrove ventilation outlet, at locations suitable for detecting any impact on air quality from the outlet;									
	(b)	two ground level receptors near the Arncliffe ventilation outlet, at locations suitable for detecting any impact on air quality from the outlet;									
	(c)	two ground level receptors near the St Peters ventilation outlet, at locations suitable for detecting any impact on air quality from the outlet;									
	(d)	one location within the vicinity of the St Peters Interchange, as a location suitable for detecting any impact on air quality within the surrounding residential receptors; and									
	(e)	one location, away from any of the locations at (a) to (d), suitable for providing background ambient air quality reference data for the project area.									
		The Proponent must use the sampling method, units of measure, and sampling frequency specified in Table 8 .									
		Table 8 - Ambient Air Quality Monitoring Methodologies									

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			measu rement	Period										
		Wind Speed @ 10 m			l:									
		Wind Direction @ 10 m			l:									
		Sigma Theta @ 10 m			l:									
		Temperat ure @ 2m			E									
		Temperat ure @ 10 m			×									

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		of Air Pollu as otherwi consultatio 2. AS3580 Analysis of Suspender Direct Mass Oscillating Australia, 2 3. AS 3580 and Analys	se agreed on with the 1.9.8-2008, f Ambient of Particular Microbala 2008). 20.9.13-201 Sis of Amb	ew South to in writir EPA. Methods Air – Dete ate Matter using Tap ance Analy 3, Method ient Air – I	for the Sar rmination o - PM10 Co ered Eleme ser (Standa Is for the Sa Determinati	A, 2007) or ecretary in appling and function of ampling ampling on of			, s	nt	at the state of th				
		Suspended Particulate Matter – PM10 Continuous Direct Mass Method using Tapered Element Oscillating Microbalance Analyser (Standards Australia, 2008). 3. AS 3580.9.13-2013, Methods for the Sampling and Analysis of Ambient Air – Determination of Suspended Particulate Matter – PM2.5 Continuou Direct Mass Method using a Tapered Element Oscillating Microbalance Analyser (Standards Australia, 2013). 4. TBD - location for meteorological monitoring station(s) to be representative of weather conditions likely to occur in the vicinity of the													

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		Kingsgrove, Arncliffe and St Peters ventilation outlets. 5. Appropriately modified to include size selective inlet for PM2.5 or as otherwise approved by the Secretary.									
E11		The monitoring locations must be selected with the objective of achieving like-to-like comparison of monitoring results with available pre-construction data. The locations must also allow for the independent team of experts to review the accuracy of predicted environmental outcomes discussed in the documents referred to in conditions A2(b) and A2(c) as part of the environmental audit required under condition E51. All monitoring stations must be established in locations agreed to by the AQCCC and subject to the land owner's and occupier's agreement. The establishment and operation of the stations is to be undertaken in accordance with recognised									
		Australian standards and undertaken by an organisation accredited by NATA for this purpose and approved by the Secretary in consultation with the EPA and the AQCCC. The quality of the monitoring results must be assured through a NATA accredited process prior to the data being considered as a basis for compliance/auditing purposes.									
E12		Monitoring results must be made publicly available and must be subject to an independent audit at sixmonthly intervals (or at a longer interval, if approved by the Secretary). The auditor must be approved by the Secretary in consultation with the EPA and the AQCCC, and the auditor's report must be directly provided to the Proponent and the AQCCC.									
E13		The Proponent must commence monitoring for at least twelve continuous months prior to operation and continue monitoring for at least two years following the commencement of operation. At the conclusion of the two year operational monitoring period, the Proponent must review the need for the commencement of the continuation of the ambient monitoring stations in consultation with the AQCCC. Any recommendation to close any or all of the									

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		stations will require the approval of the Secretary in consultation with the EPA.									
E14		Should ambient monitoring of air pollutants exceed the following goals, the provisions of conditions E15, E16 and E17 will apply:									
	(a)	CO – 8 hour rolling average of 9.0 ppm (NEPM);									
	(b)	NO2 – One hour average of 0.12 ppm (245 μg/m³) (NEPM);									
	(c)	PM10 – 24 hour average of 50 μg/m³ (NEPM);									
	(d)	PM2.5 – 24 hour average of 25 μg/m³ (NEPM)									
	(e)	PM10 – annual average of 25 μg/m³ (NEPM); and									
	(f)	PM2.5 – annual average of 8 µg/m³ (NEPM)									
E15		In addition to the general reporting requirements specified in condition E23, the Proponent must prepare an Ambient Air Quality Goal Protocol for the evaluation of a potential measurement that exceeds the goals. The Ambient Air Quality Goal Protocol must be developed by the Proponent in consultation with the AQCCC and submitted to the Secretary for approval at least 12 months prior to the commencement of operation of the SSI. The Ambient Air Quality Goal Protocol must include:									
	(a)	the form of and process for providing a Notification of Above-Goal Recording, subject to condition E16;									
	(b)	the form and contents of a Report on Above-Goal Recording, subject to condition E17; and									
	(c)	a process for appointing an independent person/organisation to prepare the Report on Above-Goal Reading. The process must include – (i) approval of the independent person/organisation by the Secretary prior to preparation of the report, and (ii) the appointment of the independent									
		person/organisation at least with the agreement of the Secretary.one month prior to the commencement of operation, or at some other time prior to									

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		preparation of the report									
E16		The Ambient Air Quality Goal Protocol must provide a Notification of Above-Goal Recording if ambient monitoring of air pollutants records an exceedance of the goals in condition E14. The Notification of Above-Goal Recording is to be submitted within 24 hours of the recording, to the Secretary, EPA and NSW Health. The Notification of Above-Goal Recording must detail:									
	(a)	the nature of the event;									
	(b)	the concentration or visibility levels that occurred;									
	(c)	the duration of the event;									
	(d)	the measures employed to minimise the concentration levels and/or improve the visibility levels; and									
	(e)	the Proponent's commitment to prepare and submit a Report on Above-Goal Recording in accordance with condition E17.									
E17		Within 20 working days of any Notification of Above-Goal Recording, the Proponent must prepare and submit to the Secretary a Report on Above-Goal Recording that details the cause and major contributor of the exceedance and the options available to prevent recurrence.									
		Where the operation of the tunnel is identified to be a significant contributor to the recorded above-goal reading, the Report on Above-Goal Recording must include consideration of improvements to the tunnel air quality management system so as to achieve compliance with the ambient air quality goals, including but not limited to installation of the additional ventilation management facilities allowed for under condition 85, and discussion of whether those improvements are feasible and reasonable.									
		The Proponent must comply with any requirements arising from the Secretary's review of the Report on Above-Goal Recording.									
E18		The Proponent must install monitoring equipment to monitor pollutants from the ventilation outlets. Pollutant monitoring from the ventilation outlets (by									

Ref	Sub Ref	Condition of Ap	proval			Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		sampling and obt in accordance withe pollutants and and be undertake throughout the op	th the method d parameters on at comme	ds and fred s specified ncement of	uencies for n Table 9									
		The monitoring e audited prior to the compliance with the independent be approved by the Proponent.	the requirement person(s) or the Secretary	ents set ou organisati and paid f	t in Table 9 . on(s) must or by the									
		Table 9 - Ventila N	ition Outlet i Methodologi	Emission i es	Monitoring									
		Pollutant	Units of measure	Freque ncy	Method ¹									
		Solid particles Solid particles	C		C									
		PM ₁₀	C	9	C									

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		PM _{2.5}	C	C									
		NO ₂ or NO or both, as NO ₂ equivalent	C	C									
		NO ₂	C	C									
		СО	C	C									
		VOC ²	C	C									

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		Speciated VOC									
		Speciated PAH ³									
		Parameter									
		Velocity									
		Volumetric flow rate									
		Moisture o									

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		Temperature Other									
		Selection of sampling locations Notes: 1. Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (EPA 2007) or an alternative method approved by the Secretary in consultation with the EPA. 2. Must include, but not be limited to: Benzene, Toluene, Xylenes, 1,3-Butadiene, Formaldehyde and Acetaldehyde. 3. Must include, but not limited to; 16 USEPA priority PAHs, namely; Naphthalene, Phenanthrene, Benz(a)anthracene, Benzo(a)pyrene, Acenapthylene, Anthracene, Chrysene, Indeno(1,2,3-cd)pyrene, Acenaphthene,									

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		Fluoranthene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Fluorene, Pyrene, Benzo(k)fluoranhtene, Benzo(g,h,i)perylene. 4. Special Method 1 means a method approved by the Secretary in consultation with the EPA.									
E19		The concentration of a pollutant discharged from the ventilation outlets must not exceed the respective limits specified for that pollutant in Table 10. Table10 - Ventilation Outlet Mass Pollutant Concentrations 100 Units Averagi Referen ng ce conditio ntile limit measu remen t									

R	ef	Sub Ref	Condition	of Appro	val		Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
			Solid particles												

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E20		An independent person or organisation approved by the Secretary must:									
	(a)	verify that compliance with ventilation outlet limits detailed in Table 10 will -									
		(i) supplement/not preclude compliance with the predicted air quality outcomes presented in the documents referred to in conditions A2(b) and A2(c), and									
		(ii) not result in air quality impacts greater than predicted in the documents referred to in conditions A2(b) and A2(c);									
	(b)	assess how ventilation outlet discharge velocities have been optimised taking into consideration energy requirements and air quality impacts at all sensitive receivers; and,									
	(c)	validate recorded monitoring data and certify compliance with the ventilation outlet limits.									
		The information required in this condition must be made available to the Secretary on request.									
		The ventilation outlet limits detailed in Table 10 must be reviewed on a five-yearly basis following commencement of operation of the SSI and may be lowered (i.e. made more stringent), subject to a sustainability assessment and there being improvements in vehicle fleet emissions, if the Proponent is directed to do so by the Secretary following consultation with the EPA.									
E21		Should the results of monitoring show that any of the ventilation outlet limits specified in condition E19 have been exceeded, the Proponent must notify the Secretary, EPA and NSW Health within 24 hours of the recorded event. The notification must be followed up with a detailed report within 20 working days, which must be prepared by the Proponent,									
		reviewed by a suitably qualified and experienced independent specialist(s), and submitted to the Secretary, on the cause and major contributor of the exceedance and the options available to prevent recurrence. The Secretary must approve the independent person/organisation prior to the commencement of operation, or at some other time prior to preparation of the report.									

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		Where the operation of the tunnel is identified to be a significant contributor to the recorded exceedance, this report must include consideration of improvements to the tunnel air quality management system so as to achieve compliance with the ambient air quality goals, including but not limited to installation of the additional ventilation management facilities allowed for under condition 85, and discussion of whether those improvements are feasible and reasonable. The Proponent must comply with any requirements									
E22		arising from the Secretary's review of the Report. Conditions E4, E5, E6, E14 and E19 do not apply in an emergency, as defined in the OEMP required by condition E31(g). The Proponent must, as soon as reasonably practicable, notify the Secretary and the EPA of any such discharge.									
E23		The Proponent must develop and implement a reporting system for in-tunnel, ambient and ventilation outlet limits in consultation with the EPA. The reporting system must be approved by the Secretary and fully implemented and operational prior to operation. Minimum analytical reporting requirements for air pollution monitoring stations must be as specified in the Approved Methods of Modelling and Assessment of Air Pollutants in NSW (EPA 2007, or as updated).									
E24		Results of hourly updated real-time ambient monitoring of PM ₁₀ , PM _{2.5} , visibility, NO ₂ , and CO at the approved monitoring stations, in-tunnel CO/NO ₂ and ventilation outlet measurements, and relevant meteorological data, must be provided on a website and made publicly available each month in hard copy format in an easy to interpret format. This data must be preliminary until a quality assurance check has been undertaken by a person or organisation accredited by NATA for this purpose. The availability of this data must be conveyed to the local community by way of newsletter (including translation into common community languages in the area) and newspaper advertisement at least one									

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		month prior to the commencement of operation.									
E25		The provision, operation and maintenance (including all auditing and validation of data) of all air quality monitoring and reporting must be funded by the Proponent.									
E26		All continuous emissions monitoring systems installed and operated as a requirement of condition E18 must undergo relative accuracy test audits at an interval not exceeding 12 months, or as otherwise agreed to by the Secretary in consultation with the EPA.									
E27		The Proponent must appoint an external auditor to conduct an audit of the air quality monitoring (intunnel and external) at six-monthly intervals or at any longer interval if approved by the Secretary. Air quality audits must commence six months from commencement of operation. The auditor must ensure that the operating procedures and equipment to acquire air monitoring, meteorological data and emission monitoring data and monitoring reporting comply with NATA (or equivalent) requirements and sound laboratory practice. The Proponent must document the results of the audit and make available all audit data for inspection by the Secretary upon request. A copy of the audit report must also be issued to the Proponent and AQCCC. The auditor must be approved by the Secretary in consultation with the EPA and the AQCCC, and the auditor's report must be directly provided to the Proponent and the AQCCC.									
E28		The Proponent must undertake appropriate quality assurance (QA) and quality control (QC) measures for air quality and ventilation outlet emission monitoring data. This must include, but not be limited to: accreditation/quality systems, staff qualifications and training, auditing, monitoring procedures, service and maintenance, equipment or system malfunction and records/reporting. The QA/QC measures must be approved by an independent expert approved by the Secretary prior to monitoring of air quality and ventilation outlet emissions as appropriate.									
E29		The Proponent must assist the relevant council(s) in developing an air quality assessment process for inclusion in a Development Control Plan or other									

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		appropriate planning instrument, in considering planning and building approvals for new development in areas adjacent to the ventilation outlets which would be within a potential three-dimensional zone of affectation (buffer volume). This process must include procedures for identifying the width and height of buildings that are likely to be either affected by the plume from the ventilation outlet or affect the dispersion of the plume from the ventilation outlet through building wake effects. A part of this process, the Proponent must provide data detailing the results of modelling of pollution concentrations at various heights and distances from the ventilation outlets. The Proponent must meet all reasonable costs for the development of this process and any necessary amendments to the planning instrument(s) required to implement the process.									
E30		Prior to operation, the Proponent must investigate, in consultation with the EPA, the measures for smoky vehicle enforcement in the New M5 tunnels, taking into consideration cost effectiveness. Any measures implemented as a result of investigation recommendations must be in accordance with current RMS smoky vehicle enforcement programs. The effectiveness of the smoky vehicle enforcement measures must be documented in the Independent Environmental Audit required under condition E51.									
E31		Prior to the commencement of operation, or as otherwise agreed by the Secretary, the Proponent must prepare and implement an Operation Environmental Management Plan (OEMP) for the SSI. The OEMP must outline the environmental management practices and procedures that are to be followed during operation, and must be prepared in consultation with relevant agencies and in accordance with the <i>Guideline for the Preparation of Environmental Management Plans</i> (Department of Infrastructure, Planning and Natural Resources, 2004). The OEMP must include, but not be limited to:									
	(a)	a description of activities to be undertaken during operation of the SSI (including staging and scheduling);									
	(b)	statutory and other obligations that the Proponent is required to fulfil during operation, including approvals, consultations and agreements required									

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		from authorities and other stakeholders under key legislation and policies;									
	(c)	overall environmental policies, guidelines and principles to be applied to the operation of the SSI;									
	(d)	a description of the roles and responsibilities for relevant employees involved in the operation of the SSI, including relevant training and induction provisions for ensuring that employees are aware of their environmental and compliance obligations under these conditions of approval;									
	(e)	an environmental risk analysis to identify the key environmental performance issues associated with the operation phase;									
	(f)	details of periodic testing of the tunnel ventilation system;									
	(g)	a definition of emergency as it applies to conditions 84, E22 and E44; and									
	(h)	details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts, including those safeguards and mitigation measures detailed in Section 8 the document referred to in condition A2 (and any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues must be addressed in the OEMP -									
		(i) air quality,									
		(ii) noise and vibration, through preparation of the Operational Noise Management Plan required under condition E34,									
		(iii) traffic,									
		(iv) climate change and energy use,									
		(v) visual amenity and landscaping,									
		(vi) groundwater level/pressure, inflows, groundwater contamination, treatment and discharge, soil, and subsidence,									
		(vii) groundwater dependent ecosystems, and									
		(viii) surface water quality and hydrology, including stormwater management.									

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		The OEMP must be submitted for the approval of the Secretary no later than one month prior to the commencement of operation, or as otherwise agreed by the Secretary. Operation must not commence until written approval of the OEMP has been received from the Secretary.									
		Note: • The approval of an OEMP does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved OEMP and the conditions of this SSI approval, the requirements of this SSI approval prevail.									
E32		The SSI must be designed and operated with the objective of meeting the requirements of the NSW Road Noise Policy (DECCW, 2011) and must, where feasible and reasonable, include the provision of atproperty architectural treatment to all affected sensitive receivers in multi-level dwellings where the project noise criteria are exceeded, unless otherwise agreed to by the owner of the noise-affected residence.									
E33		The Proponent must design and operate all fixed facilities, including the motorway operations complexes, tunnel portals; ventilation facilities, substations, pumps and water treatment plants, maintenance facility, workshops, car parking and the emergency smoke extraction outlets with the objective of not exceeding the noise requirements of the NSW Industrial Noise Policy (EPA, 2000) and the Sleep Disturbance Application Note to the NSW Industrial Noise Policy. The Proponent must apply mitigation at existing receivers where the noise requirements cannot be achieved.									
E34		A detailed Operational Noise Management Plan must be prepared as part of the Operational Environmental Management Plan required by condition E31 and submitted to the Secretary for approval. The Operational Noise Management Plan must provide details of noise and vibration control measures to be undertaken during the operation stages, and generally in accordance with the NSW Road Noise Policy (DECCW, 2011) and the NSW Industrial Noise Policy (EPA, 2000).									

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		The Operational Noise Management Plan must include, but not be limited to:									
	(a)	tests for ascertaining acoustic parameters;	1								
	(b)	predicted noise levels;]								
	(c)	noise criteria for operation of the project based on the objectives of the NSW Road Noise Policy (DECCW, 2011) and the NSW Industrial Noise Policy (EPA, 2000);									
	(d)	location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures (including details of the barrier to replace the existing noise mound at Beverly Grove Park, consistent with the requirements of condition B62(f) demonstrating best practice including silencers and building treatments for associated plant rooms and enclosures for exposed plant;									
	(e)	specific physical and managerial measures for controlling noise;									
	(f)	noise monitoring, reporting and response procedures including the monitoring on surrounding roads which experience significantly increased traffic volumes as a result of the project, and including operational facilities;									
	(g)	procedures for operational noise and vibration complaints management, including investigation and monitoring (subject to complainant agreement); and									
	(h)	an Operational Ancillary Facility Noise Management Sub-Plan including, but not limited to - (i) identification of the final location of all operational ancillary facilities and plant including the Motorway Complex, ventilation facilities, tunnel jet fans and water treatment plants, (ii) the sound power levels of all chosen equipment and plant to be utilised during									

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		operation including spectral sound characteristics and frequency data,									
		(iii) identification and/or confirmation of sensitive receivers and appropriate categorisation of the surrounding area in accordance with the INP,									
		(iv) identification of the applicable noise goals, including spectral frequency, for all sensitive receivers identified as being potentially impacted by any operational ancillary facility,									
		presentation of noise assessment and predicted impacts including the use of mapping and noise contours,									
		(vi) identification and implementation of appropriate mitigation measures including building treatment, site layout, attenuators and demonstration that chosen mitigation measures can adequately achieve the noise goals in the INP, and									
		(vii) details of maintenance and inspection schedules to ensure plant, equipment and other operational ancillary facilities are operating at optimal levels; and									
	(i)	mechanisms for the monitoring and review of the Operational Noise Management Plan.									
E35		For the purpose of assessment of noise criteria specified in the Operational Noise Management Plan , required under condition E34, noise from the development arising from ventilation facilities and plant must be:									
	(a)	measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with LAeq, Tooise limits;									
	(b)	measured in the free field at least three to five metres from any vertical reflecting surface in line with the worst-affected dwelling facade to determine compliance with L _{Amax} noise limits; and									
	(c)	subject to the modification factors provided in Section 4 of the <i>NSW Industrial Noise Policy</i> (EPA, 2000), where applicable.									

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		Notwithstanding, should direct measurement of noise from the fixed facilities be impractical, the Proponent may employ an alternative noise assessment method deemed acceptable by the EPA (refer to Section 11 of the NSW Industrial Noise Policy (EPA, 2000)). Details of such an alternative noise assessment method accepted by the EPA must be submitted to the Secretary prior to the implementation of the assessment method.									
E36		The Proponent must design and operate the SSI with the objective, where feasible and reasonable, of not exceeding the vibration goals for human exposure for existing receivers, as presented in Assessing vibration: a technical guideline (DECC, 2006).									
E37		The Proponent must prepare an Operational Noise and Vibration Review (ONVR) to confirm noise and vibration control measures that would be implemented for the project. The ONVR must be prepared in consultation with the Department, relevant councils, other relevant stakeholders and the community and must:									
	(a)	confirm the appropriate operational noise and vibration objectives and levels for adjoining development, including existing sensitive receivers;									
	(b)	confirm the operational noise predictions of the project based on the final design. Confirmation must be based on an appropriately calibrated noise model (which has incorporated additional 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 additional noise monitoring undertaken at appropriately identified noise catchment areas surrounding the facilities;									
	(c)	confirm the operational noise and vibration impacts at adjoining development based on the final design of the project, including operational daytime $L_{Aeq\ 15}$ hour and night-time $L_{Aeq\ 9}$ hour traffic noise contours;									
	(d)	review the suitability of the operational noise mitigation measures identified in the documents referred to at conditions A2(b) and A2(c) and, where									

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		necessary, investigate and identify additional feasible and reasonable noise and vibration mitigation measures required to achieve the noise criteria outlined in the NSW Road Noise Policy (DECCW, 2011) and NSW Industrial Noise Policy (EPA, 2000), including the timing of implementation;									
	(e)	include a consultation strategy to seek feedback from directly affected property owners (including educational institutions) on the noise and vibration mitigation measures; and									
	(f)	procedures for the management of operational noise and vibration complaints.									
		The ONVR is to be verified by a suitably qualified and experienced noise and vibration expert. The ONVR is to be undertaken at the Proponent's expense and submitted to the Secretary for approval prior to the commencement of construction of physical noise mitigation structures, unless otherwise agreed by the Secretary. The Proponent must implement the identified noise									
		and vibration control measures and make the ONVR publicly available.									
E38		Within 12 months of the commencement of the operation of the SSI, or as otherwise agreed by the Secretary, the Proponent must undertake operational noise and vibration monitoring to compare the actual noise and vibration performance of the SSI against the noise performance predicted in the Operational Noise and Vibration Review required by condition E37 and the documents referred to in conditions A2(b) and A2(c). The monitoring program must be documented in an Operational Noise and Vibration Compliance Report. The Operational Noise and Vibration Compliance Report must include, but not be limited to:									
	(a)	details of the noise and vibration monitoring program including methodology, location and frequency of noise monitoring;									
	(b)	results of the monitoring program and an assessment of these against the operational noise criteria specified in the Operational Noise Management Plan required by condition E34 and									

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Г		noise levels predicted in the Operational Noise Review required by condition E37 and the documents referred to in conditions A2(b) and A2(c);									
	(c)	details of any complaints received relating to operational noise and vibration impacts;									
	(d)	any required recalibration of the noise and vibration model taking account considerations such as traffic numbers and land use change (if applicable);									
	(e)	an assessment of the performance and effectiveness of the applied noise and vibration mitigation measures with regard to the operational noise criteria specified in the Operational Noise Management Plan required by condition E34; and									
	(f)	identification of any further feasible and reasonable noise and vibration mitigation measures required to meet the noise criteria specified in the Operational Noise Management Plan, where the criteria are exceeded, including timing and responsibilities for implementation.									
		The Proponent must provide the Secretary and the EPA with a copy of the Operational Noise and Vibration Compliance Report within 60 days of completing the operational noise monitoring, or as otherwise agreed by the Secretary.									
E39		The Proponent must implement further feasible and reasonable mitigation measures (where required) as identified in the Operational Noise and Vibration Compliance Report in consultation with affected property owners.									
E40		At both 12 months and 5 years after the commencement of operation of the SSI, or as otherwise agreed to by the Secretary, the Proponent must prepare a Road Network Performance Review Plan in consultation with Transport for NSW and the relevant councils that includes:									
	(a)	an updated analysis, including modelling of traffic impacts to the adjoining road network (including impacts on local roads and rat-running), as a consequence of the SSI. This must include a review of new information available about potential land use changes, and any traffic changes as a result of other major road projects within the project area;									

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	(b)	further detailed investigations at the following intersections or sections of the road network-									
		 (i) potential 'pinch-points' where the merging of tunnel exit traffic and surface traffic would occur at the King Georges Road Interchange and the St Peters Interchange, 									
		(ii) King Street, between Sydney Park Road and Enmore Road,									
		(iii) Euston Road, between Sydney Park Road and Botany Road,									
		(iv) Princes Highway/Campbell Street,									
		(v) Princes Highway/Canal Road,									
		(vi) Princes Highway/Railway Road,									
		(vii) Gardeners Road/O'Riordan Street,									
		(viii) Sydney Park Road/Mitchell Road,									
		(ix) Gardeners Road/Bourke Road,									
		(x) Unwins Bridge Road/Campbell Street, and									
		(xi) Campbell Road/Euston Road;									
	(c)	updated consideration of potential mitigation measures to manage any predicted traffic performance deficiencies in association with the investigations undertaken under (b);									
	(d)	the predicted traffic performance improvements from these measures, including any cumulative improvements;									
	(e)	details on bus priority measures;]								
	(f)	a comparison of the pre- and post-road network performance for all road users including, but not limited to, vehicles, freight, public transport and active transport;									
	(g)	justification of why the predicted 'do minimum' performance for any road users of any intersection on the adjoining road network cannot be maintained (if necessary); and									
	(h)	an updated description and proposed timing of potential mitigation measures, including measures to remove or limit any adverse impacts on any road									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		user groups impacted by the SSI.									
		The Proponent is responsible for the implementation of the identified measures, if required.									
		The Road Network Performance Review Plan must be submitted to the Secretary, Transport for NSW (in relation to impacts on bus services) and to relevant council(s) within 60 days of its completion and made publicly available.									
		The purpose of the Road Network Performance Review Plan is to optimise road network performance including public transport access and times, and manage the performance impacts of the SSI on the adjoining road network by identifying or confirming mitigation improvements that could be required in areas where traffic performance may be unsatisfactory at time of completion of construction.									
		Note: • Identified mitigation measures may need to be further assessed under the Environmental Planning and Assessment Act, 1979. Works will need to meet relevant design standards and be subject to independent road safety audits.									
E41		The Proponent must liaise with relevant councils during detailed design to improve integration of the project with the local and regional road network. The outcomes of this consultation will be reported and incorporated in the Road Network Performance Review Plan required under condition E40.									
E42		The Proponent must prepare and implement an Operational Parking and Access Strategy to facilitate the optimisation of the return of on- and offstreet parking removed or altered during construction and consequent to the operation of the SSI. The Strategy shall include, but not necessarily be limited to:									
	(a)	confirmation and timing of the return of on- and off- street parking removed or altered as a result of construction and operation of the SSI with reference to the Residual Land Management Plan required in condition B67;									

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	(b)	review of comprehensive parking surveys required in condition D50(b) with consideration of changes in demand attributable to land use changes, acquisitions or other cumulative impacts;									
	(c)	consultation with affected stakeholders, including relevant councils, that will experience continued loss, return or additional on- and off-street parking;									
	(d)	assessment of the impacts of changes to on- and off-street parking stock taking into consideration of outcomes of consultation with affected stakeholders and reviews of parking surveys;									
	(e)	identification of mitigation measures and arrangements to manage impacts to stakeholders as a result of on- and off-street parking changes including, but not necessarily limited to, provision of alternative parking arrangements, and working with relevant councils to introduce parking restrictions or permit schemes where appropriate;									
	(f)	mechanisms for monitoring of on- and off-street parking impacts and mitigation measures at 12 month intervals to determine the effectiveness of implemented mitigation measures and any supply and demand induced parking issues that are attributable to the SSI;									
	(g)	provision of contingency measures should the results of mitigation monitoring indicate implemented measures are ineffective; and									
	(h)	provision of reporting of monitoring results to the Secretary and relevant councils at 12 month intervals for the first five years of operation.									
		The use of residual land to achieve compliance with the objective of optimising the return of all on- and off-street parking is permitted. However, this must be justified within the Residual Land Management Plan required by condition B67.									
		The Strategy must be submitted to the Secretary for approval at least 12 months prior to the operation of the SSI, unless otherwise agreed by the Secretary. The Strategy must be implemented prior to the operation of the SSI.									
E43		The ongoing maintenance and operation costs of									

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		urban design, open space, landscaping and recreational items and works implemented as part of this approval will remain the Proponent's responsibility until satisfactory arrangements have been put in place for the transfer of the asset to the relevant authority. Prior to the transfer of assets, the Proponent will maintain items and works to at least the design standards established in the Urban Design and Landscape Plan required by condition B61.									
E44		Six months prior to operation, the Proponent must prepare an Emergency Response Plan , in consultation with FRNSW and NSW Police Force. The Emergency Response Plan must include, but not be limited to:									
	(a)	protocols and procedures to be followed during emergency situations associated with the operation of the project (including fires, explosions and, for the purposes of this condition, vehicle collisions). The protocols and procedures are to take into account the needs of people with a disability or who may experience access problems in emergency situations;									
	(b)	details of traffic management measures to be implemented during emergencies, where appropriate, to minimise the potential for escalation of the emergency;									
	(c)	design and management measures to address the potential environmental impacts of an emergency situation, including measures for containment of contaminated fire-fighting water, fuel spills and gaseous combustion products;									
	(d)	details of a training and testing program to ensure that- (i) all operational staff are familiar with the Emergency Response Plan, and (ii) coordination with FRNSW and NSW Police is regularly exercised; and									
	(e)	provision for a simulated emergency response exercise, including the Proponent, FRNSW and NSW Police, to be conducted in accordance with the approved Emergency Response Plan on at least one									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		occasion at least one month prior to the opening of the tunnels to traffic. The time for the exercise is to be agreed by the participants, and FRNSW and NSW Police are to be provided with at least one month prior notification of any proposed time.									
E45		Fire simulation and hot smoke testing must be undertaken as part of the simulated emergency response exercise to be staged prior to opening of the project to traffic as required in condition E44(e).									
		The Proponent must respond in writing to any recommendations made by FRNSW as a result of the exercise. Any outstanding concerns are to be resolved between FRNSW and the Proponent.									
E46		The Proponent must undertake annual Hazard Reviews of the project for the first five years of operation. The Hazard Review must detail all hazardous incidents that have occurred during the preceding period, as per (a) to (c) below, identify safety measures required to rectify those incidents, and address any ongoing issues.									
		The first Hazard Review must be undertaken for the first three months of operation after the opening of the project to traffic. Subsequent Hazard Reviews must be undertaken for the following nine months and thereafter twelve monthly intervals.									
		FRNSW may also direct the Proponent to undertake a Hazard Review following any major incident in the tunnel.									
		A Hazard Review Report , outlining the results of a Hazard Review, and any proposed additional safety measures to be implemented in response to the findings of the Hazard Review, must be submitted to FRNSW no later than one month after the review period.									
		The Proponent must respond in writing to any recommendation made by FRNSW in relation to the findings of a Hazard Review, within such time as may be agreed by FRNSW. Any outstanding concerns are to be resolved between FRNSW and									

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		the Proponent.									
E47		The Proponent must develop a Fire Engineering Brief and Fire Engineering Report to address fire and life safety in the tunnel, in consultation with FRNSW. The documents must be prepared prior to finalising the detailed design for the tunnel. The documents must outline fire protection systems and other tunnel equipment, systems, and operational protocols required for fire and smoke management. In developing the Fire Engineering Brief and Fire Engineering Report, the Proponent must undertake a detailed fire engineering study in accordance with									
		Australian Building Codes Board codes and guides, and Fire Safety Engineering Guidelines. Detailed design of the tunnel must incorporate the design and operational measures developed in the fire engineering study to minimise the potential for, and effect of, fire and hazardous material incidents in the tunnel.									
		The final design of the tunnel in relation to the fire and life safety features must be verified against the fire engineering study in consultation with FRNSW by an Accredited Fire Engineer.									
		The Proponent must respond in writing to any recommendation made by FRNSW in relation to the Fire Engineering Brief and Fire Engineering Report, within such time as may be agreed by FRNSW. Any outstanding concerns are to be resolved between FRNSW and the Proponent.									
E48		Prior to the opening of the project to traffic, a full audit of the fire and life safety system as defined by the fire engineering study developed in condition E47 above must be undertaken by an Accredited Fire Engineer. The objective of the audit must be to ensure that all design and operational measures outlined in the fire engineering study have been installed, are operational, and achieve the required design criteria.									
		The results of the audit must be submitted to FRNSW prior to opening of the project to traffic. The Proponent must respond in writing to any									

Ref	Sub Ref	Condition of Approval	Timing	Date Completed	Secretary's Approval required?	Date Final Document Lodged	Date Amended Document Lodged	Date of Secretary Approval	Responsibility	Compliance Status	Comment / evidence
		recommendations resulting from FRNSW review of the audit. Any outstanding concerns are to be resolved between FRNSW and the Proponent.									
E49		A detailed maintenance-testing program outlining the methods of testing the fire and life safety systems and schedule for implementation must be developed in consultation with FRNSW prior to opening of the project to traffic. The Proponent must respond in writing to any recommendations made by FRNSW. Any outstanding concerns are to be resolved between FRNSW and the Proponent.									
E50		Maintenance testing of fire and life safety systems must be undertaken at least annually, or any other interval as required by the design engineer and to the satisfaction of FRNSW. Results of maintenance testing must be made available to FRNSW for review, and the Proponent must respond in writing to any recommendations from FRNSW to ensure the reliability of the fire and life safety systems. Any outstanding concerns are to be resolved between FRNSW and the Proponent.									
		Within 12 months of the commencement of operation, and at any other stage required by the Secretary, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the SSI. The Independent Environmental Audit must:									
	(a)	be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been approved by the Secretary;									
E51	(b)	include consultation with the relevant agencies and relevant councils;									
	(c)	assess the environmental performance of the SSI and assess whether it is complying with the requirements in this approval, and any other relevant approvals (including any assessment, plan or program required under these approvals);									
	(d)	review the accuracy of predicted environmental outcomes discussed in the documents referred to in conditions A2(b)and A2(c);									

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	(e)	review the adequacy of any approved strategy, plan or program required under the abovementioned approvals in (c); and									
	(f)	recommend measures or actions to improve the environmental performance of the SSI, and/or any strategy, plan or program required under these approvals.									
		Within 60 days of completion of the Independent Environmental Audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary and relevant public authorities, together with its response to any recommendations contained in the audit report.									
		Notes: • This audit team must be led by a suitably qualified and experienced auditor, and include experts in air quality, biodiversity, noise and vibration, hydrology and any other fields specified by the Secretary.									
		The audit may be staged to suit the staged operation of the SSt.									

Compliance Tracking Program









Appendix B: Revised Environmental Management Measures

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence			
Traffic ar	Traffic and transport							
TT01	 A Construction Traffic Management and Safety Plan (CTMSP) would be prepared as part of the CEMP. The CTMSP would include the guidelines, general requirements and principles of traffic management to be implemented during construction, including: Signage requirements (eg temporary speed restrictions, changes to the road environment, traffic management controls) Lane possession and approval process during periods of online construction (eg line marking and temporary barriers) Traffic control devices such as traffic signals A local and regional communications strategy, including methods to provide advanced notice of any major or prolonged impacts (eg leaflets and local media), and real-time information regarding current impacts (eg variable message signs, radio traffic news) Details of both the general approach to be used for access and egress to construction compounds and the specific controls required at specific locations Any specific provisions required to manage potential impacts to sensitive users, such as schools, child care centres and health facilities. Strategies to minimise impacts on on-street car parking due to construction workers. The CTMSP would be prepared in accordance with Austroads <i>Guide to Road Design</i> (with appropriate Roads and Maritime supplements), the RTA <i>Traffic Control at Work Sites</i> manual and AS1742.3: <i>Manual of uniform traffic control devices – Part 3:Traffic control for works on roads</i>. 							
TT02	and any other relevant standard, guide or manual. Construction methods and staging would be designed to minimise road closures, subject to other project constraints, and ensure that disruptions to existing traffic are minimised as much as feasible and							
TT03	reasonable. Construction works would be carried out offline, where possible. Where offline construction is not practical, and for tie-ins between online and offline sections of the project, construction sequencing and any temporary works identified would aim to minimise user delay while providing sufficient flexibility for the selected contractor to safely and efficiently construct the project							

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
TT04	Works that would significantly reduce the performance of the road network would be scheduled for periods of typically lower traffic volumes where feasible and reasonable.				
TT05	Work areas would be isolated from general traffic using temporary safety barriers where possible.				
TT06	Temporary closed-circuit television (CCTV) and Variable Message Signs (VMS) would be provided at the outset of construction to link with the existing Transport Management Centre (TMC) network to facilitate monitoring and management of traffic impacts				
TT07	Traffic volume data would be analysed to identify capacity requirements, assess the potential impact of lane occupancies on traffic flows, plan lane occupancies to minimise the work area, and identify the best time to minimise inconvenience to road users. Restrictions and obstructions would be limited, road capacities maximised and peak traffic periods avoided where possible				
TT08	Impacts on pedestrian paths and cycle lanes would be minimised, and alternatives provided during construction where practical and safe to do so				
TT09	Impacts to bus stops would be identified and alternative locations and access would be provided. This would be undertaken in consultation with Transport for NSW and the relevant bus service provider				
TT10	Local road closures would be managed and adequate property access maintained. This would be undertaken in consultation with Roads and Maritime, local councils and property owners likely to be impacted				
TT11	A <u>spoil management plan</u> would be prepared with subsequent monitoring of heavy vehicle and haulage routes to ensure compliance and minimise impact on local roads off the arterial road network				
TT12	A <u>road dilapidation report(s)</u> would be prepared identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.				
TT13	Road occupancy licences would be obtained where required.				
TT14	The CTSMP would be developed in consultation with local emergency services and procedures would be implemented to maintain priority access and a safe environment for emergency vehicles to travel through construction areas. The CTSMP would include measures to keep emergency services informed of the staging and progress of construction works.				•

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
TT15	The location of the car park and site office associated with the Kingsgrove North construction compound (C1) would be further refined with alternatives considered during construction planning, including the opportunity for the use of the existing Garema Circuit carpark				
OpTT01	A road safety audit would be undertaken by a qualified auditor(s) as part of the detailed design, and again immediately prior to project opening, to examine the design from a road safety perspective and identify potential safety issues. This process would be undertaken in accordance with the Roads and Maritime Accident Reduction Guide Part 2: Road Safety Audits (RTA, 2005a).				
OpTT02	An operational traffic review would be conducted 12 months following the commencement of operation to confirm the operational traffic impacts of the project on surrounding arterial roads and major intersections. The operational traffic review would be undertaken by a suitably qualified traffic specialist that is independent of the design and traffic studies undertaken as part of the environmental impact statement. The operational traffic review would include (but is not limited to) an assessment of the level of service at major intersections on local roads around the St Peters interchange, the King Georges Road interchange and changes in traffic levels on parallel arterial roads, such as Stoney Creek Road.				
OpTT03	 During detailed design, the ability to further reduce the width of Euston Road would be investigated through: Further reductions in the lane widths and/or Minimising the extent of, or need for, the central turning lane along Euston Road. This investigation would consider the changes to network performance, road safety for all users (including pedestrians), implications for access to properties along Euston Road, amenity improvements for pedestrians / cyclists, benefits to reduced impacts on Sydney Park and vegetation, and opportunities for additional landscaping. 				
Air qualit	у				
AQ01	Develop and implement a <u>Construction Air Quality Management Plan</u> in consultation with the NSW EPA. Any measures that are required will differ depending on the activities occurring, and so will need to be tailored for each individual site.				
AQ02	Carry out regular site inspections to monitor compliance with the Construction Air Quality Management Plan, record inspection results.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
AQ03	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.				
AQ04	Display the name and contact details of person(s) accountable for air quality and dust issues at the boundaries of each construction area. This may be the environment manager/engineer or the site manager. Display the head or regional office contact information.				
AQ05	Plan site layout so that machinery and dust causing activities are located away from receivers, as far as is possible.				
AQ06	Erect solid screens or barriers around dusty activities or the site boundary.				
AQ07	Ensure, where reasonable and feasible, that appropriate control methods are implemented to minimise dust emissions from the project site.				
AQ08	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site, cover as soon as practicable.				
AQ09	Impose and signpost a maximum-speed-limit of 20 km/h on surfaced and unsurfaced haul roads and in work areas.				
AQ11	Where practicable, only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, (e.g. suitable local exhaust ventilation systems).				
AQ12	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.				
AQ13	Where possible, use enclosed chutes and conveyors and covered skips.				
AQ14	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.				
AQ15	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using appropriate cleaning methods.				
AQ16	Avoid scabbling (roughening of concrete surfaces) if possible.				
AQ17	Stockpiles would be located outside overland flowpaths, and where left exposed and undisturbed for longer than 28 days, would be finished and contoured to minimise loss of material in flood or rainfall events. Materials which require stockpiling for longer than 28 days would be stabilised by compaction, covering with anchored fabrics, or seeded with				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	sterile grass where appropriate.				
AQ18	Where a stockpile, eg sand or fine aggregate, has the potential to generate dust, control measures would be implemented. These would include wetting the stockpile, covering the stockpile or contouring the stockpile.				
AQ19	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.				
AQ20	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.				
AQ21	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.				
AQ22	Avoid dry sweeping of large areas.				
AQ23	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.				
AQ24	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.				
AQ25	Record all inspections of haul routes and any subsequent action in a site log book.				
AQ26	Where reasonable and feasible, haul roads will be maintained with water carts and graders, and the condition of the roads will be monitored.				
AQ27	Implement site exit controls (e.g. wheel washing system and rumble grids) to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable.				
AQ28	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.				
AQ29	Access gates to be located at least 10 metres from receivers where possible.				
AQ30	Ensure all construction vehicles comply with their relevant emission standards.				
AQ31	Ensure that, where practicable, engine idling is minimised when stationary.				
AQ32	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
AQ33	Promote and encourage sustainable travel (public transport, cycling, walking, and car-sharing).				
AQ34	No bonfires and burning of waste materials.				
AQ35	Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).				
AQ36	Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground and may be more useful for covering larger areas.				
AQ37	Minimise explosive blasting where possible during demolition, using appropriate manual or mechanical alternatives.				
AQ38	Bag and remove any biological debris or other hazardous materials such as asbestos, damp down such material before demolition.				
AQ39	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.				
AQ40	Use hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.				
AQ41	Where possible, only remove any cover for exposed areas in small areas during work and not all at once.				
AQ42	Regular communication with other high risk construction ancillary facilities within 500 metres of the site boundary, to ensure plans are coordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.				
AQ43	Undertake regular on-site and off-site inspection, where receivers are nearby, to monitor dust, record inspection results.				
AQ44	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.				
AQ45	Make complaints available to the Secretary upon request.				
AQ46	Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
N/A	Environmental management measures that are available for improving tunnel-related air quality are categorised as follows: Tunnel design Ventilation design and control Air treatment systems Emission controls and other measures Monitoring. Refer to Section 10.10.2 of the EIS for detailed discussion of these categories.				
Human h	ealth				
	Affected households would be provided access to the following services to support them in the land acquisition process and relocation (including renters). These services include access to a free counselling service; WestConnex Assist and assistance from relocation support teams. Additional services which could include:				
HH1	 Assistance in identifying alternative properties Independent social support for households relocating within the area and to other areas, providing contacts and information in regard to social services, facilities and logistical matters (eg logistics of moving including required administrative tasks) Access to financial advice for affected households First language support for households within English as a second language. 				
Noise and	d vibration				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
NV1	 A construction noise and vibration management plan(s) will be prepared and implemented consistent with the requirements of the <i>Interim Construction Noise Guideline</i> (DECC, 2009), and will include the following: Identification of nearby residences and other sensitive land uses Description of approved hours of work Description and identification of construction activities, including work areas, equipment and duration Description of what work practices (generic and specific) will be applied to minimise noise and vibration A complaints handling process Noise and vibration monitoring procedures Overview of community consultation required for identified high impact works. 				
NV2	Induction and training will be provided to relevant staff and subcontractors outlining their responsibilities with regard to noise.				
NV3	Noisy activities that cannot be undertaken during standard construction hours will be scheduled as early as possible during the evening and/or night time periods.				
NV4	Permanent noise barriers will be scheduled for completion as early as possible in order to minimise construction noise.				
NV5	Property treatments identified for the operational phase of the project will be considered for installation before or early in the construction period, where they would improve noise levels.				
NV6	Acoustic sheds will be erected at the Kingsgrove North (C1), Bexley Road North (C4) and Bexley Road South (C5) construction compounds, to mitigate noise generated by tunnelling support activities. The noise attenuation requirements for these acoustic sheds will be reviewed and confirmed during detailed design.				
NV7	Temporary acoustic hoardings will be installed at the Kingsgrove North (C1), Commercial Road (C3), Bexley Road North (C4), Bexley Road South (C5), Bexley Road East (C6), Arncliffe (C7), the Marsh Street ponds site, Canal Road (C8) and Campbell Road (C9) construction compounds. The design and location of acoustic hoardings will be confirmed during detailed design.				
NV8	When working adjacent to schools, particularly noisy activities will be scheduled outside normal school hours, where practicable.				
NV9	Where feasible and reasonable, equipment with directional noise emissions will be oriented away from sensitive receivers.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
NV10	Verification checks on the noise emissions of plant and machinery will be conducted.				
NV11	Ongoing noise monitoring will be undertaken during construction at sensitive receivers during critical periods to identify and assist in managing high risk noise events.				
NV12	Reversing of equipment will be minimised to prevent nuisance caused by reversing alarms. Use of non-tonal reversing alarms ('quackers') will be implemented to further reduce the nuisance caused by reversing alarms.				
NV13	Loading and unloading will be carried out away from sensitive receivers, where practicable.				
NV14	Deliveries will be carried out during standard construction hours where feasible and reasonable.				
NV15	Additional noise mitigation measures during out of hours works will be determined on a case-by-case basis using individual receiver predictions, and may consist of offers of alternative accommodation, monitoring, individual briefings, letter box drops, project specific respite offers, phone calls and specific notifications.				
NV16	Respite periods (eg one hour respite for every three hours of continuous construction activity) will be scheduled for high noise impact works where appropriate.				
NV17	Truck drivers will be advised of designated vehicle routes, parking and queuing locations, acceptable delivery hours and other relevant practices (ie minimising the use of engine brakes, and no extended periods of engine idling).				
NV18	Deliveries and spoil removal will be planned to avoid queuing of trucks around construction compounds.				
NV19	Before the start of tunnelling or other vibration intensive works at each site, condition surveys will be undertaken on properties and structures within the preferred project corridor (the zone on the surface equal to 50 metres from the outer edge of the tunnels) and within 50 metres of surface works.				
NV20	The safe working distances will be complied with where feasible and reasonable. This will include the consideration of smaller equipment when working close to existing structures.				
NV21	If vibration intensive works are required within the safe working distances, vibration monitoring or attended vibration trials will be undertaken at the outset of these works to ensure that levels are within relevant criteria.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
NV22	Building condition surveys of potentially affected structures will be completed both before and after the works to identify existing damage and any damage due to the works.				
NV23	Vibration intensive construction works will be confined to the less sensitive daytime period (9.00 am to 12.00 pm and 2.00 pm to 5.00 pm) as far as reasonably practicable.				
NV24	A detailed ground-borne noise assessment will be undertaken following further geotechnical investigations. This will include developing the vibration site law for the project.				
NV25	Noise and vibration mitigation methods specific to blasting will be incorporated into the construction noise and vibration management plans where required.				
NV26	Blasting with the potential to generate an impact at the surface will be restricted to standard daytime hours (except where approved by the relevant authority). Blasting would occur between 9:00am and 5:00pm, up to five days per week (Monday to Friday) and on Saturdays (9:00 am to 1:00pm). Blasts would be limited to one single detonation in any one day per receiver group, unless otherwise agreed by the NSW EPA through consultation on the Construction Noise and Vibration Management Plan.				
NV27	Site investigations will be conducted prior to production blasting to define suitable blast sizes to comply with project blasting noise and vibration criteria.				
NV28	Dilapidation studies of nearby receiver buildings will be undertaken where the potential for exceedances of the blasting criteria is identified.				
NV29	Where the predicted levels exceed the noise or vibration criteria for blasting, alternative construction methods, such as penetrating cone fracture, will be utilised.				
NV30	Community consultation protocols for sensitive receivers likely to be impacted by construction activities such as blasting, vibration and noise will be prepared and implemented.				
NV31	The implementation of a left in and right out arrangement for heavy vehicles at the Garema Circuit access point to Kingsgrove North construction compound (C1) would be considered during construction planning to restrict heavy vehicles to using only the eastern side of Garema Circuit.				
OpNV01	At locations where residual impacts remain after all feasible and reasonable approaches have been exhausted, noise mitigation in the form of acoustic treatment of existing individual dwellings will be				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	considered.				
OpNV02	Operational traffic noise will be monitored at sensitive receivers between six months and one year after opening. If the traffic noise levels are above the predicted levels, consideration of additional feasible and reasonable mitigation measures will be undertaken.				
OpNV03	Operational fixed facilities will be designed to meet project specific noise criteria derived in accordance with the NSW Industrial Noise Policy.				
Land use	and property				
LP01	The relevant property owners would be consulted in relation to the acquisition of properties required to facilitate construction of the project. Acquisition would be undertaken consistently with the principles in the Land Acquisition Information Guide (Roads and Maritime, 2014b) and the Land Acquisition (Just Terms Compensation) Act 1991 (NSW).				
LP02	Prior to any impact to access, alternative arrangements would be negotiated with the affected parties in order to enable continued access and to minimise disruption as much as reasonably possible.				
LP03	Affected property owners and community facilities would be provided with advanced notification of relevant project schedules, construction works and changes to access arrangements.				
LP04	Community updates would be provided on changes to the local road network within the project area during construction.				
LP05	Appropriate signage would be provided advising of walking track closures and alternative walking routes.				
LP06	 A <u>Settlement Monitoring Plan</u> would be prepared that would provide details on: Location of monitoring points Duration of monitoring Data collection and review Roles and responsibilities for review of data Triggers and actions for corrective actions. 				
LP07	Building condition surveys would be undertaken on properties and structures within the preferred project corridor (the zone on the surface equal to 50 metres from the outer edge of the tunnels) and within 50 metres of surface.				
LP08	Services in locations where differential / angular settlement is anticipated would be identified. A monitoring plan, triggers and actions				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	would be agreed with the utilities owner prior to potential impacts occurring.				
LP09	A monitoring program, undertaken as part of the Settlement Management Plan, would be undertaken to ensure that settlement has stabilised before monitoring is completed.				
LP10	Sites directly affected by construction works, including demolition of structures, would consider the potential for, and where necessary treat, termites consistent with AS 4349.3 2010 Inspection of Buildings – Timber Pest Inspections and AS 3660.2 2000 Termite Management In and Around Existing Buildings and Structures.				
OpLP01	Land acquisition for the project would be undertaken consistently with the principles in the Land Acquisition Information Guide (Roads and Maritime, 2014b) and the Land Acquisition (Just Terms Compensation) Act 1991 (NSW).				
OpLP02	Property accesses that are affected as a result of the project would be reinstated in consultation with the affected landowners including relocation if required.				
Visual im	pacts and urban design				
V01	Existing vegetation around the perimeter of the construction compounds would be retained where feasible and reasonable, particularly: Vegetation surrounding the Bexley Road East construction compound, particularly along the boundary between residential properties and the compound along the northern and eastern boundaries Mature trees along the north-west (Marsh Street) and south-west boundaries of the Arncliffe construction compound site Mature trees and vegetation along the boundary of Sydney Park along Campbell Road and Barwon Park Road.				
V02	Landscape planting would use fast growing species where reasonable and feasible. This would soften views of construction sites, particularly for compounds located within public recreational spaces.				
V03	Revegetation and landscaping would be undertaken progressively.				
V04	Temporary noise barriers would be erected early within the site establishment phase where required to minimise noise impacts and provide visual screening.				
V05	Temporary noise barriers would be designed to include painted surface and project information / logo to deter graffiti and reduce the scale of				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	noise barriers, particularly adjacent to residential areas or public open space.				
V06	Site hoardings and fencing would be regularly maintained, including the prompt removal of graffiti.				
V07	Acoustic sheds would be designed to minimise noise impacts and provide visual screening to be visually recessive, such as the use of mid toned colours and materials to minimise the intrusiveness and potential glare of the sheds.				
V08	During detailed design, the Roads and Maritime would liaise with the Civil Aviation Safety Authority to assess the potential for impacts of night lighting from the construction of the project on Sydney Airport operations. Mitigation measures would then be developed as required.				
V09	Cut-off or and directed lighting would be used within and outside of construction compounds with lighting location and direction considered to ensure glare and light spill are minimised.				
V10	The lighting design for shared paths located within the M5 Linear Park impacted by the project or located adjacent to compounds would be designed to minimise light spill to adjoining residential properties while maintaining a safe night time environment for path users (eg lighting position below the height of the fence line).				
V11	A signage strategy would be developed during detailed design for temporary wayfinding and safety. Potentially affected receivers would be consulted on the final signage in relation to the location and associated impacts.				
V12	Elements within construction sites would be located to minimise visual impacts as far as feasible and reasonable, for example, locating equipment back from site boundaries.				
V13	Opportunities would be investigated to maximise the separation distances as far as reasonable and feasible: Between the Kingsgrove North construction compound to the adjoining residential areas to reduce shading and visual impacts Between the Bexley Road North and Bexley Road East construction compounds and adjoining residential areas to reduce sharing and visual impacts.				
V14	Opportunities would be investigated to provide an alternative southern cycle route for the length of the existing shared path impacted by the western surface works.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
OpV01	Vegetated batters would be limited to 1:3 and 1:4 where possible in order to maximise the impact of vegetation on these batters and minimise maintenance.				
OpV02	Chain link fencing for sites would only be used where these would not be viewed by sensitive receivers, such as residents and users of recreational space. At these locations, high quality fencing suitable for parks and public spaces would be considered.				
OpV03	Where large areas of hardstand are or structures are designed, such as carparks, consideration of shade trees within these spaces would be considered where reasonable and feasible to soften views and provide shade and visual amenity.				
OpV04	Pedestrian and shared paths would be aligned away from residential property boundaries where public open space adjoins residential boundaries.				
OpV05	Planting areas would be maximised, where feasible, between public open space and infrastructure, and would include taller screening vegetation (at the Bexley Road South motorway operations complex (MOC2) between the built form and the M5 Linear Park shared path for example).				
OpV06	 A final urban design and landscape plan would be prepared in consultation with the New M5 Urban Design Review Panel, local councils within the project corridor and the local community. The Plan shall include (but not limited to): The architectural treatment of the ventilation facilities, which would be informed by the functional requirements and the design principles detailed in the New M5 Urban Design Report. Landscape plans and final plant species for the western surface works, Bexley Road motorway operations complex, Arncliffe motorway operations complex, the St Peters interchange and local road upgrades The artwork strategy for the Kindilan underpass Outcomes of consultation with NSW Heritage Office with respect to integration of heritage interpretation into the urban design of the Alexandra Canal bridge crossings and St Peters interchange. The urban design of Alexandra Canal bridge crossings would also consider the Alexandra Canal Heritage Conservation Plan (NSW Architect's Office, 2004) Consideration of the outcomes of the Safety in Design review of the project. 				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
OpV07	The design of the noise attenuation at the western surface works would be confirmed during detailed design and in consultation with the local community. This may consist of noise mounds and barriers (or a combination of both) and with consideration to the provision of accessible open space at Beverly Grove Park and a landscaped outlook.				
OpV08	Landscaping at the Bexley Road motorway operations complex would consider opportunities to complement the existing topography of the built site as well as the adjacent Wolli Creek bushland.				
OpV09	Reasonable and feasible measures to use landscaping to screen or filter views of the Arncliffe motorway operations complex from residential areas to the west would be implemented.				
OpV10	Opportunities to maximise the green canopy throughout the local road upgrades at Peters with tree planting in medians where safety barriers and / or speed limits permit would be explored during detailed design, and implemented where reasonable and feasible.				
OpV11	During detailed design, the Roads and Maritime would liaise with the Civil Aviation Safety Authority to assess the potential for impacts of night lighting from the operation of the project on Sydney Airport operations. Mitigation measures would then be developed as required.				
OpV12	Lighting design within motorway operations complexes, roadways, and on elevated pedestrian bridges would minimise the impacts of lighting to surrounding areas (particularly residential areas), for example through the use of cut-off, directed lighting and landscaping to minimise light spill and glare. This includes consideration of residences along Campbell Road.				
OpV13	Opportunities to further minimise the overshadowing and visual impacts to the 2-34 Campbell Road terraces by the Campbell Road pedestrian / cycle bridge would be explored during detailed design				
Social an	d economic				
SEO1	A <u>community involvement plan</u> would be implemented to provide timely, regular and transparent information about changes to access and traffic conditions, details of future work programs and general construction progress throughout the construction phase of the project. Information would be provided in a variety of ways including letter box drops, media releases, internet site, signage and a hotline.				
SEO2	Acquisition would be undertaken consistently with the principles in the Land Acquisition Information Guide (Roads and Maritime, 2014b) and				

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	the Land Acquisition (Just Terms Compensation) Act 1991 (NSW).				
SEO3	A toll free number and website would be maintained to enable business owners and/or operators to receive prompt responses to their concerns, access information and view assistance measures in place during construction related work.				
SEO4	A business impact risk register would be maintained to identify and manage the specific impacts associated with construction related works for individual businesses.				
SEO5	The business stakeholder forum would be continued during detailed design and throughout construction to address business concerns. Further information about consultation can be found in Chapter 7 (Consultation)				
Soil and	water quality				
SW01	The control and mitigation of potential surface water quality impacts during construction would be defined in a Soil and Water Management Plan prepared as part of the overall CEMP.				
SW02	The Soil and Water Management Plan would be developed to incorporate controls and measures in accordance with The Blue Book. The plan would be continually updated to suit the changing needs as the project works progress. The plan would be developed in consultation with the Environment Protection Authority and DPI - Water and document the types of measures that would be put in place to minimise the risk of soil erosion or polluted discharges reaching the receiving environments.				
SW03	An Erosion and Sedimentation Management Plan would be prepared as outlined in the Erosion and Sedimentation Risk Assessment Procedure (RTA, 2008).				
SW04	 The Soil and Water Management Plan would include: Construction traffic restricted to delineated access tracks, and maintained until construction complete Appropriate sediment and erosion controls to be implemented prior to soil disturbance Stormwater management to avoid flow over exposed soils which may result in erosion and impacts to water quality Stockpiles located outside the 20 year ARI flood extent where feasible. Otherwise, appropriate management control measures such as bunding would be implemented 				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	 Staging of surface works to minimise area of exposed surfaces, with re-vegetation and / or stabilisation of disturbed areas to occur as soon as feasible Site compounds sealed or hard stand to minimise erosion where possible Wheel wash or rumble grid systems installed at exit points to minimise dirt on roads A soil conservation specialist would be contracted to supervise construction in high risk areas in accordance with the Erosion and Sedimentation Management Procedure (RTA, 2008c) All water generated during construction would be captured, tested (and treated if required) prior to reuse or discharge under a site specific arrangement, depending on the quality of water generated. This would target compliance with the Water Quality Reference Criteria. At the St Peters interchange site this would include transfer of some water to the leachate treatment plant. Varying levels of groundwater quality would also require a variation to treatment approaches Contaminated sediments and potential acid sulfate soils would be segregated and disposed of (with or without prior treatment as appropriate) at a licensed facility or treated onsite Stockpiles would be located outside of riparian corridors. 				
SW05	The water quality and outflow velocities of the water treatment plants at the following compounds would be in accordance with the project's Water Quality Reference Criteria and the project's Environment Protection Licence: Kingsgrove North construction compound (C1), Commercial Road construction compound (C3), Bexley Road South construction compound (C5), Arncliffe construction compound (C7), Canal Road construction compound (C8).				
SW06	The project specific water quality monitoring program would continue to collect to at least 12 months of data or to the commencement of construction (whichever is sooner) to represent pre-construction conditions for the project. Monitoring would continue during construction of the project as identified in Appendix A of the Technical working paper: Surface water (Appendix N). The details of this monitoring program would be contained in the Soil and Water Management Plan, and would include the following: Sampling locations to include upstream (control) and downstream				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	 measurement locations Samples taken twice a month, once in dry conditions and once in wet conditions where possible In-situ monitoring of: - pH - Reduction Oxidation Potential - Dissolved Oxygen - Temperature - Conductivity - Turbidity - Colour - Odour Analytical sampling of the following potential constituents of concern: - Total Recoverable Hydrocarbons - Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene - Nutrients including: Total Nitrogen, Total Kjeldahl Nitrogen, Nitrogen Oxide, Nitrite, Nitrate, Total Phosphorous and Reactive Phosphorous Heavy metals (Arsenic, Cadmium, Copper, Chromium, Lead, Mercury, Nickel, Zinc) Manganese Ferrous Iron and Total Iron. 				
SW07	Water quality monitoring of the breeding ponds for Green and Golden Bell Frog near Marsh Street, Arncliffe would occur during construction by a suitably qualified scientist as part of the Green and Golden Bell Frog Plan of Management.				
SW08	Opportunities for reuse of treated water generated at the Arncliffe motorway operations complex would be considered during detailed design.				
SW09	An Acid Sulfate Soil Management Plan would be prepared as a sub-plan to the Construction Environment Management Plan to outline the requirements for the management of potential acid sulfate soils.				
SW10	Further contamination investigation would be conducted in areas with medium or high acid sulfate soils potential during the detailed design stage as part of early works. Management of acid sulphate soils during the project would be undertaken as per the management measures outlined in Section 17.4 of the EIS.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
SW11	During landfill closure activities, surface water management measures would be implemented in accordance with The Blue Book to isolate and capture potentially contaminated water. Any such water would be transferred to the leachate treatment plant for treatment prior to discharge to sewer under a trade waste agreement with Sydney Water. The following measures would be in place to manage spills of				
SW12	 contaminated fluids: Areas would be allocated for the storage of fuels, chemicals and other hazardous materials Facilities would be secured and bunded to levels dictated by Environment Protection Authority guidelines Spills or contaminated runoff would be captured and treated and / or disposed of at a licensed facility With the exception of Arncliffe construction compound, Re-fuelling would occur in bunded areas or in areas beyond 40 metres from waterways. Where refuelling occurs outside bunded areas, specific refuelling procedures would be in place and operators would be trained in these procedures. Spill kits would be readily available to manage re-fuelling outside bunded areas. At Arncliffe construction compound, a bunded area would be provided where all refuelling would occur. Wash down and preparation of construction materials would be und ertaken in bunded areas to mitigate risks in relation to spills or leaks of fuels / oils or other hazardous onsite construction material The application of good practice in the storage and handling of dangerous and hazardous goods would provide appropriate practical responses to manage impacts on occupational health and safety and minimise the risk of a spill occurring Potential discharges from construction sites would be managed through the installation of basins (primarily designed for sediment capture but with capacity to contain the nominated spill volume) constructed in accordance with The Blue Book Captured contaminants resulting from spills or leaks would be treated and disposed of at a licensed facility Any soil which has been contaminated with fuel, oils or other chemicals would be disposed as contaminated soil by a waste subcontractor. 				
SW13	Construction work activities within and / or adjacent to waterways would be minimised as much as feasibly possible to minimise disturbance to				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	those waterways and waterfront land.				
SW14	Alignment of drainage and discharge outlet infrastructure would direct flows downstream to minimise alterations and erosion of the channel beds and banks.				
SW15	Drainage and discharge outlet infrastructure would include energy dissipation and erosion scour protection as appropriate.				
SW16	Disturbed floodplain environments adjacent to watercourses (including waterfront land) and / or along overland drainage lines would be stabilised and vegetation managed in accordance with the <i>Guidelines for Controlled Activities on Waterfront Land</i> (DPI, 2012a).				
OpSW01	Suitable stormwater treatment devices would be identified during detailed design, including an operational water treatment plant, with the aim of meeting the targets of the Botany Bay and Catchment Water Quality Improvement Plan (SMCMA, 2011). Where space is available, water quality basins would be installed. In the case where space is unavailable, treatment would include the use of proprietary stormwater treatment devices. The design of treatment trains would be informed by an assessment of the sensitivity of the receiving environments and supported by MUSIC modelling.				
OpSW02	The treatment capacity lost in decommissioning pond WQP – 2 would be provided by new or upgraded stormwater treatment devices. R eplacement water quality devices would be installed and operational pri or to decommissioning of the existing water quality pond (WQP-2) in Wolli Creek catchment.				
OpSW03	Operational water quality monitoring would be conducted for 12 months post-construction or as otherwise required by the conditions of approval. This would include upstream (control) and downstream monitoring locations. The details of this monitoring program would be contained in the Soil and Water Management Plan, and would include the following: Sampling locations to include upstream (control) and downstream measurement locations Samples taken twice a month, once in dry conditions and once in wet conditions where possible In-situ monitoring of: pH Reduction Oxidation Potential Dissolved Oxygen Temperature				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	 Conductivity Turbidity Colour Odour Analytical sampling of the following potential constituents of concern: Total Recoverable Hydrocarbons Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene Nutrients including: Total Nitrogen, Total Kjeldahl Nitrogen, Nitrogen Oxide, Nitrite, Nitrate, Total Phosphorous and Reactive Phosphorous Heavy metals (Arsenic, Cadmium, Copper, Chromium, Lead, Mercury, Nickel, Zinc) Manganese Ferrous Iron and Total Iron. 				
OpSW04	New discharge outlets into Alexandra Canal would be designed with sufficient energy dissipation or scour protection to limit the impact on contaminated sediments and reduce the possibilities of contaminated sediments being subject to scour or resuspension.				
OpSW05	Where existing drainage lines are to be subject to increased inflow, an assessment of their discharge characteristics would be made. If necessary, energy dissipation or scour protection would be added to prevent contaminated sediments from being subject to scour or resuspended. This would be undertaken during detailed design.				
OpSW06	The assessment of risk of spills on the motorway would be undertaken during detailed design. If warranted, spill containment would be provided.				
OpSW07	The operational water treatment plant would be designed to meet the Water Quality Reference Criteria outlined in Appendix A of the Technical working paper: Surface water (Appendix N). Monitoring of the Cooks River would be undertaken during initial operation of the project to ensure discharge meets these criteria.				
OpSW08	Suitably designed scour and erosion control measures would be included in the detailed design.				
OpSW09	Drainage and discharge infrastructure where space is available would incorporate measures, as appropriate, to trap and remove sediments in line with the outcomes of the stormwater pollution reduction targets from the Botany Bay and Catchment Water Quality Improvement Plan (SMCMA, 2011). This would reduce the risk of any impacts to the geomorphic condition of receiving waters.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence			
Contami	Contamination							
CM01	The closure and ongoing management of the Alexandria Landfill would be undertaken in line with the LCMP (see Section 17.3.4 and Section 5.9.1 of the EIS) and remedial action plan. This includes a landfill closure, environmental management and monitoring framework.							
CM02	A site specific management plan would be prepared for the Alexandria Landfill to manage the excavation of parts of the landfill during construction. The management plans, amongst other requirements would detail mitigation measures to: Contain and treat landfill gas emissions from excavations Treat offensive odours produced by leachate and landfill gas Contain, extract and treat leachate within excavations Protect workers and off-site receptors from exposure to potential biological, chemical and physical hazards encountered during the exhumation of landfill waste. Manage asbestos contaminated wastes							
CM03	Potentially contaminated areas directly affected by the project would be investigated and managed in accordance with the requirements of guidance endorsed under section 105 of the CLM Act. This includes further investigations in areas of potential contamination identified in the construction footprint.							
CM04	An unexpected finds and hazardous materials procedure would be implemented to manage any potentially contaminated materials that may be encountered during site preparation and / or construction works.							
CM05	Waste management plans, as part of the CEMP, would include procedures for handling and storing potentially contaminated spoil and, should off-site disposal be required, undertaking waste assessment and classification for off-site disposal to appropriately licenced waste facilities. See Chapter 24 (Resource use and waste minimisation) of the EIS for more information.							
CM06	Site specific asbestos management plans would be developed where relevant. Refer to Chapter 24 (Resource use and waste minimisation) of the EIS for further information on asbestos management.							
CM07	A hazardous materials assessment would be carried out prior to and during the demolition of buildings. Demolition works would be undertaken in accordance with the relevant Australian Standards and relevant NSW WorkCover Codes of Practice, including the Work Health and Safety Regulation 2011.							

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
CM08	A dangerous goods search of the WorkCover NSW records for licenced dangerous good would be undertaken prior to construction.				
CM09	An explosive ordnance due diligence assessment would be completed at the identified former ammunition site (Project area 3), located between Flatrock Road, Bexley Road and Wolli Creek.				
CM10	In the event of encountering unexpected finds of contamination (i.e. the observation of offensive odours, soil discoloration, buried waste or potential asbestos containing materials) during construction, work in the area would cease until an appropriately qualified environmental consultant can advise on the need for further assessment, remediation or other action, as deemed appropriate. Further assessment and management of contamination, if required, would be undertaken in accordance with section 105 of the CLM Act.				
CM11	Appropriate mitigation measures to minimise sediment mobilisation as a result of construction activities at the location of the new stormwater infrastructure at Alexandra Canal would be detailed in the CEMP in accordance with the requirements of the Remediation Order in consultation with NSW EPA and Sydney Water. Measures would be detailed in a Alexandra Canal Contamination Management Plan.				
CM12	Appropriate mitigation measures including stockpiling and management of potentially contaminated material would be undertaken at construction compounds to prevent movement of material into receiving waters.				
CM13	Plant, equipment and supplies would be managed to prevent spills and leaks. See Chapter 26 (Hazard and risk) of the EIS for more information.				
CM14	Tunnel washing water and waste would be appropriately contained, treated and disposed of. Refer to Chapter 24 (Resource use and waste minimisation) of the EIS for more information.				
CM15	Further <i>in situ</i> testing of soils in areas of known potential contamination to determine waste classification.				
OpCM1	The ongoing management of the Alexandria Landfill will be undertaken in line with the LCMP (see Section 17.3.4 and Section 5.9.1 of the EIS)				
OpCM2	Procedures to address spills, leaks and tunnel washing would be developed and implemented during operation of the project				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
ОрСМЗ	Measures to minimise sediment mobilisation during operation would be incorporated into the design of stormwater outlets at the location of the new stormwater infrastructure at Alexandra Canal. The design of the outlets, including discharge velocities and scour protection measures, would be confirmed during detailed design and supported by appropriate drainage modelling. The detailed design of the outlets would be finalised in consultation with the NSW EPA with consideration of the requirements of the Remediation Order and would be provided to Sydney Water for approval (as the asset owner).				
ОрСМ4	Ongoing management of sites with contamination managed or emplaced in-situ would be managed in accordance with site specific Site Management Plans. Where required, a Site Management Plan (SMP) would be developed and implemented to manage risks associated with the presence of residual contamination that in situ. The requirement for an SMP would be evaluated based on the nature, concentration and extent of contamination as well as the current and proposed land use.				
Flooding	and drainage				
FD01	A Flood Management Strategy would be prepared by a suitable qualified and experienced person in consultation with directly affected landowners, DPI-Water, OEH, Sydney Water and the relevant local councils. It would include but not be limited to: Identification of flood risks to the project and adjoining areas, including consideration of local drainage catchment assessments and climate change implications on rainfall, drainage and tidal characteristics Design and mitigation measures to protect proposed operations and not worsen existing flooding characteristics during construction and operation, including soil erosion and scouring Drainage system upgrades Preparation of a flood / emergency management plan.				
FD02	The Flood Management Strategy would be peer reviewed and confirmed as meeting the requirements of this management measure by a suitably qualified and experienced independent hydrological engineer. It would be submitted to the Secretary of DP&E and the relevant local councils prior to construction works commencing in the vicinity of flood prone land and overland flow paths for the waterways and catchments in the vicinity of the project area, or as otherwise agreed by the Secretary of DP&E.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
FD03	The 100 year ARI flood level is to be adopted in the assessment of measures which are required to mitigate any adverse impacts attributable to the project. Changes in flood behaviour under PMF conditions would also be assessed in order to identify impacts on critical infrastructure and significant changes in flood hazards as a result of the project.				
FD04	A detailed hydraulic assessment into the impacts the project would have on flooding behaviour and relevant mitigation measures would be undertaken.				
FD05	Works within the floodplain would be designed to minimise adverse impacts on surrounding developments for flooding up to the 100 year ARI flood. Assessment would also be undertaken of the impacts during flooding in excess of the 100 year ARI flood up to the PMF in the context of impacts to critical infrastructure and flood hazards.				
FD06	A floor level survey would be undertaken in affected areas to determine whether the project would increase floor damages in adjacent developments (ie in properties where there is a potential for increases in peak flood levels for events up to the 100 year ARI flood).				
FD07	Flood management plans would be developed as part of the CEMP prior to construction to guide the detailed design of temporary ancillary facilities, including construction compounds, to minimise the potential impacts of flooding on the project.				
FD08	Around 8,000 cubic metres of the projected 12,000 cubic metres of lost floodplain storage due to the operation of the Arncliffe motorway operations complex (MOC3) would be required to be recaptured. Floor level surveys would be undertaken to determine whether the project would result in the above- floor inundation of the following potentially affected properties. Further design development would be undertaken during detailed design to confirm the extent of works required to mitigate the impact of the project on flooding conditions at these existing residential developments.				
FD09	Detailed design would aim to reduce the impact of the project on flooding conditions for the following two potentially affected properties. This would include consideration of whether the project would result in above-floor inundation of these properties.				
FD10	The potential to reduce impacts of the project on flooding for the properties located on the western overbank of the Alexandra Canal would be considered during detailed design. This would also include consideration of whether the project would				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	result in above-floor inundation of these properties.				
FD11	Further design development would be undertaken to mitigate the impact of the project on flooding conditions in the TransGrid site. This would include further refinement of design of the relief drain, as well as the western approach to the Campbell Road bridge.				
FD12	Existing transverse drainage structures would be left in place during construction where transverse drainage structures are to be upgraded or replaced. If this is not feasible, temporary drainage would be adopted.				
FD13	Detailed flood modelling to understand the effects of likely rainfall events would be undertaken. Construction layouts would be finalised accordingly.				
FD14	Tunnel dive shafts would be protected against flooding either through locating openings outside of flood prone areas or constructing temporary bunding and / or appropriate temporary drainage. Stockpiles would be located outside the 20 year ARI flood extent where possible. Where construction compounds are located in the 20 year ARI flood extent, a contingency plan to manage flooding would be prepared and implemented.				
FD15	Further detailed assessment of flooding impacts for proposed construction compounds and relevant management measures would be undertaken during detailed design. Contingency plans to manage flooding would be prepared and implemented for high risk temporary facilities proposed including fuel storages, water treatment plants and substations, as well as for the following construction compounds (located either wholly or partially within the 20 year ARI flood extent): • Kingsgrove South construction compound (C2) • Commercial Road construction compound (C3) • Bexley Road North construction compound (C4) • Bexley Road South construction compound (C5) • Arncliffe construction compound (C7) • Alexandra Canal bridge construction compound (C12) • Gardeners Road bridge construction compound (C13). For these sites, suitable procedures for flood warning, emergency management, site evacuation and planning would be developed.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
FD16	 The following measures would be implemented to manage flooding risks on construction sites: Temporary bunding around parts of the site that would be adversely affected by floodwaters Temporary drains / detention areas within the site Use of carparks to provide detention Elevation of site buildings where necessary to get floor levels above expected flood levels Use of erosion and sediment fences around noise barriers to provide bunding to some parts of the sites while directing overland flows through less sensitive parts of sites, particularly at Kingsgrove and Arncliffe. 				
FD17	A <u>drainage strategy</u> would be determined during detailed design to manage the increased runoff within the catchment draining into Camdenville Park. This drainage strategy would be based on not increasing flows into the Eastern Channel for all events up to and including the 100 year ARI flood. The strategy would be prepared in consultation with Marrickville Council.				
FD18	A more detailed assessment would be undertaken during detailed design to determine the climate change related flood risks to the project and to scope requirements for any management measures. The assessment would be undertaken in accordance with the <i>Practical Considerations of Climate Change – Floodplain Risk Management Guideline</i> (DECC, 2007)				
OpFD01	Bridge crossings over the Alexandra canal would incorporate a suitable freeboard between the underside of the bridge structure and the peak 100 year ARI flood level.				
OpFD02	The project and associated arrangements would be designed to limit increases in peak discharges into the downstream drainage systems in accordance with local council requirements.				
OpFD03	The control and mitigation of potential localised flooding and drainage impacts during operation would include: Drainage systems that are of insufficient capacity would be modified or upgraded to cater for increased flows Where new drains connect with existing drainage networks a survey and condition assessment would be undertaken to inform detailed design The efficiency of transverse drainage upgrades would be taken into account during detailed design				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	The effects a partial blockage of major hydraulic structures on flooding behaviour would be considered when determining finished road level and flood wall heights.				
OpFD04	Tunnel entries and associated flood protection barriers would be located above the PMF level or the 100 year ARI flood level plus 0.5 metres (whichever is greater). The same hydrological standard would be applied to tunnel ancillary facilities such as tunnel ventilation and water treatment plants where the ingress of floodwaters would also have the potential to flood the tunnels.				
OpFD05	A suitable freeboard would be incorporated into the design of openings into the new road tunnels (eg at the location of the tunnel portals and ventilation shafts). These designs would take into account the impacts of a partial blockage of major hydraulic structures as well as climate change induced sea level rise on PMF event levels.				
OpFD06	Emergency response facilities, including the motorway control centre, tunnel fire water tank and pump buildings and associated electrical substations would be locate above the PMF level or the 100 year ARI flood level plus 0.5 metres (whichever is greater).				
Groundw	ater				
GW01	An <u>Acid Sulfate Soil Management Plan</u> (ASSMP) would be prepared including the measures and monitoring to be undertaken where potential acid sulfate soils are expected. The plan would outline the type of treatment required for acid sulfate soils, bunding and requirement for treatment ponds.				
GW02	A groundwater and soil salinity report would be prepared prior to the commencement of earthworks to assess the potential impacts to the local hydrogeological regime.				
GW03	Contingency measures to address leachate management at the Alexandria Landfill during construction and prior to the commissioning of the new leachate treatment plant would be explored during detailed design. Identified measures would be detailed in the CEMP and implemented during construction.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
GW04	The tunnel construction program would be constructed in accordance with an overarching CEMP for the project which would include measures to manage contaminated groundwater issues. This may include removal of the source of the contamination by excavation and remediation of shallow impacted soils or engineering a solution to prevent the migration of contaminated groundwater into the tunnels.				
GW05	Intersected shallow contaminated groundwater would be directed to the construction water treatment plant prior to discharge. Elsewhere, collection and treatment options would be considered and releases made under relevant discharge criteria.				
GW06	The intersection of shallow groundwater at the Arncliffe construction compound (C7) would be managed under CEMP(s) for the project. In the event that contaminated groundwater is intersected the approach would be to either remove the source of the contamination by excavation and remediation of shallow impacted soils or engineering a solution to prevent the migration of contaminated groundwater into the project tunnels.				
GW07	Treated waste water would be stored and re-used for project purposes wherever possible. Groundwater reuse would be in accordance with the policies of sustainable water use of the NSW Office of Water, such as dust suppression and earthworks				
GW08	Where saturated faults and fractures are intersected additional rock support would be installed in order to ensure tunnel stability. Appropriate waterproofing measure to reduce the inflow to an acceptable quantity will be applied as required. Measures can range from a spray-on membrane to grouting or installation of a sheet membrane				
GW09	Where higher than expected inflows are experienced as beneath the Cooks River and under other major surface water features, appropriate waterproofing measure to permanently reduce the inflow to an acceptable quantity will be applied as required. Measures can range from a spray- on membrane to grouting or installation of a sheet membrane depending on the inflow volume				
GW10	Building materials that are resistant to aggressive groundwater conditions would be selected.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
GW11	 The project works would be undertaken in accordance with a CEMP(s) for the project which would include the following management measures: Stockpiles of fuels, hazardous liquids and chemicals would be stored in an impervious bunded area in accordance with Australian Standards and EPA guidelines The storage of fuels and chemicals would be limited to locations more than 40 metres from any water course With the exception of Arncliffe construction compound, re-fuelling would occur in bunded areas or in areas beyond 40 metres from waterways. Where refuelling occurs outside bunded areas, specific refuelling procedures would be in place and operators would be trained in these procedures. Spill kits would be readily available to manage re-fuelling outside bunded areas. At Arncliffe construction compound, a bunded area would be provided where all refuelling would occur. Vehicles would be properly maintained to minimise the risk of fuel/oil leaks and routine inspections of construction equipment would be undertaken to identify any fuel/oil leaks Emergency spill kits would be kept on-site and project personnel would be aware of the location of spill kits and trained in their use Hazardous materials handling procedures would be documented and implemented In the event of an incident resulting in impacts to human health or the environment, works would cease immediately and the EPA would be notified (if required) Erosion and sediment control measures would be regularly inspected, and particularly following rainfall events. The controls would remain in place until construction works are completed and areas are stabilised. 				
GW12	A tunnelling procedure that details a methodology to determine when and what type of waterproofing is required to be installed during construction would be implemented during construction. Pre- excavation pressure grouting may also be used in locations identified that could produce substantial inflows to reduce groundwater inflows to an acceptable level. Post grouting (ie grouting undertaken post excavation) may also be required to further reduce groundwater inflows. Post grouting would occur within one month post excavation.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
GW13	A groundwater monitoring program would be prepared and implemented to monitor groundwater impacts during construction. This would include the monitoring of groundwater inflow into the tunnels. The program would be developed in consultation with the EPA, DPI (Fisheries), NSW DPI Water and relevant councils.				
GW14	Where the project alignment passes close to watercourses and inflows are elevated, appropriate waterproofing measures to permanently reduce the inflow to an acceptable quantity would be applied as required				
GW15	In the event that the drawdown in a licensed water supply bore or irrigation bore exceeds two metres (in accordance with the Aquifer Interference Policy) or that impacts to groundwater quality alter the beneficial use of the water, measures would be taken to 'make good' the impact by restoring the water supply to pre-development levels. The measures taken would be dependent upon the location of the impacted bore and would be determined in consultation with the affected licence holder but could include, deepening the bore, providing a new bore or providing an alternative water supply.				
GW16	A Settlement Monitoring Plan would be prepared that would provide details on: Location of monitoring points Duration of monitoring Data collection and review Roles and responsibilities for review of data Triggers and actions for corrective actions.				
GW17	Building conditions surveys would be undertaken in the zone of influence of the tunnel settlement where the settlement is expected to have a potential impact. In the unlikely event that any damage occurs to a property, appropriate rectifications would be carried out.				
GW18	Services in locations where differential/ angular settlement is anticipated would be identified. A monitoring plan, triggers and actions would be agreed with the relevant utility owner prior to potential impacts occurring.				
GW19	A monitoring program, undertaken as part of the Settlement Management Plan, would be carried out prior to excavation until all relevant settlement has stabilised. Monitoring would be for a period of not less than six months after settlement has stabilised.				
OpGW01	An OEMP would be prepared and implemented to outline management measures for groundwater inflows, treatment and discharge and protocols for spillages or incidents. Monitoring parameters may include				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	groundwater levels, groundwater quality including field parameters, laboratory analytes and sample frequency.				
OpGW02	The drainage system would be regularly maintained in accordance with the Operational Environmental Management Plan.				
OpGW03	A groundwater monitoring program would be prepared and implemented to monitor groundwater impacts during tunnel operations. This would include the monitoring of groundwater inflow into the tunnels. The program would be developed in consultation with the EPA, DPI (Fisheries), NSW DPI Water and relevant councils. The groundwater monitoring program would continue (where appropriate) the construction groundwater monitoring program (GW13) and would continue for three years, after which, the requirement for further monitoring would be assessed. The following analytes would be added to the groundwater baseline monitoring program for the project in order to inform the discharge water quality criteria Ammonium Phenols Organophosphorus pesticides Polychlorinated biphenyls (PCBs). Discharge water quality criteria would be developed in consultation with the EPA.				
OpGW04	Contingency measures to address leachate management in the event of pump failure would be explored during detailed design and implemented in the Landfill Closure Plan.				
OpGW05	The final design capacity of the new leachate treatment plant would have a maximum 200 kilolitres per day and would be confirmed in consultation with Environment Protection Authority and Department of Primary Industries (Water) during detailed design.				
Non-Abor	iginal heritage				
NAH01	Protocols would be developed for anticipated categories of unexpected non-Aboriginal heritage finds, such as tram infrastructure, late 19th to early 20th refuse, and brick works. In the event of an unexpected cultural heritage find outside of these specific protocols, the <i>Standard Management Procedure – Unexpected Archaeological Finds</i> (Roads and Maritime, 2015a) would be followed. This would include notification to the NSW Heritage Division of OEH (highly effective).				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
NAH02	Construction personnel would be made aware of non-Aboriginal heritage sites as part of the site induction. These sites would be identified on sensitive area plans and in the CEMP (highly effective).				
NAH03	As part of the construction heritage management plan, an <u>overarching historical archaeological research design</u> would be prepared prior to commencement of construction in consultation with the NSW Heritage Division of OEH. It would describe clear significance thresholds to possible archaeological items that may be uncovered during works and designate when monitoring, testing and / or salvage and excavation should occur in relation to the project works and timing. Post-excavation reporting, including artefact analysis and additional historical research (where necessary), would be required for any historical archaeological investigations undertaken (moderately effective).				
NAH04	 A construction heritage management plan would be prepared prior to construction in consultation with the NSW Heritage Division of OEH, local councils and Sydney Water. The plan would detail how construction impacts on heritage would be minimised and managed including training and induction processes for construction personnel. Inductions are to cover built heritage, landscape and historical archaeological sites and their management, and provide heritage guidance on how to avoid / manage impacts. The induction would be prepared in consultation with a suitably qualified heritage specialist and historical archaeologist. As a minimum, the plan would include the following: Induction protocols for staff and project personnel to undertake a cultural heritage induction, to assist them in understanding and complying with their legal obligations under the Heritage Act 1977 A list, plan and GIS layer showing the location of identified heritage items A significance assessment and statement of significance for each item Detail the mitigation measures identified and when the measures are to be implemented Provide protocols and procedures to be enacted during construction to ensure the protection of items of heritage significance, or elements that contribute to the values of the heritage conservation area An unexpected finds procedure in the event that further sites are identified during works. The separate procedure for the discovery of skeletal remains (highly effective). 				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
NAH05	Impacts to built heritage, heritage landscapes and historical archaeological sites, will to the greatest extent practicable, be avoided and minimised. Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the construction heritage management plan (moderately effective).				
NAH06	 In relation to the house at 82 Campbell Street and terrace group at 28-44 Campbell Street the following would be undertaken: The buildings would be subject to a full archival recording following the NSW Heritage Division guidelines How to Prepare an Archival Recording (NSW Heritage Office, 2003) and Photographic recording of heritage items using film or digital capture (NSW Heritage Office, 2006) Consideration should be given as to whether elements of the houses could be salvaged and used to maintain or restore other proportion managed by Reads and Maritime (samewhat effective) 				
NAH07	In relation to Rudders Bond Store, the following would be undertaken: The bond store would be subject to a full archival recording following the NSW Heritage Division guidelines How to Prepare an Archival Recording (NSW Heritage Office, 2003) and Photographic recording of heritage items using film or digital capture (NSW Heritage Office, 2006). This would include a comparative analysis of the Rudders Bond Stores should be prepared against other laminated truss Symonds buildings in NSW and Australia Consideration would be given as to whether the selected laminated timber columns could be salvaged and re-erected and clad elsewhere within the St Peters interchange or the local area. The cladding and brick walls are not considered to be of heritage significance and are not included within the reuse proposal. The level of fabric salvage required, the appropriate methodology for salvage and identification of appropriate adaptive reuse and locations for reuse of these elements would be determined in consultation with Heritage Council, the NSW Heritage Division of OEH and the New M5 Design Panel, with advice from a suitably qualified specialist informed by the full archival recording prior to the demolition of the item Investigate options for documenting the history of the Ralph Symonds company and presenting it to a national audience, in partnership with stakeholders such as the City of Sydney and Powerhouse Museum. The focus would be on their development of innovative timber construction methods during and after				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	World War II (somewhat effective).				
NAH08	 In relation to the Service Garage at 316 Princes Highway, the following would be undertaken: An existing condition survey report and program of monitoring would be undertaken to identify early potential risks to the heritage item A photographic archival recording is undertaken prior to the current use ceasing. The archival recording should conform to the guidelines provided in <i>How to prepare archival records</i> (NSW Heritage Office, 2003) and <i>Photographic recording of heritage items using film or digital capture</i> (NSW Heritage Office, 2006). The archival recording should be lodged with the relevant local libraries and the State Library of NSW. The oral history should be prepared, which seeks to contact past and present employees as well as others with memories of the service station. The oral history should be lodged with the relevant local libraries and the State Library of NSW (somewhat effective). 				
NAH09	Detailed mitigation and management measures would be developed for each heritage item directly impacted by the project with regard to vibration (surface and tunnelling) and settlement once final disturbance areas have been identified through detailed design. These mitigation and management measures would be included in the CEMP(s) for the project (highly effective).				
NAH10	Surface works would adhere to safe working distances, and an existing condition survey report and program of monitoring would be undertaken to identify early potential risks at the following non- Aboriginal heritage items: Wolli Creek Culvert St Peters Public School, including interiors Terrace housing, including interiors (1273) Waugh and Josephson industrial buildings, former, showroom, offices and workshops, including interiors Town and Country Hotel, including interiors Group of Victorian Filigree and Victorian Italianate terrace houses – Narara, including interiors Terrace group I12 Water Board pump house, including Interior and substructure Industrial Building, 'Frank G Spurway' Former Alexandria Spinning Mills (highly effective).				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
NAH11	An existing condition survey report and program of monitoring would be undertaken to identify early potential risks at the Macdonaldtown Stormwater Channel #3 (highly effective).				
NAH12	The following non-Aboriginal heritage properties would be considered for at property acoustic treatment: • St Peters Public School, including interiors • Terrace group I12 (highly effective). Acoustic treatments would be confirmed during detailed design, and would consider the principles of <i>The Burra Charter (the Australia ICOMOS charter for places of Cultural Significance)</i> (ICOMOS (Australia), 2013).				
NAH13	 Management measures for the Goodsell Estate Heritage Conservation Area would include: Landscaping, to mitigate the impacts of realigning and widening roads, as well as alterations to the existing stormwater detention basin Surface works would adhere to safe working distances An existing condition survey report and program of monitoring would be undertaken to identify early potential risks to relevant structures within the conversation area and within 50 metres of the main alignment tunnels (highly effective). 				
NAH14	Management measures for the Clemton Park Urban Conservation Area would include: Surface works would adhere to safe working distances An existing condition survey report and program of monitoring would be undertaken to identify early potential risks to relevant structures within the conservation area Landscaping would provide screening of the Bexley Road South motorway operations complex from the Clemton Park Urban Conservation Area, once established (highly effective).				
NAH15	Management measures for the Pallamanna Parade Urban Conservation Area would include: Surface works would adhere to safe working distances An existing condition survey report and program of monitoring would be undertaken to identify early potential risks to relevant structures within the conservation area Landscaping would provide screening of the project from the Pallamanna Parade Urban Conservation Area, once established				

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NAH16	 (highly effective). The following management measures would be implemented with respect to Alexandra Canal: Monitoring during works to ensure vibration is not impacting the Alexandra Canal walls Preparation of an archival recording of the Canal, involving both scale drawings and photography, prior to the removal of sandstone blocks Numbering of sandstone blocks so that those displaced by the discharge points can be replaced in their previous locations Stockpiling displaced sandstone blocks for use in repairs of other sections of the Alexandra Canal Installation of heritage interpretation regarding the Canal in accordance with an interpretation plan (moderately effective) Any rehabilitation or conservation works in the vicinity of these areas would be determined in consultation with Sydney Water, as the asset owner Skilled trades people would be used for the proposed works along Alexandra Canal that involve direct interaction with the heritage item. 				
NAH17	 An interpretation plan would be prepared and implemented for: Alexandra Canal and the industrial heritage of the area. This shall include installation of a heritage interpretation regarding the Canal in accordance with an interpretation plan The St Peters Brickpit geological site, including: Integrate the geological interpretation into the Sydney Park brickworks in consultation with City of Sydney, as the industrial counterpart to the geological history to tell a more complete story of historical land use in the area Integrate the geological / palaeontological discovery of the Paraclytosaurus davdi 				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	 Retain an exposed section of the fresh shales and siltstones, including features associated with deposition of the sedimentary rocks, and later formed fractures such as joints and faults, if feasible and safe to do so for both landform stability and ongoing access for interpretation (moderately effective). 				
NAH18	An archival recording of the St Peters brickpit geological site would be undertaken prior to and during the construction (highly effective).				
NAH19	An assessment and / or consultation with a palaeontologist to determine whether the project impact area has potential to contain further specimens of scientific interest (highly effective).				
NAH20	Approaches to appropriately manage impacts of the project to the individual contribution of views into and out from heritage properties and the long-term impact of construction would be detailed in a CEMP (highly effective). Individually tailored landscape treatments would be developed during detailed design to mitigate visual impacts at 2-34 Campbell Road, St Peters.				
NAH21	The construction heritage management plan would include detailed procedures / strategies for the conservation and curation of any historical artefacts recovered during works (moderately effective).				
NAH22	Urban design and landscaping would be undertaken to manage visual impacts to the following additional non-Aboriginal heritage items: Terrace housing (I273) Southern Cross Hotel (I277) Water Board pump house (I18) (highly effective).				
Biodivers					
B01	A Flora and Fauna Management Plan will be developed before construction and in accordance with Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011). The Plan will identify potential impacts to biodiversity and describe mitigation measures and environmental controls to be implemented during construction, including measures to				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	protect biodiversity features which will be retained.				
B02	The removal of established vegetation will be minimised, where possible.				
B03	Pre-clearance activities will be carried out in accordance with <i>Guide 1 Pre-clearing process</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011). Pre-clearing surveys will be undertaken by a suitably qualified ecologist to identify the presence of: Hollow-bearing trees Threatened flora and fauna.				
B04	Trees will be removed in accordance with Guide 4 – Clearing of Vegetation and Removal of Bushrock of Roads and Maritime's Biodiversity Guidelines (RTA, 2011).				
B05	Where vegetation clearance is required, exclusion zones will be established in accordance with <i>Guide 2 Exclusion Zones</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011).				
B06	Where reasonable and feasible, mature and hollow-bearing trees will be retained. Where this is not reasonable and feasible, nest boxes will be installed to mitigate the impacts of removing hollow bearing trees in accordance with Table 8.1 of <i>Guide 8 – Nest boxes</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011) at least one month prior to the commencement of construction				
B07	Locally indigenous species will be included as part of landscaping and rehabilitation works to promote native fauna habitat.				
B08	Should unexpected threatened flora or fauna be located at any time during construction, relevant works will cease in the area to prevent further harm to the individual. Should this occur, a suitably qualified ecologist will be engaged to advise on appropriate mitigation and management measures.				
B09	Any fauna handling would be undertaken by an appropriately licenced ecologist in accordance with <i>Guide 9 – Fauna handling</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011).				
B10	The Green and Golden Bell Frog Plan of Management Plan will be finalised and implemented to minimise and manage impacts to the Arncliffe key population. The Green and Golden Bell Frog Plan of Management Plan would be approved by the Commonwealth Department of the Environment and OEH, and would include: • Management measures to be implemented at the Arnciffe				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	construction compound (C7) and RTA Ponds to minimise and manage impacts to the Green and Golden Bell Frog habitat and key population during construction. Management measures relating to the enhancement of existing				
	 habitat at the Marsh Street Wetland Supplementary management measures for consideration to mitigate and minimise impacts to the Green and Golden Bell Frog. 				
B11	Measures to mitigate potential water quality impacts during construction are outlined in Section 16.4 and Section 18.4 of the EIS.				
B12	Works within or near aquatic habitats and riparian areas will be managed in accordance with Roads and Maritime's Guide 10 – Aquatic habitats and riparian zones and Guidelines for Controlled Activities on Waterfront Land (DPI, 2012a).				
B13	Works within aquatic habitats or riparian zones would be undertaken to limit impacts on aquatic flora and fauna, and their habitats, and impacts on riparian areas. This would be undertaken in accordance with Guide 10 of the <i>Biodiversity Guidelines</i> and <i>Guidelines for Controlled Activities on Waterfront Land</i> (DPI, 2012a).				
B14	Where possible, construction activities would minimise disturbance to waterways and riparian land.				
B15	Stockpiles would be located outside riparian corridors.				
B16	Weeds within the construction footprint will be actively managed prior to the clearance of vegetation. All weed material cleared from within the construction footprint of the project will be disposed of at a facility licensed to receive green waste.				
B17	Vegetation within the road reserve adjacent to areas to be cleared will be managed in accordance with <i>Guide 6 – Weed Management</i> and <i>Guide 10 – Aquatic Habitats and Riparian Zones</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011) to reduce the introduction and spread of noxious weed species.				
B18	Landscaping and revegetation works will be undertaken using weed-free topsoil in accordance with the project's urban design concept plan.				
B19	A hygiene protocol will be implemented as part of the CEMP(s) for the project to prevent the spread and exacerbation of the Chytrid Fungus in accordance with <i>Guide 7 – Pathogen Management</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011).				
B20	A risk assessment process will be used for each construction compound to determine the need to clean machinery prior to entering				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
B21	Machinery will be cleaned prior to entering the construction compound sites.				
B22	Pathogens will be identified as part of pre-clearing inspections. In the event that pathogens are identified within the construction footprint, appropriate mitigation measures will be identified by an ecologist and implemented as part of the CEMP(s) in accordance with <i>Guide 7 – Pathogen Management</i> of Roads and Maritime's <i>Biodiversity Guidelines</i> (RTA, 2011).				
OpB01	 A management plan will be developed and implemented to identify and mitigate potential ongoing impacts to biodiversity, including procedures for: Management of weeds Management, maintenance and rehabilitation of riparian land disturbed by the project and riparian areas associated with the discharge of treated water Maintenance of nest boxes 				
Greenhou	use gas				
GHG1	Prepare a <u>Greenhouse Gas Emissions Strategy and Management Plan</u> for the project.				
GHG2	Undertake an updated greenhouse gas assessment based on detailed design.				
GHG3	The emissions intensity of significant construction materials specified in the design of the project would be assessed and, where feasible and in compliance with technical specifications, low emission construction materials would be used.				
GHG4	Where feasible, recycled content road construction materials such as recycled aggregates in road pavement and surfacing, or similar, would be used.				
GHG5	The fuel efficiency of construction plant and equipment would be assessed before selection and, where feasible and reasonable, equipment with the highest fuel efficiency or equipment that uses lower greenhouse gas intensive fuel such as biofuels (eg biodiesel, ethanol) would be used.				
GHG6	Project planning would be undertaken to ensure that the site vehicle movements and construction activities are efficient, to avoid double handling of materials and unnecessary fuel use where possible.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
GHG7	Locally produced goods and services would be procured where feasible and cost effective to reduce transport fuel emissions.				
GHG8	At least six per cent of construction energy required for the project would be sourced where possible from an accredited GreenPower energy supplier				
GHG9	Where possible, and fit for purpose, spoil would be beneficially re-used within the project before off- site re-use or disposal options are investigated. A <u>spoil management strategy</u> would be developed for the project prior to the commencement of construction and would identify spoil disposal sites and the management of excess spoil.				
GHG10	Waste would be diverted from landfill, including diversion of spoil, construction and demolition waste, and commercial and industrial waste, where reasonable and feasible. The management of waste would be considered as part of the preparation of the CEMP for the project, detailing the appropriate procedures for waste management.				
OpGHG 1	The main alignment tunnels would be designed to minimise fuel consumed by vehicles using the road, for example through the provision of a vertical alignment that allows consistent vehicle speeds to be maintained.				
OpGHG 2	A life cycle assessment would be undertaken as part of the detailed design in order to select mechanical and electrical systems with increased energy efficiencies, where reasonable and feasible, such as the tunnel ventilation system, tunnel lighting, water treatment systems and electronic toll and surveillance systems.				
OpGHG 3	Low carbon energy generation options would be investigated as part of the detailed design process in order to reduce the demand on mains electricity and generate renewable energy onsite, where feasible. At least six per cent of energy required for the project would be sourced from an accredited GreenPower energy supplier, where possible.				
Aborigina	ll heritage				
AH 1	Vibration generating activities, including blasting would be conducted in a manner to ensure vibration levels do not exceed three millimetres per second at potential Aboriginal heritage site SR-OVRH-1.				
AH 2	Vibration monitoring would be carried out during vibration intensive works within 50 metres of SR- OVRH-1. The need for vibration monitoring would be informed by a preliminary screening of activities at this location to identify what activities have the potential for vibration at this location. The preliminary screening and works requiring monitoring				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	would be contained within the CEMP.				
AH 3	A baseline condition assessment would be completed by a qualified structural engineer for Aboriginal site SR-OVR-1 before construction commences, followed by a condition assessment immediately following significant vibration and with recommendations for remediation measures if required.				
AH 4	 If an Aboriginal object(s) is discovered during construction it would be managed in accordance with the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime Services,2015), including: Ceasing works in the vicinity of the object(s), where there is the potential to directly or indirectly impact on the object(s) Notifying the construction Environmental Representative and OEH of the discovery Engaging a qualified archaeologist to determine the nature, extent and scientific significance of the object(s) Developing management recommendations in consultation with the qualified archaeologist, OEH and RAPs. 				
AH 5	In order to manage the potential discovery of an Aboriginal object(s) during pile installation adjacent to Alexandra Canal the following strategy would be implemented: • Geotechnical coring at each pile location by a geotechnical engineer to obtain intact sediment samples to a depth of around seven metres • Inspection of obtained sediment samples by a qualified archaeologist in consultation with the geotechnical engineer in order to characterise the soil profile and identify any Aboriginal archaeological materials Should Aboriginal archaeological material be present within one or more core samples, management would occur in accordance with the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime, 2015).				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
AH 6	 If human remains are discovered during construction would be managed in accordance with the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime Services, 2015), including: Ceasing works in the vicinity of the remains, with the potential to directly or indirectly impact on the remains Notifying the construction Environmental Representative, OEH and NSW Police of the discovery Following directions from the NSW Police and / or OEH, as relevant, depending on the nature of the remains and the outcomes of forensic investigations. 				
Resourc	e use and waste minimisation				
WM01	Construction energy consumption would be reduced through initiatives such as: Use of roadheaders, which can excavate a more efficient shape for the road tunnel than tunnel boring machines, resulting in less spoil generation and less energy consumption for handling, management and transport of spoil Local materials procurement where feasible and cost effective to reduce fuel consumption for transport Selection of efficient construction plant and equipment where possible Use of recycled materials where feasible Efficient practices on site (for example, switching off engines when not in use) Use of energy efficient or solar powered lighting for temporary construction facilities Investigating the use of biofuel for construction vehicles.				
WM02	Where feasible and reasonable, construction material would be sourced from within the Sydney region.				
WM03	Unnecessary resource consumption would be avoided by making realistic predictions of the required quantities of resources such as construction materials				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
WM04	Resource recovery would be applied to the management of construction waste and would include: Recovery of resources for reuse-reusable materials generated by the project would be segregated for reuse either on-site or off-site where possible, including the reuse of the major waste streams (VENM and ENM) Recovery of resources for recycling - recyclable resources (such as metals, plastics and other recyclable materials) generated during construction and demolition Resources would be segregated for recycling These materials would then be sent to an appropriate recycling facility for processing. Recovery of resources for reprocessing -cleared vegetation would be mulched or chipped on-site and used for landscaping, in the absence of a higher beneficial use being identified.				
WM05	Where reasonable and feasible, Packaging Take Back arrangements would be implemented with suppliers.				
WM06	Wastes would be managed (classified, handled and stored) and reused / recycled / disposed of in accordance with relevant State legislation and government policies including the POEO Act, Waste Avoidance and Resource Recovery Act 2001, Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014b), and the sustainable procurement objective of the WestConnex sustainability strategy (WestConnex Delivery Authority, 2015).				
WM07	A Construction Waste Reuse Recycling and Energy plan (CWRREMP) would be prepared as part of the CEMP detailing appropriate procedures for waste management. The Construction Waste Recycling Reuse Environment Management Plan would ensure waste disposal and energy use is minimised by tracking and reporting performance and applying corrective action as required.				
WM08	 Wastes would be managed using the waste hierarchy principles of: Avoidance of unnecessary resource consumption to reduce the quantity of waste being generated. Recover resources for reuse on-site or off-site for the same or similar use, without reprocessing. Recover resources through recycling and reprocessing so that waste can be processed into a similar non-waste product and reused. Disposal of residual waste. 				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
WM09	Residual waste would be disposed of to a suitably licensed landfill or waste management facility where there are no other feasible and reasonable options for waste avoidance, reuse or recycling. Waste materials requiring removal from the site would be classified, handled and stored in accordance with the <i>Waste Classification Guidelines: Part 1 Classifying Waste</i> (EPA, 2014a) until collection by a contractor for disposal.				
WM10	Off-site reuse of waste would comply with relevant NSW Environment Protection Authority resource recovery exemptions and requirements.				
WM11	Asbestos handling and management would be undertaken in accordance with the project's Asbestos Management Plan and relevant legislation, policies and standards: • Work Health and Safety Act 2011 • Code of Practice for the Safe Removal of Asbestos 2nd Edition (NOHSC, 2005a). • Code of Practice for the Management and Control of Asbestos in Workplaces (NOHSC, 2005b). • Protection of the Environment Operations (Waste) Regulation 2014 — Part 7 Transportation and management of asbestos waste. • Australian Standard AS2601:1991 Demolition of Structures.				
WM12	Measures would be implemented to manage stockpiles such as potentially locating stockpiles outside of overland flowpaths, riparian corridors and finished and contoured so as to minimise loss of material in flood or rainfall events. Stockpiles left exposed and undisturbed for longer than 28 days would be stabilised by compaction then either sprayed with suitable tackifier, covered with anchored fabrics, or seeded with sterile grass.				
WM13	A <u>Spoil Management Strategy</u> would be developed prior to the commencement of construction and implemented during construction. The strategy would identify spoil disposal sites and describe the management of spoil on-site and during off-site transport.				
WM14	Where possible and fit for purpose, spoil would be beneficially reused within the project before off-site reuse or disposal options are pursued.				
WM15	Before being transported from construction sites, excavated spoil would be classified in accordance with the <i>Waste Classification Guidelines:</i> Part 1 Classifying Waste (EPA, 2014a) to ensure appropriate reuse or disposal.				
WM16	Feasible and reasonable opportunities for wastewater reuse on-site or for construction purposes would be pursued (such as dust suppression				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	both in the tunnels and for surface works).				
WM17	Wastewater not used on-site would be discharged into the local stormwater system in accordance with the requirements of an environment protection licence issued for the project.				
WM18	An Unexpected Finds Protocol would be implemented in the event of encountering previously unidentified area(s) or types of contaminated material. Where this happens, all relevant work would cease in the vicinity of the discovery in accordance with a unsuitable spoil management contingency procedure which would be included as part of the Spoil Management Strategy for the project. Relevant works would not recommence until the need for and scope of remedial action(s), if required, is identified in accordance with the requirements of the Contaminated Land Management Act 1997.				
OPWM01	Wastes would be managed and disposed of in accordance with relevant State legislation and government policies including the POEO Act, Waste Avoidance and Resource Recovery Act 2001, Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA, 2014b), and the sustainable procurement objective of the WestConnex sustainability strategy (WestConnex Delivery Authority, 2015).				
OPWM02	Opportunities for reuse of wastewater would be considered in preference to discharge to the local stormwater system.				
OPWM03	In order to reduce demand on local water supplies, options would be investigated for providing water required for operation of the deluge system from wastewater produced through the tunnel drainage system where it meets appropriate quality parameters.				
Climate change and risk adaptation					
CC01	The risk associated with future climate change on the project would be further considered during detailed design.				
CC02	Implement adaptation measures to address high and extreme rated risks identified in the subsequent detailed climate change risk assessment.				
CC03	Where extreme, high or medium risks have been identified in this assessment or subsequent climate change risk assessments, a review of the existing design policies, specifications or practices would be undertaken to consider the impacts of climate change.				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence	
Hazard a	Hazard and risks					
HR01	Site-specific hazard and risk management measures would be included within the CEMP, which may include items such as: Details of the hazards and risk associated with construction activities for both surface and subsurface works Procedures to comply with legislative and industry standard requirements Contingency plans, as required.					
HR02	Storage of dangerous goods and hazardous materials would occur in accordance with suppliers' instructions and relevant Australian Standards and may include bulk storage tanks, chemical storage cabinets / containers or impervious bunds.					
HR03	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005).					
HR04	Secure, bunded areas would be provided around storage areas for oils, fuels and other hazardous liquids.					
HR05	Bunds would be provided around activities such as vehicle refuelling, servicing, maintenance or wash- down, where there is a potential for spills and contamination.					
HR06	Material Safety Data Sheets would be obtained for dangerous goods and hazardous substances stored onsite prior to their arrival.					
HR07	Transport of dangerous goods and hazardous substances would be conducted in accordance with relevant legislation and codes, including the Dangerous Goods (<i>Road and Rail Transport</i>) Regulation 2014 and the Australian Code for the <i>Transport of Dangerous Goods by Road and Rail</i> (National Transport Commission, 2008).					
HR08	The project would be constructed in line with Civil Aviation Safety Authority requirements, to the satisfaction of the Secretary of the Commonwealth Department of Infrastructure and Regional Development.					
HR09	The project would be constructed in in accordance with the requirements of the Civil Aviation Safety Authority and the <i>Sydney Airport Master Plan 2033</i> , with respect to lighting used during construction.					
OpHR01	The fire and safety systems and measures adopted for the project would be equivalent to or exceed the fire safety measures recommended by					

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence
	NFPA502 (American), PIARC (European), AS4825 (Australian) and Roads and Maritime standards.				
OpHR02	Storage of dangerous goods and hazardous materials would occur in accordance with supplier's instructions and relevant Australian standards and may include bulk storage tanks, chemical storage cabinets / containers or impervious bunds.				
OpHR03	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005).				
OpHR04	Secure, bunded areas would be provided around storage areas for oils, fuels and other hazardous liquids. Impervious bunds would be of sufficient capacity to contain at least 110 per cent of the volume of the largest stored container.				
OpHR05	Bunds would be provided around activities such as vehicle refuelling, servicing, maintenance or wash- down, where there is a potential for spills and contamination.				
OpHR06	Material Safety Data Sheets would be obtained for dangerous goods and hazardous substances stored onsite prior to their arrival.				
OpHR07	The transport of dangerous goods and hazardous substances would be prohibited through the main alignment tunnels and on and off-ramp tunnels.				
OpHR08	An Incident Response Plan would be developed and implemented in the event of an accident or incident.				
OpHR09	The response to incidents within the motorway would be managed in accordance with the memorandum of understanding between Roads and Maritime and the NSW Police Service, NSW Rural Fire Service, NSW Fire Brigade and other emergency services.				
OpHR10	The detailed design of the project substations would ensure that the exposure limits for the general public suggested by the Draft Radiation Standard (Australian Radiation Protection and Nuclear Safety Agency, 2006) would not be exceeded at the boundary of the substation sites.				
OpHR11	The project would be operated in line with Civil Aviation Safety Authority requirements, to the satisfaction of the Secretary of the Commonwealth Department of Infrastructure and Regional Development.				
OpHR12	Aviation hazard lighting, building lighting and surface road lighting would be designed and operated in accordance with the requirements of the Civil Aviation Safety Authority and the <i>Sydney Airport Master Plan 2033</i> .				

Ref	Requirement	Timing	Responsibility	Compliance status	Comment / evidence	
Cumulative impacts						
CI01	Consultation would be undertaken with local communities potentially affected by the impacts of multiple projects in addition to the project.					
CI02	Where relevant, consultation would be undertaken with proponents of other nearby developments to increase the overall awareness of project timeframes and impacts.					