Roads and Maritime Services/Sydney Airport Corporation Limited

Sydney Gateway Road Project

Environmental Impact Statement/ Preliminary Draft Major Development Plan

Appendices to Volumes 1 and 2

November 2019

List of appendices to Volumes 1 and 2

Appendix A
Secretary's environmental assessment requirements

A1 General standard SEARs

Table A.1 General standard SEARs

Item	Requirement	Where addressed in this document?
1. Environmental Impact Assessment Process	1. The Environmental Impact Statement must be prepared in accordance with Part 3 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.	Certification page Section 3.4.1 Appendix C
	2. It is the Proponent's responsibility to determine whether the proposal needs to be referred to the Commonwealth Department of the Environment and Energy (DoEE) for an approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). If DoEE has determined that an approval is required under the EPBC Act, as supplementary environmental assessment requirements may need to be issued to ensure that a streamlined assessment under an Accredited Assessment can be achieved.	Section 3.3
	3. Where the proposal requires approval under the EPBC Act and is being assessed under the Bilateral Agreement the EIS should address: (a) Consideration of any Protected Matters that may be impacted by the development where the Commonwealth Minister has determined that the proposal is a Controlled Action. (b) Identification and assessment of those Protected Matters that are likely to be significantly impacted. (c) Details of how significant impacts to Protected Matters have been avoided, mitigated and, if necessary, offset. (d) Consideration of, and reference to, any relevant conservation advices, recovery plans and threat abatement plans.	Approval under the EPBC Act is not considered to be required – see section 3.3
	4. It is the Proponent's responsibility to determine those parts of the project located on Commonwealth-owned land leased to Sydney Airport Corporation Limited which need to be referred to the Australian Minister for Infrastructure, Transport and Regional Development for an approval under the *Airports Act 1996*.	Section 3.2
	5. The onus is on the Proponent to ensure legislative requirements relevant to the proposal are met.	Chapter 3
2. Environmental Impact Statement	1. The EIS must include, but not necessarily be limited to, the following:	
	(a) executive summary;	Executive summary
	(b) a description of the proposal, including key components and activities (including ancillary components and activities) required to construct and operate it, including -	Chapter 7 describes the components required to operate the project. The activities required to construct the project are described in Chapter 8.
	— the proposed route,	Section 7.1.1
	— all surface road work upgrades including road widening, intersection treatments, partial or full road closures and bridges,	Sections 7.3 to 7.8
	— pedestrian and cyclist facilities including any temporary changes resulting from construction activities,	Sections 7.9 and 8.6.4

Item	Requirement	Where addressed in this document?
	— construction and operational ancillary facilities and infrastructure,	Sections 7.10 and 8.4
	— the relationship of the proposal with existing and proposed road and freight transport services,	Chapter 5
	— all utility undertakings (relocations, augmentations, adjustments and protection works) which will be undertaken as part of the proposal; and	Sections 7.10.11 and 8.7
	— land use changes and acquisition of privately owned, council and crown land.	Sections 7.11.1 and 8.4.1 Chapter 19
	(c) a statement of the objective(s) of the proposal;	Section 5.3
	(d) a summary of the strategic need for the proposal with regard to its State significance and relevant State and Australian Government policy including transport, infrastructure and land use strategies and policies, and district plans;	Chapter 5
	(e) an analysis of any feasible alternatives to the proposal;	Section 6.3
	(f) a description of feasible options within the proposal, including the placement of any bridge piers within or in close proximity to Alexandra Canal;	Section 6.5
	(g) a description of how alternatives to and options within the proposal were analysed to inform the selection of the preferred alternative / option. The description must contain sufficient detail to enable an understanding of why the preferred alternative to and options(s) within the proposal were selected;	Chapter 6
	(h) a concise description of alternative construction methods that were analysed and preferred methods;	Section 6.4.3
	(i) a concise description of the general biophysical and socio-economic environment that is likely to be impacted by the proposal (including offsite impacts). Elements of the environment that are not likely to be affected by the proposal do not need to be described;	Chapter 2
	(j) a demonstration of how the proposal design has been developed to avoid or minimise likely adverse impacts;	Chapter 6
	(k) the identification and assessment of key issues as provided in the ‘Assessment of Key Issues’ performance outcome;	Part B
	(l) a statement of the outcome(s) the proponent will achieve for each key issue;	Section 27.4
	(m) measures to avoid, minimise or offset impacts must be linked to the impact(s) they treat, so it is clear which measures will be applied to each impact;	Section 27.3
	(n) consideration of the interactions between measures proposed to avoid or minimise impact(s), between impacts themselves and between measures and impacts;	Section 27.3
	(o) an assessment of the cumulative impacts of the proposal taking into account other proposals that have been approved but where construction has not commenced, projects that have commenced construction, and projects that have recently been completed;	Chapters 9 to 26

Item	Requirement	Where addressed in this document?
	(p) statutory context of the proposal as a whole, including: — how the proposal meets the provisions of the EP&A Act and EP&A Regulation; — a list of any approvals that must be obtained under any other Act or law before the proposal may lawfully be carried out;	Section 3.4 and Appendix C Sections 3.2 to 3.5
	(q) a chapter that synthesises the environmental impact assessment and provides: — a succinct but full description of the proposal for which approval is sought; — a description of any uncertainties that still exist around design, construction methodologies and/or operational methodologies and how these will be resolved in the next stages of the proposal; — a compilation of the impacts of the proposal that have not been avoided; — a compilation of the proposed measures associated with each impact to avoid or minimise (through design refinements or ongoing management during construction and operation) or offset these impacts; — a compilation of the outcome(s) the proponent will achieve; and — the reasons justifying carrying out the proposal as proposed, having regard to the biophysical, economic and social considerations, including ecologically sustainable development and cumulative impacts; and	Section 28.1 Section 27.5 Section 27.1 Section 27.3 Section 27.4 Section 28.2
	(r) relevant proposal plans, drawings, diagrams in an electronic format that enables integration with mapping and other technical software.	Throughout the EIS
	2. The EIS must only include data and analysis that is reasonably needed to make a decision on the proposal. Relevant information must be succinctly summarised in the EIS and included in full in appendices. Irrelevant, conflicting or duplicated information must be avoided.	Throughout the EIS
3. Assessment of key issues	1. The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issue, within the context of the proposal location and the surrounding environment. The level of assessment must be commensurate to the degree of impact and sufficient to ensure that the Department and other government agencies are able to understand and assess impacts.	Chapters 9 to 26
	2. For each key issue the Proponent must: (a) describe the biophysical and socio-economic environment, as far as it is relevant to that issue; including adequate baseline data;	A general description of the biophysical and socio-economic environment is provided in section 2.2. Further detail is provided in Chapters 9 to 26.
	(b) describe the legislative and policy context, as far as it is relevant to the issue;	Chapters 9 to 26
	(c) identify, describe and quantify (if possible) the impacts associated with the issue, including the likelihood and consequence (including worst-case scenario of the impact (comprehensive risk assessment), the impacts of concurrent activities within the proposal, and cumulative impacts;	Chapters 9 to 26 Technical Working Papers 1 to 17

Item	Requirement	Where addressed in this document?
	(d) demonstrate how options within the proposal potentially affect the level of impacts relevant to the issue;	Sections 6.4 and 6.5
	(e) demonstrate how potential impacts have been avoided (through design, or construction or operation methodologies);	An overview of how the design has been developed to minimise potential impacts is provided in sections 6.4 and 6.5. A description of how further impacts would be avoided during construction and operation are provided in Chapters 9 to 26.
	(f) detail how likely impacts that have not been avoided through design will be minimised, and the predicted effectiveness of these measures (against performance criteria where relevant); and	Chapters 9 to 26
	(g) detail how any residual impacts will be managed or offset, and the approach and effectiveness of these measures.	Chapters 9 to 26
	3. Where multiple reasonable and feasible options to avoid or minimise impacts are available, they must be identified and considered and the proposed measure justified taking into account the public interest.	Technical Working Papers 1 to 17
4. Consultation	1. The proposal must be informed by consultation, including with relevant local, State and Commonwealth government agencies, infrastructure and service providers, special interest groups, affected landowners, businesses and the community.	Section 4.1
	2. The Proponent must document the consultation process and demonstrate how the proposal has responded to the inputs received.	Sections 4.2 and 4.3
	3. The Proponent must describe the timing and type of community consultation proposed during the design and delivery of the proposal, the mechanisms for community feedback, the mechanisms for keeping the community informed, and procedures for complaints handling and resolution.	Section 4.4

A2 Key issue SEARs

Table A.2 Key issue requirements

Key issue	Requirement	Where addressed in this document?
1. Transport and Traffic	1. The Proponent must assess construction transport and traffic (network, vehicle (including freight traffic), pedestrian and cyclists impacts), including, but not necessarily limited to:	
	(a) a considered approach to route identification and scheduling of construction vehicle movements, with particular consideration of traffic impacts and transport movements outside standard construction hours including cumulative impacts;	Chapter 8 Section 5.1.5 of Technical Working Paper 1
	(b) the indicative number, frequency and size of construction related vehicles (passenger, commercial and heavy vehicles, including spoil management movements);	Chapter 8 Section 5.1.7 of Technical Working Paper 1
	(c) construction worker parking;	Chapter 8 Section 5.1.4 of Technical Working Paper 1
	(d) the nature of existing traffic (types and number of movements) on construction access routes (including consideration of peak traffic times, pedestrians and cyclists and parking arrangements);	Sections 9.2.2, 9.2.5, 9.2.6
	(e) access constraints and impacts on public transport, pedestrians and cyclists (infrastructure and services);	Sections 9.3.4 and 9.3.5
	(f) the need to close, divert or otherwise reconfigure elements of the road, pedestrian and cycle network associated with construction of the proposal and the duration of these changes; and	Sections 8.3.3, 8.6.5 and 9.3.1
	(g) impacts to on street parking, including for residents and businesses;	Section 9.3.7
	(h) cumulative impacts on the road, pedestrian and cycle network from other key infrastructure proposals including but not limited to the Botany Rail Duplication and New M5.	Section 9.5.1
	2. The Proponent must assess (and model) the operational transport impacts of the proposal, including: (a) forecast travel demand and road traffic volumes for the proposal and the surrounding road, airport, freight, port, cycle and public transport network;	Sections 9.4.1, 9.4.6 and 9.4.7
	(b) travel time analysis for the different road transport modes	Section 9.4.2
	(c) performance of key interchanges and intersections by undertaking a level of service analysis at key locations;	Sections 9.4.3 and 9.4.4
	(d) wider transport interactions (local and regional roads, cycling, public transport, airport, port and freight transport);	Sections 9.4.1 to 9.4.7
	(e) induced traffic and operational implications for public transport (particularly with respect to strategic bus corridors and bus routes) and consideration of opportunities to improve public transport;	Sections 9.1.2 and 9.4.6
	(f) property and business access and on-street parking.	Sections 9.4.8 and 9.4.9

Key issue	Requirement	Where addressed in this document?
2. Noise and Vibration - Amenity	1. The Proponent must assess construction and operational noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must consider cumulative impacts from nearby key infrastructure proposals and take into consideration and address the noise impacts arising from the redistribution of traffic (including on local feeder roads), and operational plant and equipment.	Chapter 10 Technical Working Paper 2
	The assessment must also include consideration of impacts to sensitive receivers and include consideration of sleep disturbance (including the number of noise awakening events), and, as relevant, the characteristics of noise and vibration (for example, low frequency noise).	
	2. An assessment of construction noise and vibration impacts which must address: (a) the nature of construction activities (including transport, tonal or impulsive noise-generating works, as relevant);	Sections 10.1 and 10.2.1
	(b) the intensity and duration of noise (both air and ground borne) and vibration impacts. This must include consideration of extended impacts associated with ancillary facilities (and the like) and construction fatigue;	Sections 10.1, 10.2.1, 10.4 and 10.7
	(c) the identification of receivers, existing and proposed, during the construction period;	Section 10.3.1
	(d) the nature of the impact and, the sensitivity of receivers and level of impact;	Section 10.4
	(e) the need to balance timely conclusion of noise and vibration-generating works with periods of receiver respite, and other factors that may influence the timing and duration of construction activities (such as traffic management);	Section 10.7
	(f) noise impacts of out-of-hours works (including utility works), possible locations where out-of-hours works would be undertaken, the activities that would be undertaken, the estimated duration of those activities and justification for these activities in terms of the *Interim Construction Noise Guideline* (DECCW, 2009);	Sections 8.3.3 and 10.4.2
	(g) a cumulative noise and vibration assessment inclusive of impacts from the proposal, including concurrent construction activities within the proposal and the construction of other relevant development in the vicinity of the proposal;	Section 10.6
	(h) details and analysis of the predicted effectiveness of mitigation measures to adequately manage identified impacts, including impacts as identified in (g), and any potential residual noise and vibration impacts following application of mitigation measures; and	Section 10.7
	(i) a description of how sensitive receiver feedback received during the preparation of the EIS has been taken into account (and would be taken into account post exhibition of the EIS) in the design of mitigation measures, including any tailored mitigation, management and communication strategies for sensitive receivers.	Section 10.7.1 and Chapter 4
	3. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	No blasting required
3. Noise and Vibration - Structural	1. The Proponent must assess construction and operational noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to the structural integrity and heritage significance of items (including Aboriginal places and items of environmental heritage), including cumulative impacts resulting from the Botany Rail Duplication	Sections 10.4 and 10.5 Technical Working Paper 2

Key issue	Requirement	Where addressed in this document?
	2. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	No blasting required
4. Place Making and Urban Design	1. The Proponent must identify how functional 'place' outcomes of public benefit will be achieved, including design principles and strategies that:	
	(a) consider areas identified for future urban renewal;	Section 7.12.2
	(b) identify areas of reduced traffic volumes and reduction of traffic permeation, particularly in and around commercial and community centres;	Section 7.12.2 and Chapter 9
	(c) avoid locating infrastructure, including ancillary facilities, adjoining residential areas and other sensitive receivers, and justify where this cannot be achieved;	Section 7.12.2
	(d) achieve high quality landscape design, streetscapes, architecture and design;	Section 7.12.2
	(e) identify and incorporate urban design strategies and identify opportunities that will enhance healthy, cohesive and inclusive communities, including in relation to accessibility and connectivity;	Section 7.12.2
	(f) consider residual land treatments, and demonstrate how the proposed hard and soft urban design elements of the proposal would be consistent with the existing and desired future character of the area traversed or affected by the proposal;	Section 7.12.2 to 7.12.4
	(g) identify opportunities to utilise surplus or residual land, particularly for the provision of community space (passive and recreational) and the process for determining ongoing maintenance of the lands; and	Section 7.12.4
	(h) explore the use of Crime Prevention Through Environmental Design (CPTED) principles during the design development process, including natural surveillance during the design development process, including natural surveillance, lighting, walkways, signage and landscape.	Section 7.12.2
	2. The Proponent must describe the accessibility elements of the proposal including relevant accessibility legislation and guidelines, including: (a) Impacts on public transport infrastructure and services;	Sections 9.3.4 and 9.4.6
	(b) impacts on cyclists and pedestrian access, amenity and safety across and adjoining the proposal, including the relocation of cycle routes and delivery of new cycleways around the airport and Alexandra Canal; and	Sections 7.9, 8.6.4, 9.3.5 and 9.4.7
	(c) opportunities to integrate and enhance accessibility including the provisions for public and active transport infrastructure as a result of the proposal.	Sections 9.4.7 and 4 and Appendix B of Technical Working Paper 1
	3. The Proponent must: (a) estimate the number of trees to be cleared by the proposal (a tree is defined by *Australian Standard (AS) 4970 Protection of trees on development sites*) that will not be covered by a biodiversity offset strategy; and	Section 21.3.3
	(b) for those trees to be cleared, describe how the proposal will achieve a net increase in tree canopy within or adjacent to the construction footprint.	Section 21.3.3

Key issue	Requirement	Where addressed in this document?
5. Visual Amenity	1. The Proponent must assess the visual impact of the proposal and any ancillary infrastructure on: (a) views and vistas;	Sections 21.3 and 21.4.2
	(b) streetscapes, key sites and buildings (including existing landscape works, greenspace and tree canopy);	Sections 21.3, 21.4.1 and 21.4.2
	(c) heritage items including Aboriginal places and environmental heritage;	Section 17.4.1
	(d) the local community.	Sections 21.3, 21.4.1 and 21.4.2
	2. The Proponent must provide visual representations of the proposal from key receiver locations to illustrate the proposal and its visual impacts and how the proposal has responded to the visual impact through urban design and landscape works.	Sections 21.4.2 and 21.6.1
6. Socio-economic, Land Use and Property	1. The Proponent must assess social and economic impacts in accordance with the current guidelines.	Sections 20.3 and 20.4
	2. The Proponent must assess the social and economic impacts from construction and operation on potentially affected properties, infrastructure, utility services, businesses (including impacts to freight management associated with the reduction of container storage, and consequent impacts to the broader industry), recreational users and land and water users, and	Chapter 19 Sections 20.3 and 20.4
	3. The assessment must address as relevant, how environmental changes in the locality may affect people's: (a) way of life; (b) community; (c) access to and use of infrastructure, services and facilities (including recreational facilities and open space); (d) culture; (e) health and wellbeing; (f) surroundings; and (g) relevant statutory rights including personal and property rights.	Sections 20.3 and 20.4 No personal property rights would be affected by this project. Relevant statutory rights are discussed in Chapter 19 Potential health impacts are discussed in Chapter 23.
	It must also consider how different groups may be disproportionately affected and communities severed by the proposal.	Sections 20.3 and 20.4
7. Heritage	1. The Proponent must identify and assess any direct and/or indirect impacts (including cumulative impacts and visual impacts) to the heritage significance of:	
	(a) Aboriginal places, objects and cultural heritage values, as defined under the *National Parks and Wildlife Act 1974* and in accordance with the principles and methods of assessment identified in the current guidelines;	Chapter 18
	(b) Aboriginal places of heritage significance, as defined in the Standard Instrument – Principal Local Environmental Plan;	Section 18.2.2
	(c) environmental heritage, as defined under the *Heritage Act 1977;*	Chapter 17
	(d) items listed on State, National and World Heritage lists;	Sections 17.3 and 17.4
	(e) heritage items and conservation areas identified in local and regional planning environmental instruments applicable to the proposal area	Sections 17.3 and 17.4

Key issue	Requirement	Where addressed in this document?
	2. Where impacts to State or locally significant heritage items are identified, the assessment must:	
	(a) include a significance assessment, a statement of heritage impact for all heritage items including the Alexandra Canal, Cooks River Container Terminal and Mascot underbridges (O'Riordan and Robey Streets) (including significance assessment) and a historical archaeological assessment;	Sections 17.3 and 17.4
	(b) assess the consistency of the Proposal against conservation policies of any relevant conservation management plan, including the Conservation Management Plan for Alexandra Canal (NSW Department of Commerce, 2004);	Appendix B of Technical Working Paper 9
	(c) consider impacts to the item of significance caused by, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence, architectural noise treatment, drainage infrastructure, contamination remediation and site compounds (as relevant)	Sections 17.3 and 17.4
	(d) outline measures to avoid and minimise those impacts during construction and operation in accordance with the current guidelines; and	Section 17.6
	(e) be undertaken by a suitably qualified heritage consultant(s) and/or historical archaeologist (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria).	The assessment was undertaken by qualified heritage consultants (see section 1.6 of Technical Working Paper 9).
	3. Where archaeological investigations of Aboriginal objects are proposed these must be conducted by a suitably qualified archaeologist, in accordance with section 1.6 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010).	Section 18.6.1
	4. Where impacts to Aboriginal objects and/or places are proposed, consultation must be undertaken with Aboriginal people in accordance with the current guidelines.	Sections 18.1.2 and 18.6.2
8. Biodiversity	1. The Proponent must assess biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016* (BC Act), the Biodiversity Assessment Method (BAM) and be documented in a Biodiversity Assessment Report (BDAR) unless a BDAR waiver had been sought, where applicable.	Technical Working Paper 14
	2. The BDAR must include information in the form detailed in section 6.12 of the BC Act, clause 6.8 of the *Biodiversity Conservation Regulation 2017*, and the BAM.	Section 22.1.2
	3. The BDAR must be submitted with all digital spatial data associated with the survey and assessment as per Appendix 10 of the BAM.	Digital spatial data has been provided to the Department of Planning, Industry and Environment.
	4. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the *Biodiversity Assessment Method Order 2017* under section 6.10 of the BC Act	Section 2.4 of Technical Working Paper 14
	5. The BDAR must include details of the measures proposed to address offset obligations.	Section 22.5
	6. The Proponent must assess any impacts on biodiversity values not covered by the BAM. This includes a threatened aquatic species assessment (*Part 7A Fisheries Management Act 1994* – FM Act) to	Sections 22.3 to 22.5

Key issue	Requirement	Where addressed in this document?
	address whether there are likely to be any significant impacts on listed threatened species, populations or ecological communities listed under the FM Act.	
	7. The Proponent must identify whether the proposal, or any component of the proposal, would be classified as a Key Threatening Process (KTP) in accordance with the listings in the BC Act, FM Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).	Section 22.3.5
9. Flooding	1. The EIS must include maps illustrating the following features relevant to flooding as described in the *NSW Floodplain Development Manual 2005* (2005): (a) flood prone land; (b) flood planning areas, the area below the flood planning level; (c) hydraulic categorisation (floodways and flood storage areas); and (d) flood hazard	Section 14.2.2 and Figure 14.2 to Figure 14.6
	2. The Proponent must assess and (model) the impacts on flood behaviour during construction and operation for a full range of flood events (including a minimum of the 5% Annual Exceedance Probability (AEP), 1% AEP) up to the probable maximum flood (taking into account sea level rise and storm intensity due to climate change) including:	
	(a) any detrimental increases in the potential flood affectation of other properties, assets and infrastructure;	Section 14.3.1
	(b) consistency (or inconsistency) with applicable Council floodplain risk management plans/studies;	Section 14.3.2
	(c) compatibility with the flood hazard of the land;	Section 14.3.3
	(d) compatibility with the hydraulic functions of flow conveyance in flood ways and storage areas of the land;	Section 14.3.4
	(e) adverse effects to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the proposal;	Section 14.3.5
	(f) redirection of flow, flow velocity and scour potential (including erosion, siltation, and bank stability of water courses from removal of riparian vegetation);	Section 14.3.6
	(g) impacts the development may have upon existing community emergency management arrangements for the full range of flood risks. These matters must be discussed with the State Emergency Services and Council; and	Section 14.3.7
	(h) any impacts the development may have on the social and economic costs to the community as consequence of flooding;	Section 14.3.8
	3. The assessment should take into consideration any flood studies undertaken by local government councils and State government agencies.	Section 14.1.2
10. Water - Hydrology	1. The Proponent must describe (and map) the existing hydrological regime for any surface and groundwater resource (including reliance by users and for ecological purposes) likely to be impacted by the proposal, including rivers, streams, estuaries and wetlands as described in the BAM.	Section 15.2 and Figure 15.2 Section 16.2 and Figure 16.1 Chapter 22
	2. The Proponent must prepare a detailed water balance for ground and surface water including the proposed intake from all water supply options and discharge locations (including figures showing these locations), volume, frequency, duration and proposed water conservation and reuse measures for both the construction and operation of the proposal.	Sections 15.3.3,15.4.3, 16.3.1 and 16.4.1
	3. The Proponent must assess (and model if appropriate) the impact of the construction and operation of the proposal and any ancillary facilities (both	

Key issue	Requirement	Where addressed in this document?
	built elements and discharges) on surface and groundwater hydrology in accordance with the current guidelines, including:	
	(a) natural processes within rivers, wetlands, estuaries, marine waters and floodplains that affect the health of the fluvial, riparian, estuarine or marine system and landscape health (such as modified discharge volumes, durations and velocities), aquatic connectivity and access to habitat for spawning and refuge;	Sections 15.3 and 15.4 Sections 16.3.1, 16.3.2, 16.4.1 and 16.4.2 Chapter 22
	(b) impacts from any permanent and temporary interruption of groundwater flow, including the extent of drawdown, barriers to flows, implications for groundwater dependent surface flows, ecosystems and species, groundwater users and the potential for settlement;	Sections 15.3.1 and 15.4.1
	(c) changes to environmental water availability and flows, both regulated/licensed and unregulated/rules-based sources;	Sections 15.3.3 and 15.4.3 Not relevant for surface water
	(d) direct or indirect increases in erosion, siltation, destruction of aquatic and riparian vegetation or a reduction in the stability of river banks or watercourses;	Sections 16.3.1, 16.3.2, 16.4.1 and 16.4.2 Chapter 22
	(e) minimising the effects of proposed stormwater and wastewater management during construction and operation on natural hydrological attributes (such as volumes, flow rates) and on the conveyance capacity of the existing stormwater systems where discharges are proposed through such systems; and	Sections 16.3.1 and 16.4.1
	(f) water take (direct or passive) from all surface and groundwater sources with estimates of annual volumes during construction and operation.	No water take (direct or passive) of surface water is proposed. Sections 15.3.3 and 15.4.3 (groundwater take)
	4. The Proponent must identify any requirements for baseline monitoring of hydrological attributes.	Sections 15.6 and 16.6.1
	5. The assessment must include details of proposed surface and groundwater monitoring.	Sections 15.6 and 16.6.1
11. Water - Quality	1. The Proponent must: (a) describe the background conditions for any surface and groundwater resources likely to be affected by the proposal including leachate from Tempe Tip;	Sections 15.2 and 16.2.3 Chapter 15 Technical Working Paper 16 – Landfill Assessment
	(b) state the ambient NSW Water Quality Objectives (NSW WQO) and environmental values for the receiving waters relevant to the proposal, including the indicators and associated trigger values or criteria for the identified environmental values;	Section 16.14 Table 16.2 Appendix B of Technical Working Paper 8 – Surface Water
	(c) identify and estimate the quality and quantity of all pollutants that may be introduced into the water cycle by source and discharge point and describe the nature and degree of impact that any discharge(s) may have on the receiving environment, including consideration of all	Sections 15.3.1, 15.3.2, 15.4.1, 15.4.2,16.31, 16.3.2, 16.4.1 and 16.4.2

Key issue	Requirement	Where addressed in this document?
	pollutants (including contaminated groundwater) that pose a risk of non-trivial harm to human health and the environment;	
	(d) assess the impacts of leachate generation from proposal related activities on the Tempe Tip Site and proposed measures for managing potential impacts during construction and operation;	Sections 15.3.3, 15.4.3, 15.6, 16.3.2 16.4.2
	(e) describe the proposed measures for treating and disposing of construction and operational wastewater flows;	Sections 16.1.4, 16.3.1 and 16.4.1
	(f) identify the rainfall event that the water quality protection measures will be designed to cope with;	Section 7.10.8
	(g) assess the significance of any identified impacts including consideration of the relevant ambient water quality outcomes;	Sections 16.3 and 16.4
	(h) demonstrate how construction and operation of the proposal will, to the extent that the proposal can influence, ensure that: – where the NSW WQOs for receiving waters are currently being met they would continue to be protected; and – where the NSW WQOs are not currently being met, activities would work toward their achievement over time;	Sections 16.3.2 and 16.4.2
	(i) justify, if required, why the WQOs cannot be maintained or achieved over time;	Sections 16.3.2 and 16.4.2
	(j) demonstrate that all practical measures to avoid or minimise water pollution and protect human health and the environment from harm are investigated and implemented;	Sections 15.6 and 16.6
	(k) identify sensitive receiving environments (which may include estuarine and marine waters downstream) and develop a strategy to avoid or minimise impacts on these environments; and	Sections 16.2.3 and 16.6
	(l) identify proposed monitoring locations, monitoring frequency and indicators of surface and groundwater quality.	Sections 15.6 and 16.6.1
	2. The assessment should consider the results of any current water quality studies, as available, for the catchment areas traversed by the proposal.	Sections 15.1.2, 16.1.2, 16.1.4 and 16.2.3
12. Contamination	1. The Proponent must assess the potential for contamination and any impacts associated with the management of contaminated soils and water resources including, but not limited to: (a) a detailed assessment of the extent and nature of any contamination of the soil, groundwater and soil vapour including from activities on Tempe Tip and PFAS;	Section 13.2
	(b) an assessment of potential risks to human health and the environmental receptors in the vicinity of the site;	Sections 13.3 and 13.4
	(c) a description and appraisal of any mitigation and monitoring measures; and	Section 13.6
	(d) consideration of whether the site is suitable for the proposed development.	Section 13.4.3
	2. Any assessment of contamination must be in accordance with relevant guidelines produced or approved under the *Contaminated Land Management Act 1997*.	Section 13.1
	3. All reports prepared for the assessment of contamination must be prepared, or reviewed and approved, by a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.	Technical Working Paper 5

Key issue	Requirement	Where addressed in this document?
	4. The Proponent must assess whether the land is likely to be contaminated and identify if remediation of the land is required, having regard to the ecological and human health risks posed by the contamination in the context of past, existing and future land uses. Where assessment and/or remediation is required, the Proponent must document how the assessment and/or remediation would be undertaken in accordance with current guidelines.	Section 13.3 Section 13.6.1
13. Soils	1. The Proponent must verify if the proposal is on land marked as Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map or within 500 m of adjacent Class 2, 3 or 4 land that is below 5 m Australian Height Datum (AHD) and where the proposal is likely to lower the water table in this adjacent land below 1 m AHD.	Section 13.2.2
	2. The Proponent must assess the impact of the proposal on acid sulfate soils (including the impacts of acidic runoff offsite) in accordance with the current guidelines.	Sections 13.3.3 and 13.4.4
	3. The Proponent must assess whether salinity is likely to be an issue and if so, determine the presence, extent and severity of soil salinity within the proposal area.	Sections 13.2.2, 13.3.3 and 13.4.4
	4. The Proponent must assess the impacts of the proposal on soil salinity and how it may affect groundwater resources and hydrology.	Sections 13.3.3 and 13.4.4 Chapter 15
	5. The Proponent must assess the impacts on soil and land resources (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines.	Sections 13.2.2, 13.3.3 and 13.4.4 Chapter 16
14. Air quality	1. The Proponent must undertake an air quality impact assessment (AQIA) for construction and operation of the proposal in accordance with the current guidelines.	Technical Working Paper 4
	2. The Proponent must ensure the AQIA also includes the following: (a) demonstrated ability to comply with the relevant regulatory framework, specifically the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Operations (Clean Air) Regulation 2010*;	Section 12.1
	(b) the identification of all potential sources and types of air pollution (including $PM1_0$, $PM_{2.5}$, CO, NO_X, volatile organic compounds and odour sources) during construction and operation including mechanically generated combustion and transport related emissions and potential for landfill gas generation from the Tempe Tip site;	Sections 12.4 and 12.5
	(c) any proposed air quality monitoring;	Section 12.7
	(d) a cumulative local and regional air quality impact assessment including impacts generated by the operation of nearby key infrastructure proposals such as (but not limited to) the New M5, M4-M5 Link and Botany Rail Duplication; and	Section 12.6
	(d) proposed construction and operational management measures.	Section 12.7
15. Health and Safety	1. The Proponent must assess the potential health impacts of the proposal, in accordance with the current guidelines.	Technical Working Paper 15
	2. The assessment must: (a) describe the current known health status of the potentially affected population;	Section 23.2.2
	(b) assess health risks associated with exposure to environmental hazards;	Sections 23.3.1 and 23.4.1

Key issue	Requirement	Where addressed in this document?
	(c) assess the effect of the proposal on other relevant determinants of health such as the level of physical activity and access to social infrastructure;	Sections 23.3.1 and 23.4.1
	(d) assess opportunities for health improvement;	Sections 23.3.1 and 23.4.1
	(e) assess the distribution of the health risks and benefits;	Sections 23.3.1 and 23.4.1
	(f) assess the potential for construction fatigue and outline proposed management measures; and	Sections 23.3.1
	(g) discuss how, in the broader social and economic context of the proposal, the proposal will minimise negative health impacts while maximising the health benefits.	Sections 23.3.1 and 23.4.1
	3. The Proponent must assess the likely risks of the proposal to public safety, paying particular attention to pedestrian and cyclist safety, subsidence risks, bushfire risks and the handling and use of dangerous goods.	Sections 23.3.2 to 23.3.5, 23.4.2 and 23.4.4 There are no subsidence risks
16 Hazards and Risks	1. The EIS must: (a) report on the consultation outcomes with all operators of high pressure dangerous goods (HPDG) pipelines licensed under the *Pipelines Act 1967* within or in the vicinity of the proposal with regards to the relevant sections of the *Australian Standard AS 2885 Pipelines – Gas and liquid petroleum*;	Section 23.3.3
	(b) demonstrate that, during the construction and operation phases of the proposal, the proposal would not lead to non-compliance of the existing HPDG pipelines licensed under the *Pipelines Act 1967* with the current edition of *AS 2885 Pipelines – Gas and liquid petroleum*; and	Sections 23.3.3 and 23.4.4
	(c) include a preliminary risk screening completed in accordance with *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33* (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the proposal during construction and operation phase. Should preliminary screening indicate that the development is "potentially hazardous," during construction and or operation phase, a Preliminary Hazard Analysis (PHA) must be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011)* and *Multi-Level Risk Assessment* (DoP, 2011).	Section 23.3.5
	2. The EIS must outline the process for assessing the risks of the proposal on airport operations, including encroachment into the prescribed airspace, potential impacts to airport Communication, Navigation and Surveillance Systems, light spill and landscaping associated with the construction and operation of the proposal.	Sections 11.1, 11.3 and 11.4 Technical Working Paper 3
17. Sustainability	1. The Proponent must assess the sustainability of the proposal in accordance with the Infrastructure Sustainability Council of Australia (ISCA) *Infrastructure Sustainability Rating Tool* and recommend an appropriate target rating for the proposal.	Section 25.2.1
	2. The Proponent must assess the proposal against the current guidelines including targets and strategies to improve Government efficiency in use of water, energy and transport.	Section 25.2.2

Key issue	Requirement	Where addressed in this document?
18. Waste	1. The Proponent must assess predicted waste generated from the proposal during construction and operation, including:	
	(a) classification of the waste in accordance with the current guidelines;	Sections 24.2.1 and 24.3.1
	(b) estimates / details of the quantity of each classification of waste to be generated during the construction of the proposal, including bulk earthworks and spoil balance;	Sections 8.2.3 and 24.2.1
	(c) handling of waste including measures to facilitate segregation and prevent cross contamination;	Sections 24.2.3 and 24.3.3
	(d) management of waste including estimated location and volume of stockpiles;	Sections 24.2.3, 24.3.3 and 24.5
	(e) waste minimisation and reuse;	Sections 24.2.3 and 24.3.3
	(f) lawful disposal or recycling locations for each type of waste; and	Sections 24.2.3
	(g) contingencies for the above, including managing unexpected waste volumes.	Sections 24.2.3 and 24.5
	2. The Proponent must assess potential environmental impacts from the excavation, handling, storage on site and transport of the waste particularly with relation to sediment/leachate control, noise and dust.	Sections 24.2.2 and 24.3.2
19. Climate Change Risk	1. The Proponent must assess the risk and vulnerability of the proposal to climate change in accordance with the current guidelines.	Section 26.1
	2. The Proponent must quantify specific climate change risks with reference to the NSW Government's climate projections at 10 km resolution (or lesser resolution if 10 km projections are not available) and incorporate specific adaptation actions in the design.	Sections 26.1.2, 26.2 and 26.3
	3. The EIS must include a qualitative assessment of changes to the heat island effect in the local area.	Section 26.2.1

Appendix B
Major development plan and building activity requirements under the Airports Act

B1 Required contents of a major development plan

Section 91 of the *Airports Act 1996* (Cth) (Contents of a major development plan) defines the requirements for a major development plan. These requirements are listed in Table B.1, together with where they are addressed in this document.

Table B.1 Required contents of a major development plan under Section 91 of the Airports Act

Section no.	Issue	Requirement	Where addressed in this document?
91(1A)	**Purpose**	The purpose of a major development plan in relation to an airport is to establish the details of a major airport development that: (a) relates to the airport; and	Chapters 7 and 8
		(b) is consistent with the airport lease for the airport and the final master plan for the airport.	Section 3.7
91(1)	**Content requirements**	A major development plan, or a draft of such a plan, must set out:	
	Objectives	(a) the airport-lessee company's objectives for the development; and	The objectives of the project are provided in section 5.3
	Extent to which airport users' needs will be met	(b) the airport-lessee company's assessment of the extent to which the future needs of civil aviation users of the airport, and other users of the airport, will be met by the development; and	Section 5.2.2
	Project description	(c) a detailed outline of the development; and	Chapters 7 and 8
	Consistency with airport lease	(ca) whether or not the development is consistent with the airport lease for the airport; and	Section 3.7
	Consistency with master plan	(d) if a final master plan for the airport is in force—whether or not the development is consistent with the final master plan; and	Section 3.6 (summary) and Chapters in Part B (further detail)
	Effect on noise exposure levels	(e) if the development could affect noise exposure levels at the airport—the effect that the development would be likely to have on those levels; and	Chapter 10
	Effect on flight paths	(ea) if the development could affect flight paths at the airport—the effect that the development would be likely to have on those flight paths; and	Chapter 11
	Plans to manage aircraft noise intrusion	(f) the airport-lessee company's plans, developed following consultations with the airlines that use the airport, local government bodies in the vicinity of the airport and—if the airport is a joint user airport—the Defence Department, for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels; and	The project would not result in aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels
	Approvals required	(g) an outline of the approvals that the airport-lessee company, or any other person, has sought, is seeking or proposes to seek under Division 5 or Part 12 in respect of elements of the development; and	Chapter 3

Section no.	Issue	Requirement	Where addressed in this document?
91(1)	**Effect of the development on:**	(ga) the likely effect of the proposed developments that are set out in the major development plan, or the draft of the major development plan, on	
	• Traffic flows	(i) traffic flows at the airport and surrounding the airport; and	Chapter 9
	• Employment	(ii) employment levels at the airport; and	Chapter 20
	• Local and regional economy and community	(iii) the local and regional economy and community, including an analysis of how the proposed developments fit within the local planning schemes for commercial and retail development in the adjacent area; and	Chapter 20 (economy and community) and Chapter 19 (consistency with planning schemes)
	Assessment of environmental impacts	(h) the airport-lessee company's assessment of the environmental impacts that might reasonably be expected to be associated with the development; and	Chapters in Part B (summary) and Technical Working Papers
	Plans for dealing with environmental impacts	(j) the airport-lessee company's plans for dealing with the environmental impacts mentioned in paragraph (h) (including plans for ameliorating or preventing environmental impacts); and	Chapters in Part B and Chapter 29 (consolidated measures)
	Sensitive development	(k) if the plan relates to a sensitive development—the exceptional circumstances that the airport-lessee company claims will justify the development of the sensitive development at the airport; and	The project is not a sensitive development as defined by section 71A(2) of the Airports Act
	Matters specified in the regulations	(l) such other matters (if any) as are specified in the regulations	See Table B.2
91(2)		Paragraphs (1)(a) to (k) (inclusive) do not, by implication, limit paragraph (1)(l).	n/a
91(3)		The regulations may provide that, in specifying a particular objective, assessment, outline or other matter covered by subsection (1), a major development plan, or a draft of such a plan, must address such things as are specified in the regulations.	See Table B.2
91(4)	**For particular objectives or proposals, the plan must address:**	In specifying a particular objective or proposal covered by paragraph (1)(a), (c) or (ga), a major development plan, or a draft of a major development plan, must address:	
	• Consistency with planning schemes in force	(a) the extent (if any) of consistency with planning schemes in force under a law of the State in which the airport is located; and	Chapter 19
	• Justification for any inconsistencies	(b) if the major development plan is not consistent with those planning schemes--the justification for the inconsistencies.	Chapter 19

Table B.2 Requirements of clause 5.04 (Contents of a major development plan) of the Airports Regulations 1997

Clause no.	Requirements	Where addressed?
5.04	For subsection 91 (3) of the Act, a major development plan must address the obligations of the airport-lessee company as sublessor under any sublease of the airport site concerned, and the rights of the sublessee under any such sublease, including:	
	(a) any obligation that has passed to the relevant airport-lessee company under subsection 22 (2) of the Act or subsection 26 (2) of the Transitional Act	Section 3.7
	(b) any interest to which the relevant airport lease is subject under subsection 22 (3) of the Act, or subsection 26 (3) of the Transitional Act.	Section 3.7

B2 Requirements in relation to approval of a major development plan

Section 94 of the Airports Act (Approval of major development plan by Minister) defines the requirements for approval of a major development plan. These requirements are listed in Table B.3, together with where they are addressed in this document.

Table B.3 Matters for consideration under section 94 of the Airports Act

Section no.	Matters for consideration	Where addressed?
94(3)	In deciding whether to approve the plan, the Minister must have regard to the following matters: (aa) the extent to which the plan achieves the purpose of a major development plan (see subsection 91(1A));	Section 3.2.1
	(a) the extent to which carrying out the plan would meet the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport;	Section 5.2.2
	(b) the effect that carrying out the plan would be likely to have on the future operating capacity of the airport;	Chapters 5 and 9
	(c) the impact that carrying out the plan would be likely to have on the environment;	Chapters in Part B (summary) and Technical Working Papers
	(d) the consultations undertaken in preparing the plan (including the outcome of the consultations);	Chapter 4
	(e) the views of the Civil Aviation Safety Authority and Airservices Australia, in so far as they relate to safety aspects and operational aspects of the plan	CASA and Airservices will review the draft MDP and provide advice
	(f) if the plan relates to a sensitive development …	The project is not a sensitive development as defined by section 71A(2) of the Airports Act

B3 Requirements in relation to approval of an application for building approval

The requirements that must be taken into account when considering an application for consent are defined by clause 2.04 of the Airports (Building Control) Regulations 1996. These requirements are listed in Table B.3, together with where they are addressed in this document.

Table B.4 Requirements of the Airports (Building Control) Regulations 1996 – considerations for grant or refusal of consent

Clause no.	Requirements	Where addressed?
2.04(1)	(1) An airport-lessee company must not refuse consent to an application for building approval unless the proposed building activity is inconsistent with: (a) the final master plan for the airport (if any); or	Section 3.6 (summary) and Chapters in Part B (further detail)
	(b) an approved major development plan for the airport (if any); or	Section 3.6.2
	(c) the final environment strategy (if any), under Part 6 of the Act, for the airport; or	Section 3.6 (summary) and Chapters in Part B (further detail)
	(d) the airport-lessee company's planning objectives for the airport.	Appendix D
2.04(2)	An airport-lessee company must not refuse consent to an application for building approval if, to do so, would be inconsistent with an obligation of the company, relating directly or indirectly to approval of the building activity:	
	(a) as lessor under a sublease to which subsection 22 (2) of the Act, or subsection 26 (2) of the Airports (Transitional) Act 1996, applies; or	n/a
	(b) under an interest to which subsection 22 (3) of the Act, or subsection 26 (3) of the Airports (Transitional) Act 1996, applies.	n/a
2.04(3)	In determining whether to refuse consent because a proposed building activity is inconsistent with a plan mentioned in paragraph (l) (a), (b) or (c), the airport-lessee company must have regard to the significance of the inconsistency.	n/a
2.04(4)	In determining whether to refuse consent because a proposed building activity is inconsistent with planning objectives for the airport, the airport-lessee company must have regard to the significance of the inconsistency and, in particular, to:	
	(a) the type, location, shape, size, height, density, design and external appearance of the development that will result from the proposed building activity; and	Chapter 7
	(b) if a building is intended to be constructed — the siting of the building in relation to the size, and shape, of the site it will occupy; and	Chapter 7
	(c) the relationship the results of the activity will have: (i) to existing buildings and other structures on adjoining land at the airport; and (ii) to other approved development on adjoining land at the airport; and	Chapters 7 and 19
	(d) if appropriate — the proposed means of entrance to, and exit from, the resulting development and, in particular, whether adequate provision has been made for loading, unloading, manoeuvring and parking of vehicles; and	Chapter 9
	(e) if appropriate — the management of travel of vehicles and pedestrians to and from the resulting development; and	Chapter 9

Clause no.	Requirements	Where addressed?
	(f) the impact the building activity, or resulting development, is likely to have on the environment and, if an adverse impact is likely, whether it is reasonably possible to protect the environment.	Chapters in Part B (summary) and Technical Working Papers
2.04(5)	In determining whether it is appropriate to grant a conditional consent, the airport-lessee company must have regard to possible impacts of the proposed building activity on:	
	(a) the safety and security of persons at the airport, in general; and	Chapter 11
	(b) airport services and the efficient operation of the airport.	Chapter 11

Appendix C

EIS form and content requirements – Environmental Planning and Assessment Regulation 2000

C1 Requirements of schedule 2 (Part 3) of the Environmental Planning and Assessment Regulation 2000

Requirement	Reference
6. Form of the environmental impact statement	
An environmental impact statement must contain the following information:	Refer certification at the front of the document with respect to (a) – (f)
(a) the name, address and professional qualifications of the person by whom the statement is prepared	
(b) the name and address of the responsible person	
(c) the address of the land: (i) in respect of which the development application is to be made, or (ii) on which the activity or infrastructure to which the statement relates is to be carried out	
(d) a description of the development, activity or infrastructure to which the statement relates	
(e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule	
(f) a declaration by the person by whom the statement is prepared to the effect that: (i) the statement has been prepared in accordance with this Schedule, and (ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and (iii) that the information contained in the statement is neither false nor misleading.	
7. Content of environmental impact statement	
(1) An environmental impact statement must also include each of the following: (a) a summary of the environmental impact statement	Executive summary
(b) a statement of the objectives of the development, activity or infrastructure	Chapter 1
(c) an analysis of any feasible alternatives to the carrying out of the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure	Chapter 6
(d) an analysis of the development, activity or infrastructure, including: (i) a full description of the development, activity or infrastructure, and	Chapters 7 and 8
(ii) a general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and	Chapter 2 and Part B
(iii) the likely impact on the environment of the development, activity or infrastructure, and	Part B
(iv) a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment, and	Part B

Requirement	Reference
(v) a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out	Chapter 3
(e) a compilation (in a single section of the environmental impact statement) of the measures referred to in item (d) (iv)	Chapter 27
(f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development set out in subclause (4).	Chapter 28

Appendix D
Sydney Airport planning objectives

D1 Sydney Airport Master Plan 2039 planning objectives

Table D.1 considers the consistency of the project with the Sydney Airport planning objectives listed in *Sydney Airport Master Plan 2039*.

Table D.1 Sydney Airport planning objectives

Objective	Project consistency
Enhance safety and security for users of the airport by: ■ Safeguarding the airport's aviation operations ■ Ensuring a safe and secure environment for passengers, employees and infrastructure	The project has been developed with an objective of minimising potential impacts on the safety of airport operations. The design has evolved to avoid impacts and intrusions in Sydney Airport's prescribed airspace. The potential impacts of the project on aviation safety have been assessed and the results of this assessment are summarised in Chapter 11 (Airport operations). The assessment concluded that the project would not impact on the safety of airport operations.
Consider the interface with the community in planning, development and operations by: ■ Engaging in an open and genuine manner ■ Supporting the NSW and local economies in which the airport operates	Community and stakeholder engagement has been, and would continue to be, an important part of the project's development. Further information on consultation is provided in Chapter 4 (Consultation). The potential social and community impacts of the project have been assessed and measures are provided to minimise the potential impacts of the project (see Chapter 20 (Socio-economic impacts)).
Enhance the experience of all passengers and airport users: ■ Arriving and departing landside at the airport, including at ground transport facilities, rail stations, terminal forecourts and commercial precincts ■ Travelling through the terminals ■ Through safety and security improvements	The project would improve road access to and around Sydney Airport, which would benefit airport visitors and those travelling around and near the airport. It would enhance the transport experience for passengers and airport users arriving and departing landside at the airport, including to and from ground transport facilities.
Improve ground access to, from and past the airport through: ■ Innovative solutions to ground access ■ Partnership with the Australian, NSW and local governments ■ Supporting increased public and active transport use	The project, as part of Sydney Gateway, has been developed in recognition of the existing access issues to Sydney Airport and Port Botany. The project recognises that efficient access to Sydney Airport is critical to the economic growth and prosperity of Sydney and Australia. The project forms part of Australian and NSW government investments in the transport network to cater for the forecast growth in passengers and freight through Sydney Airport and towards Port Botany.
Continue to improve environmental performance at the airport in order to: ■ Reduce the carbon footprint of the airport ■ Conserve items of natural, indigenous or heritage value ■ Protect environmentally significant areas	This document considers the potential impacts of the project. The project has been, and would continue to be, designed to minimise the potential impacts and contribute to the sustainable operation of Sydney Airport. To manage the potential impacts identified by this document, and in some cases remove them completely, the chapters in Part B outline a range of mitigation measures that would be implemented during construction and operation. With implementation of the proposed measures, the potential environmental impacts of the project would be adequately managed.
Further embed sustainability into airport decision-making in order to: ■ Minimise the impact on, and seek opportunities to enhance, the natural, constructed and social environments ■ Reduce waste and promote sustainable use of energy, water and materials	Chapter 25 (Sustainability) provides information on how sustainability has been, and would be, embedded into the design and construction of the project. Measures to reduce waste are provided in Chapter 24 (Waste management).

Objective	Project consistency
Improve the efficiency of the airport through: ■ Investments in terminal and airfield infrastructure ■ Utilising new technology ■ Optimal use of the airfield	Not relevant to the project
Provide adaptable and flexible plans to accommodate aviation growth that: ■ Meet forecast passenger growth ■ Ensure responsible investments ■ Are responsive to change	As described in Chapter 5 (Strategic context and project need), the project has been proposed to meet predicted growth in passengers and transport demands, including freight transport, at Sydney Airport.
Maximise the capacity of the airport to meet demand within existing operational restrictions including: ■ 80 movements per hour ■ Curfew from 11pm to 6am ■ Access arrangements for regional airlines ■ Long Term Operating Plan (LTOP)	Not relevant to the project
Stimulate leisure and business travel to generate benefit and value for the economy: ■ Facilitate the activities of businesses operating at the airport ■ Contribute to the growth of tourism, trade and jobs in the NSW and Australian economies	The project would improve access to and around Sydney Airport, which would benefit airport visitors and those travelling in the vicinity of the airport.
Create an airport that is able to compete internationally to capture aviation demand: ■ Deliver efficient infrastructure capacity and facilities to service new and existing international markets ■ Continue to innovate and create a world class experience for our customers	The project has been developed in recognition of Sydney Airport's role as one of NSW and Australia's most important infrastructure assets, providing essential domestic and international connectivity for people and goods. To support this role and predicted future growth, employees, residents, visitors and businesses need reliable access to the airport, and efficient connections between the airport and Sydney's strategic hubs. The project would meet these needs, and provide for future growth in passengers and freight transport.

Appendix E
Community and Stakeholder Consultation Report

Sydney Gateway Road Project

Community and Stakeholder Consultation Report

Roads and Maritime Services | October 2019

NSW GOVERNMENT

Contents

Executive Summary

On 12 September 2018 the NSW Government announced its decision to progress planning for Sydney Gateway, a new toll-free connection from the Sydney motorway network at St Peters interchange to Sydney Airport's International and Domestic terminals.

Sydney Gateway will make journeys from west and south-west Sydney to Sydney Airport and towards Port Botany, easier, faster and safer. It will complete the missing link in Sydney's motorway network to deliver a high capacity network, vital for supporting the growth of our communities, places and economy, and enable people and goods to move safely and reliably around our city and beyond.

Engagement with the community and key stakeholders was carried out in two formal periods of consultation for the project including:

- Preliminary design (September to October 2018)
- Concept design (May to June 2019).

The purpose of consultation was to raise awareness of the project, understand community and stakeholder questions and concerns and obtain feedback to help shape the design of Sydney Gateway and the environmental assessment.

Engagement and communication with key stakeholders was ongoing outside of these formal periods of consultation to provide ongoing opportunities for dialogue.

Our engagement focused on four stakeholder groups (government organisations, directly impacted landowners/leaseholders, peak bodies, local businesses and interest groups and general public/local community). The issues raised during consultation were grouped into seven categories:

- Environment
- Traffic and road safety
- Shared cycle and pedestrian pathways (active transport)
- Parking
- Property and access
- Freight industry
- Public transport.

We have listened to the feedback received from community members and stakeholders which has helped shaped the design and planning for the project. This feedback has enabled us to develop a new proposed shared cycle and pedestrian pathway on the northern side of Alexandra Canal which has been warmly welcomed by bike users and walkers. We have also committed to provide a dog park in Tempe during the construction of Sydney Gateway road project, and to work closely with Inner West Council and the community to improve open space on Tempe Lands after construction.

We have welcomed your feedback throughout all stages of the planning process and will continue to do so, as we prepare for the next consultation phase – the combined public exhibition of the Environmental Impact Statement (EIS) and preliminary draft Major Development Plan (MDP).

Thank you to everyone who took the time to consider our proposals and provide valuable feedback.

What happens next?

Roads and Maritime has reviewed and summarised all feedback received which is outlined in this report.

The project team has used the stakeholder and community feedback as input to further develop the project's detailed design.

The next stage of community consultation will be during the public exhibition of the combined EIS/preliminary draft MDP from November 2019.

1. Introduction

1.1 Background and project overview

In September 2018, the NSW Government announced it would proceed with planning for Sydney Gateway (the project), a new toll-free connection from the Sydney motorway network at St Peters interchange to Sydney Airport's International and Domestic terminals. It will make journeys from west and south-west Sydney to Sydney Airport easier, faster and safer.

The NSW Government's vision for Sydney is one of an integrated road and public transport network that gives you the freedom to choose how and when you get around, no matter where you live and work.

One area of focus in Sydney is to complete the missing links in the motorway network with the construction of the project, a new road connection to improve traffic movements and ease congestion around the airport precinct. This high capacity network is vital for supporting the growth of our communities, places and economy, and will enable people and goods to move safely and reliably around our city and beyond.

The project will greatly improve the way motorists travel to Sydney Airport and Port Botany, delivering major new connections from the Sydney motorway network to Terminal 1 and Terminals 2/3.

The project will also increase capacity and improve connections to the ports to assist with the growth in freight movements across the region. It will strengthen Sydney's position as a global city, by expanding and improving the existing road network. The project will return local streets to the community in Mascot by allowing 10,000 trucks a day to travel on the project rather than through local Mascot roads.

2. Consultation approach

2.1 Consultation objectives

Roads and Maritime has carried out community and stakeholder engagement activities to:

- Build positive relationships with key stakeholders and establish understanding and empathy around the need for the project
- Provide clear, concise and targeted information which is readily accessible to all stakeholder groups, with dedicated channels for feedback and dialogue
- Ensure communities are aware of impacts prior to construction starting and have an opportunity to raise issues early in consultation that can be considered in the planning and design process.

A Community and Stakeholder Engagement Plan was prepared in 2018 to guide communication and engagement activities throughout project development, the planning process, and during construction.

The engagement process ensured relevant stakeholders and the wider community were proactively engaged and informed about the project and given opportunities to provide feedback. Regular briefings were held, outside the formal periods of consultation, as the project moved forward to ensure stakeholders were kept informed and issues were addressed.

Engagement activities included meetings, regular communication of project information and invitations to project displays. A detailed breakdown of engagement activities to date is outlined in Appendix 3.

Issues raised during consultation were provided to the project design and environmental teams to inform the project development, environmental assessment and preparation of the impact assessment.

2.2 Outcomes from consultation

2.2.1 Consultation by stakeholder group

This section outlines the feedback, comments and concerns that have been raised during our project consultation from residents, community groups, businesses, government organisations and freight industry associations.

While all feedback has been considered, the preferred route for the project has been driven by a range of factors that greatly limit options to change the route alignment. These factors include:

- The location of existing roads and the rail corridor
- Mandatory airspace safety restrictions
- Minimising impacts to residential and commercial property owners
- Alexandra Canal.

The project team consulted with four key stakeholder groups to better understand views, increase knowledge of the project and, where possible, enable opportunities for collaboration on project design including:

- **Group 1:** Government organisations (includes State and Federal departments, local councils)
- **Group 2:** Landowners (directly impacted landowners, leaseholders and utility companies)
- **Group 3:** Peak bodies, industry and interest groups (includes Sydney Airport Precinct, freight industry associations)

- **Group 4:** General public/local community and community interest groups (includes residents in Mascot, Tempe and Wooli Creek and active transport groups)

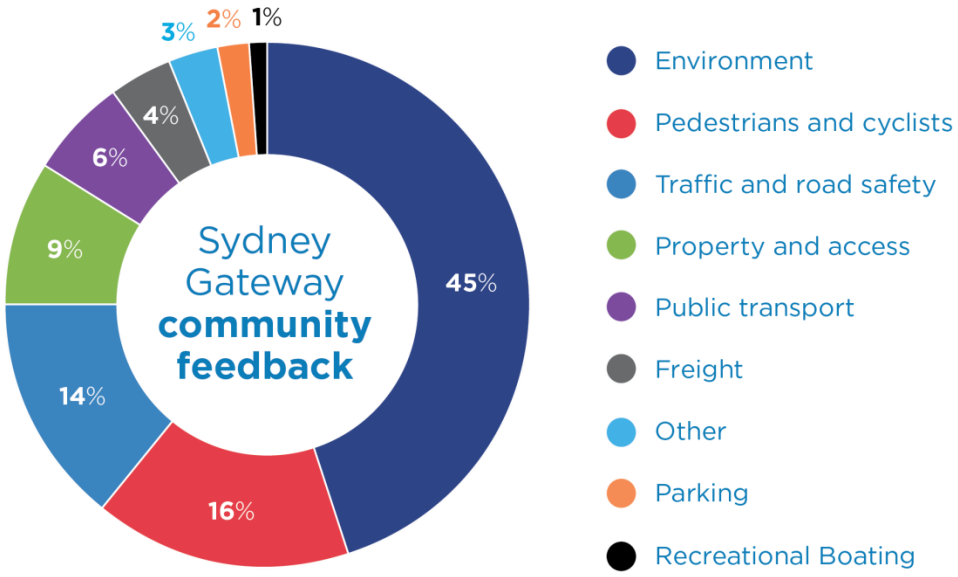
2.2.2 Preliminary design consultation summary

During consultation on the preliminary design between September and October 2018, our main engagement activities included:

- Distribution of 27,000 community updates to homes and businesses
- Door knocking 139 local residents and businesses
- Four pop up information booths (300 people engaged)
- Development of a project website with over 4,000 visits
- Individual stakeholder briefings.

A detailed summary of engagement activities carried out as part of the consultation is provided in Appendix 3.

During this consultation period we received 130 comments on the online 'have your say' map, and 12 email submissions. The key themes from this community engagement are described in the figure below:



2.2.3 Outcomes during concept design consultation period

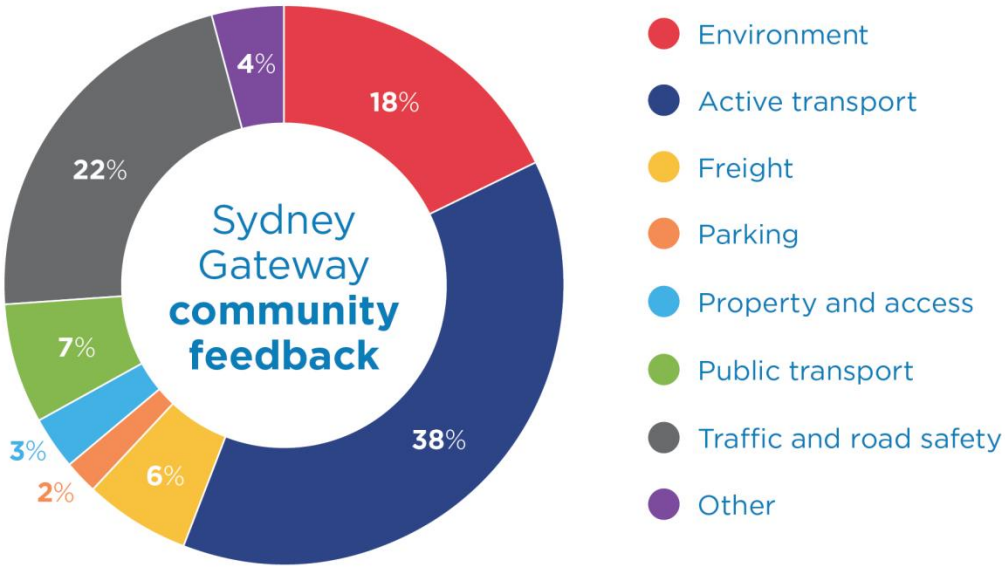
During the consultation period on concept design between 27 May and 23 June 2019, our main engagement activities included:

- Distribution of 22,000 community updates to homes and businesses
- Door knocking over 470 local residents and businesses
- Three information sessions, with 101 people in attendance
- Five information booths, with 387 people in attendance
- Reaching 94,000 people via Facebook posts
- Project interactive website attracting over 8,500 visitors
- Individual stakeholder briefings.

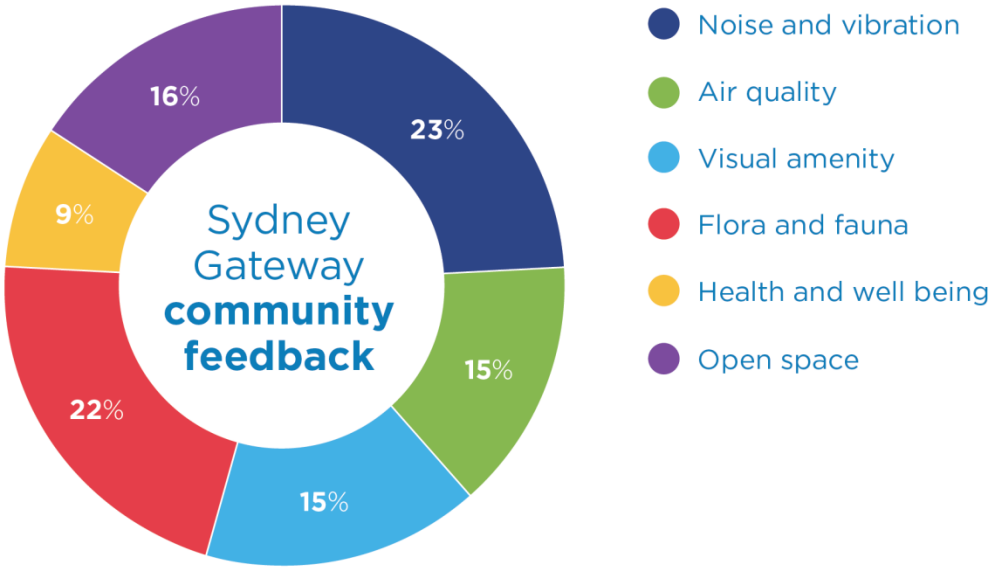
A detailed summary of engagement activities carried out as part of the consultation is provided in Appendix 3.

During this consultation period 246 comments were posted on the 'have your say' map, and 45 email submissions were received in the project inbox. The key themes from this community engagement are described in the following figures.

There were 291 submissions received during concept design consultation. This included 330 comments on the topics below (June 2019).



There were 58 environmental submissions received during concept design consultation. This included 129 comments on the topics below (June 2019).



2.3 Summary of feedback and key concerns received during consultation

The following tables summarise and address the key questions and concerns identified as part of the feedback received from the community and stakeholders during consultation on the project's preliminary and concept designs.

2.3.1 Support for the project

Feedback you provided	Roads and Maritime response
Group 3: Peak bodies, industry and interest groups Group 4: General public/local community and active transport groups	
• The project is needed to improve connections to the airport • The project will improve connections and support customers to arrive on time for their flights, with an improved user experience • The project will be positive for employees who travel from Western Sydney and park at the airport • The project will take more trucks off local roads, making it safer for pedestrians who walk around local streets in Mascot • The project ability to connect to the wider motorway network will improve the distribution of goods across NSW • For Sydney to manage its future well, significant infrastructure investment is required. Well done and keep going. • The project improves traffic flow dramatically • It is pleasing to see new plans for the Sydney Airport • The project's concept design looks good.	Thank you for your valuable feedback, which will help us to deliver a project that meets the needs of the community and supports future growth.

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response
Group 1: Government organisations Group 3: Peak bodies, industry and interest groups Group 4: General public/local community	
Impacts on the environment were a key concern raised during consultation on the project's concept design. These environmental concerns have been summarised into six categories below:	• We understand large scale infrastructure projects like the project can impact local communities and businesses, and we are committed to minimising this wherever possible. • The project will be subject to Conditions of Approval set by the NSW Department of Planning, Industry and Environment (DPIE) and Department of Infrastructure, Transport, Cities and Regional Development (DITCRD) for its construction and operation. • Before we start construction, our appointed contractor(s) will need to prepare a detailed Construction Environmental Management Plan (CEMP) for approval by DPIE, Sydney Airport Corporation and DITCRD. The CEMP details how the contractor will implement and meet the planning

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response
	conditions for all stages of construction. It will include supporting plans on key construction impacts including: ○ Traffic and transport ○ Noise and vibration ○ Biodiversity ○ Air quality ○ Aboriginal and non-Aboriginal heritage ○ Groundwater ○ Soil and water.
1. Noise and vibration – community and stakeholder feedback • Construction noise will be worse for Tempe residents living next to a new road who already experience noise from aircraft and Princes Highway. • The project will result in more traffic leading to increased noise for residents in Tempe. • Request for noise mitigation around Tempe and Mascot in streets close to the project's construction areas. This includes: ○ Noise barriers with requests for these to be vegetated to assist with further noise reduction, improve visual amenity and protect local wildlife in the Tempe wetlands ○ Noise treatments for properties. • Requests for more information about what mitigation plans will be in place to minimise noise, including night work, how cumulative noise will be managed and hours of operation. • Requests for information about noise modelling and testing that have been done for the project. • Questions regarding whether the existing shipping container 'sound barrier wall' remain in place during construction and whether the removal of these containers have been considered as part of the noise modelling. • Suggested design changes to help reduce noise include: ○ Lowering the road to below ground level ○ Building an above ground tunnel ○ Building an above ground tunnel to Port Botany	• We have carried out a detailed noise and vibration assessment to understand potential impacts of the project. This includes modelling of the road during operation and includes modelling with the removal of the empty shipping containers from Tempe Lands. • This assessment will be presented in the impact assessment which will be released for public comment in late 2019. • Based on the results of the noise assessments so far, permanent noise treatments have been identified to mitigate noise impacts at select Tempe locations along the project route. Locations will be identified in the impact assessment. The noise treatments are subject to feasibility testing during detailed design. • The impact assessment will also identify properties that may be eligible for additional noise mitigation measures. We will contact eligible property owners once detailed design and assessments are complete. Any noise mitigation measures will be subject to further assessments. • Before we start construction, a Construction Noise and Vibration Management Plan will be prepared as part of CEMP, which will include details on: ○ Acceptable noise levels ○ Noise and vibration monitoring methods during construction ○ Measures to reduce noise and vibration during construction. • During construction, we will monitor noise levels. All feasible and reasonable work practices will be introduced to ensure we are within these acceptable levels. • Before we start any construction work, we inform all potentially impacted residents and businesses about the work, the expected noise levels and duration, as well as providing our 24 hour contact details.

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response
○ Expanding road on the south side of the canal. • Vibration causing damage to homes.	• We will introduce measures to reduce construction noise impacts, where reasonable and feasible. These might include: ○ Providing noise barriers ○ Completing noisy work during day work hours, where possible ○ Ensuring all equipment is shut down when not in use and non-tonal reversing beepers used on vehicles ○ Ensuring there are periods where construction work is not scheduled to give residents and businesses respite from the noisy work. • Further information on noise and vibration mitigation measures will be available during the public exhibition of the impact assessment later this year.
2. Flora and fauna including Tempe Wetlands – community and stakeholder feedback • Concerns regarding the impact on the Tempe Wetlands, local wildlife and bird habitat, waterways, biodiversity and the ecosystem as a result of the project. • The Tempe Wetlands should be fully protected during construction and design including water sensitive urban design to protect the wetlands from noise and air pollution during construction and the project's operation. • Local flora and fauna especially in green spaces in Tempe. • Unsupportive of the construction of roads through reserves and nature parks impacting on native flora and fauna. • Requests for fauna crossings for protection crossing the road.	• We recognise the importance of the Tempe Wetlands and Recreation Reserve and the protection of flora and fauna to the local community and understand your concerns regarding potential impacts from the project. • When designing the project we have considered how the project may be built with the least amount of impact to these areas. • We have carried out investigations to understand the potential impacts of the project on fauna, flora and the environment so these can be managed and minimised. • We can advise: ○ construction of the project will not physically impact the Tempe Wetlands or Reserve. ○ we are consulting with environmental experts to ensure best practice approaches to minimise environmental impacts during construction. ○ there will be some impact to vegetation for construction; however we will provide replacement landscaping (including trees) suitable for the local area once the project is complete. • The impact assessment will include detailed assessments on the potential impacts to flora and fauna and the management measures that will be implemented to minimise these impacts. • Further information will be available during the public exhibition of the impact assessment later this year.

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response

3. Open space including Tempe Recreation Reserve and Tempe off-leash dog exercise area – community and stakeholder feedback
• Requests for the Tempe off-leash dog exercise area to be relocated close by and large enough for safe exercise especially for large dogs.
• The Tempe off-leash dog exercise area should be relocated to a mutually agreed site of similar size and located within council's local government area (LGA).
• Request for vegetation to provide adequate shade at the new off-leash dog exercise area.
• Keep natural grass on the reserve – no synthetic turf.
• Concerns about the proximity of the road to green space and potential environmental impacts once in operation.
• Prevent construction vehicles accessing project sites via Tempe Recreation Reserve.
• Suggestions to improve the open space once the project is complete:
  ○ Barbeque area
  ○ Licenced premises to take advantage of the river
  ○ Café within the parkland
  ○ Sporting facilities
  ○ Lands around the roads to be turned into parklands so Sydney Park continues through to St Peters interchange to connect to Tempe Recreation Reserve
  ○ Green-grid connection linking Tempe Recreation Reserve in the south to Sydney Park in the north
  ○ Increased parkland to compensate for increased noise.
• Concerns open space will be used as a car park or a commercial site.
	• We recognise the importance of the Tempe Wetlands, Tempe Recreation Reserve and the Tempe off-leash dog exercise area to the local community and understand your concerns regarding potential impacts from the project.
	• We can advise:
	  ○ Construction of the project will not physically impact the Tempe Wetlands and Reserve.
	  ○ We are consulting with environmental experts to ensure best practice approaches to minimise environmental impacts during construction.
	  ○ We will provide more detailed information about the management of environmental impacts and Tempe Lands during the public exhibition of the impact assessment later this year.
	• During construction, we will temporarily relocate the off-leash dog exercise area to a location agreed with Inner West Council. The temporary off-leash dog exercise area will be reduced in size during this time, but will remain an adequate size for dog exercise. The temporary off-leash dog exercise area will still be accessible to the public from Tempe Recreation Reserve.
	• We will work with Inner West Council, stakeholders and the community to understand the needs of park users, and develop a working plan for Tempe Lands and the surrounding area.
	• An Urban Design and Landscape Plan (UDLP) will be prepared by the appointed contractor, in close consultation with Inner West Council and the local community. The UDLP will outline detailed designs for the project, including the shared cycle and pedestrian pathways, landscaping, vegetation, lighting, signage and more. We will seek feedback on the UDLP from the community.

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response

4. Air quality – community and stakeholder feedback
• Increased traffic from the project will negatively impact on air quality for nearby communities.
• Concerns the gradient of the ramp to Terminal 1 will cause poor air quality especially as a result of trucks breaking and accelerating.
• Requests for assurance that the project will not generate adverse air quality impacts.
• Requests for more information about what mitigation plans will be in place to minimise air quality impacts and protect air quality.
• Requests for information about the air quality modelling and testing completed for the project.
• Improve land management processes to avoid a similar situation to St Peters interchange with respect to dust generated by construction.
• Suggested design changes to minimise air quality impacts include:
  ○ building an above ground tunnel
  ○ expanding road on the south side of the canal.
	• The impact assessment will include an air quality impact assessment on the potential health impacts of the project. This assessment will also consider potential changes to air quality and any resultant health impacts.
	• While all feedback will be considered, the preferred route for the project has been driven by a range of factors that greatly limit options to change the route alignment. These factors include:
	  ○ The location of existing roads and the rail corridor
	  ○ Minimising impacts to residential and commercial property owners
	  ○ Mandatory airspace safety restrictions
	  ○ Alexandra Canal.
	• We assessed tunnel options very early in the development process and it was decided tunnel options would not be feasible. This decision was reviewed as part of the route option selection process for the project. The challenges of tunnelling include:
	  ○ The short length and steep gradients of connections passing under Alexandra Canal which would result in a poor road outcome
	  ○ Poor ground conditions passing through Tempe Lands – the site of the former Tempe landfill
	  ○ Large construction sites would be required, creating substantial surface impacts during construction
	  ○ Difficulty in protecting tunnel construction sites and portals from flooding in this low-lying, flood prone area
	  ○ High groundwater levels would make tunnelling more difficult and expensive.

5. Visual amenity – community and stakeholder feedback
• The roadway will impact on visual amenity for local residents. How will the visual impact be minimised.
• Suggestions to minimise impact on visual amenity:
  ○ More consideration of aesthetics and greenery to create a 'Gateway to Sydney'
  ○ More vegetation and public art within all available open space
	• The impact assessment will include an assessment of the visual impacts of the project, and its associated infrastructure, to understand options to minimise impacts to the community. This will include detailed urban design assessments and considerations.
	• We are committed to improving open space after construction and will be working closely with Inner West Council and the local community on options for open space.
	• An UDLP will be prepared by the appointed contractor, in close consultation with Inner West Council and the local community. The UDLP will

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response
○ Lowering the road to below ground level surrounded by vegetation to minimise the visual impact ○ Vegetation along the wetlands side to reduce visual impact of the road ○ The project to be underground. • Increasing the number of mature trees in the area as part of the UDLP. • Artist impressions of what the project will look like through the container park for East Tempe residents. • Details of the UDLP.	outline detailed designs for the project, including the shared cycle and pedestrian pathways, landscaping, vegetation, lighting, signage and more. We will seek feedback on the UDLP from the community. • We will work with Inner West Council in the development of its master plan. • Further information on this process will be available during the public exhibition of the impact assessment later this year.
6. Health and wellbeing – community and stakeholder feedback • Understanding of how the project will improve local resident's lives when it has impacts on the environment, air quality and noise. • Health impacts on local residents as a result of the environmental impacts. • Well executed cycling connections will deliver positive outcomes including healthier lifestyles for people. • Concerns about risks to health from the construction activities on the former Tempe landfill site. Requests for an underground tunnel to avoid disturbing the site.	• We understand that large scale infrastructure projects like the project can impact local communities, and we are committed to minimising this wherever possible. • The impact assessment will include a detailed assessment on the potential health impacts of the project as well as the cumulative construction impacts. It will also provide information on how these impacts will be managed. • We have developed an alternative shared cycle and pedestrian path on the northern side of the Alexandra Canal. • We are continuing to work closely with Inner West Council, Bayside Council, City of Sydney and Sydney Airport Corporation about future connections that may be delivered in the area by Transport for NSW. • The project will pass through the Tempe Lands, where we will be excavating material out of the former Tempe landfill. Our expert environment and construction teams are investigating ways to minimise our impact at this site and on the community. • Construction in the former Tempe landfill will be managed in accordance with regulatory requirements and planning conditions. We will continue to consult with Inner West Council and the EPA. • We assessed tunnel options very early in the development process and it was decided tunnel options would not go ahead. This decision was reviewed as part of the route option selection process for the project. The challenges of tunnelling include: ○ The short length and steep gradients of connections passing under Alexandra Canal which would result in a poor road outcome

2.3.2 Environment

Key questions you have raised and feedback you provided	Roads and Maritime response
	○ Poor ground conditions passing through Tempe Lands – the site of the former Tempe landfill ○ Large construction sites would be required, creating substantial surface impacts during construction ○ Difficulty in protecting tunnel construction sites and portals from flooding in this low-lying, flood prone area ○ High groundwater levels would make tunnelling more difficult and expensive. • Any tunnelling option would disturb the former Tempe landfill more significantly than the current project design which seeks to minimise environmental impacts. • More details will be confirmed during the public exhibition of the impact assessment later this year.

2.3.3 Traffic and Road Safety

Key questions you have raised and feedback received	Roads and Maritime response
Group 3: Peak bodies, industry and interest groups Group 4: General public/local community and active transport groups	
The three key themes you raised about traffic were: 1. Congestion during construction 2. Road safety 3. The project road design.	
1. Congestion – community and stakeholder feedback • Changes to traffic conditions on Qantas and Airport Drive during construction will impact traffic flow. • During construction, the project will cause travel delays for retailers, pilots, cabin crew, suppliers and employees traveling to work. • Congestion on surrounding motorways and around the airport precinct will impact the customer experience. • Issues around traffic flow in local streets during construction. • General comments about existing congestion at Sydney Airport. • Vehicles may exit the project onto local roads to avoid tolls onto the next sections	• We have been in ongoing discussions with transport providers, airport businesses, government authorities and local community groups to collect information from major users of the airport so this can be factored into our construction planning. • We are working closely with Sydney Airport Corporation and our colleagues in Transport for NSW on ways to minimise congestion during construction. • We have carried out comprehensive traffic modelling to assess the impact of the project on both the main road and local road network. The model provides information on the minimum number of lanes required during construction to keep traffic moving through the road network. • To help manage traffic, a section of Qantas Drive will be widened. This will help ensure a minimum of two

2.3.3 Traffic and Road Safety

Key questions you have raised and feedback received	Roads and Maritime response
of motorway connections, and create more congestion in the local area. • Connect the project to local roads to reduce congestion. • Re-routing airport-bound traffic from the Marsh Street M5 exit will create further traffic congestion. • No right turns into and/or out of Lancastrian Road restricts access, will create confusion and more congestion. • Traffic leaving the Terminal 1 heading north will be in the right-most lane and will conflict with trucks trying to get into Link Road. This will result in eastbound traffic attempting to merge into the left-most lanes to avoid WestConnex, causing significant risk of crashes and traffic jams. • Improved signage for vehicles dropping off passengers at Terminal 1 they can use the entire frontage to avoid congestion on Qantas Drive.	lanes in each direction remain open during peak periods. • The project design and the potential impacts and benefits of Sydney Gateway will be available as part of the impact assessment. • To ease congestion and provide you with the most direct journey to Sydney Airport, we will be removing the traffic lights at the intersection of Lancastrian Road and Qantas Drive. This intersection currently provides vehicle access to the Jet Base, catering and car parks. • We are working closely with Sydney Airport Corporation and will ensure all businesses and employees are kept well informed of impacts as a result of planned work. • These will include discussions and decisions about wayfinding and signage to help communicate changes to the road network. • Our interactive Sydney Gateway online portal will model new journeys to and from Terminal 1 and Terminals 2/3 to help the community prepare for changes to the way they access Sydney Airport. • We will use established internal communication channels to ensure local businesses and employees who work at the airport and nearby are informed well in advance of our activities and can plan their journeys to the airport effectively. • Our proposed construction phasing is currently in development and will be presented in the impact assessment. This proposed phasing is subject to change and review by the contractor(s) once they are appointed.
2. Safety – community and stakeholder feedback • We received comments from a number of people regarding safety during construction and operation of the project. This includes safety concerns for local residents trying to exit local streets onto busy roads such as Railway Road.	• We have carried out comprehensive traffic modelling to assess the impact of the project on both the main road and local road network. This models the traffic impacts during construction of the project and during operation once the project is complete. • The design and the potential impacts and benefits of the project have been assessed as part of the impact assessment. • A CEMP will be prepared once a contractor has been appointed that will outline: ○ What methods and mitigation measures will be in place to protect the community from activities occurring around construction sites ○ How the occupation of local streets and community assets will be managed ○ How construction sites will be managed securely and safely.

2.3.3 Traffic and Road Safety

Key questions you have raised and feedback received	Roads and Maritime response
	• Due to the construction of the project in close proximity to Sydney Airport, it is important work is carried out at night to minimise congestion, keep the community and motorists safe and ensure ongoing access to the airport and other key Mascot destinations during peak periods. Every effort will be made to avoid construction traffic on local streets. • Traffic management plans will be in place to ensure the safety of motorists, workers and the public during construction.
3. Sydney Gateway road design • Concerns over why Airport Drive will be closed. • Use Airport Drive as the key connection to the road network instead of bridges and new surface roads. • Requests for more information on traffic configurations and traffic flow. • Requests for access onto/off the project from Canal Road (please see the freight section of this table for more details and response).	• Airport Drive is located on Sydney Airport land and will be closed to the public once the project is complete. Your new journey to Terminal 1 and Terminals 2/3 will be via the new Sydney Gateway connection. • The future use of Airport Drive will be determined by Sydney Airport Corporation. • Qantas Drive will be widened from two lanes to three lanes in each direction to create more space on the road for vehicles accessing the Terminals 2/3 precinct and towards Port Botany. • A new elevated road or 'flyover' will allow traffic from the south and west to connect directly to the front door of the Terminals 2/3 precinct. • The 'flyover' will improve traffic flow by separating traffic travelling to the Domestic terminals from traffic travelling towards Port Botany and beyond. More than half the traffic within the airport precinct travels around the airport to other destinations.
Out of scope suggestions – feedback from community and stakeholders • Cars are blocking traffic when turning right off Botany Road after Wentworth Avenue. • Provide a right signal or a no right turn for cars turning right from Coward Street onto Bourke Street to minimise queuing and improve safety at this intersection. • High Street should implement a no right turn into O'Riordan Street. • There are safety issues on Bourke Street around Mascot train station where the pedestrian crossing is located, which poses a risk to drivers and pedestrians. Suggest it is replaced with a traffic light signal allowing timed crossings. • Install temporary dividers to prevent cars merging across lanes on Robey St attempting to turn left in peak periods.	• Thank you for your feedback and additional suggestions for improving infrastructure around the airport precinct. These suggestions are outside the design scope of the project; however we will consider your suggestions and comments in future planning. • Suggestions regarding improvements on Sydney Airport land will be referred to Sydney Airport Corporation for consideration.

2.3.3 Traffic and Road Safety

Key questions you have raised and feedback received	Roads and Maritime response
• Provide a right traffic light signal or no right turn signage, to prevent cars turning right from Coward Street onto O'Riordan Street to improve safety. • Consider additional flyovers from Joyce Drive to Wentworth Avenue. • Build a direct underground tunnel to Foreshore Road that includes a lane for bikes. This will improve traffic flow dramatically and cut down the amount of cars using it. • Extend the project to Foreshore Drive to remove larger vehicles from local streets in Mascot and Botany. • Provide a right turn onto Southern Cross Drive heading north from Botany Road. • Reduce the Botany end of Botany Road to a three tonne limit, because Foreshore Drive is available for large vehicles to use. • Reconfigure the M1 interchange into Botany Road. • Extend the project flyover to General Holmes Drive. • Reduce existing heavy freight vehicles on the Princes Highway around Sydenham and IKEA, and Mascot local roads. • Provide an off ramp for a bus lane to Bellevue Street and Sydenham Station. • Improve traffic phasing and signalling, and wayfinding on roads within, and on approach to the airport precinct, as well as closing local streets to prevent 'rat runs'. • Change lane configurations of roads around the airport precinct such as preventing right turn access. • Cap/subsidise tolls for airport employees.	

2.3.4 Shared cycle and pedestrian pathways (active transport)

Key concerns raised and feedback received	Roads and Maritime response
Group 1: Local councils Group 3: Peak bodies, industry and interest groups Group 4: General public/local community and active transport groups	
Alexandra Canal Cycleway • Maintain a canal-side shared cycle and pedestrian pathway. • Keep the cycle routes open during construction. • Ensure safe cycling and pedestrian connections during construction. • The temporary cycleway route is not feasible. It is steep, longer and needs to connect better to existing links. • The temporary shared cycle and pedestrian pathway is a positive solution and is well supported. • Support for the permanent replacement route on the north side of Alexandra Canal • Requests to build the new permanent shared cycle and pedestrian pathway so it is operational before construction on the project starts. • Ensure adequate wayfinding is implemented during construction.	• We have been working closely with Sydney Airport Corporation, local councils and the community to develop a permanent replacement route for a shared cycle and pedestrian pathway on the northern side of Alexandra Canal. • This route has been designed in response to community and stakeholder feedback which requested a canal side pathway. • We will ensure any shared cycle and pedestrian pathway impacted by the project is safely replaced and ensure the best permanent replacement route possible is created. • We will ensure safe temporary routes for shared cycle and pedestrian pathways are in place during construction of the project until a permanent route is opened. • We will continue to review and consider feedback and suggestions received to improve access to shared cycle and pedestrian pathways.
Connections to Sydney Airport • Access must be maintained along the existing shared cycle and pedestrian pathway on Qantas Drive as it is an important link between southern Sydney, the City and eastern suburbs. • Travellers and airport employees should be able to walk or cycle to and from the airport terminals. • Continue/extend the permanent Alexandra Canal shared cycle and pedestrian pathway around Qantas Drive to the Sydney Airport. • Suggest a pedestrian crossing on the Qantas/Mascot Central side of Bourke Road to serve frequent pedestrian traffic between Qantas, corporate buildings and Mascot Central, which requires pedestrians to cross the road three times.	• We are working closely with Sydney Airport Corporation to look at options for cyclists and pedestrians who frequently use the shared paths. • Links for cyclists and pedestrian connections into Sydney Airport are being considered as part of the Sydney Airport Master Plan 2039. More information can be found at: masterplan2039.com.au

2.3.4 Shared cycle and pedestrian pathways (active transport)

Key concerns raised and feedback received	Roads and Maritime response

Connections to the broader cyclist and pedestrian (active transport) network
• We received a number of submissions from the community and stakeholders requesting:
  ○ a continuous cyclist and pedestrian link between the Alexandra Canal shared cycle and pedestrian pathway through to St Peters interchange and Sydenham Station
  ○ the extension of the existing shared cycle and pedestrian pathway route into Mascot and beyond
  ○ a direct crossing over the Cooks River from the south towards the CBD
  ○ direct connections from the Alexandra Canal shared cycle and pedestrian pathway to Terminals 2/3, Botany Road, Mascot and to the Bayside Council network
  ○ a direct connection between Coward Street and Sydenham Station (and future Sydney Metro stations)
  ○ improved cycle access from nearby suburbs and shared cycle and pedestrian pathway networks to Terminal 1 and Terminals 2/3
  ○ Connect to existing links (Bourke Road, Cooks River and southern shared cycle and pedestrian pathway) and create new links to Sydenham Station, Princes Highway and the Sydney CBD.
	• We are continuing conversations with local councils, Sydney Airport and Transport for NSW about cyclist and pedestrian connections to Sydenham and St Peters interchange, and further enhancements around the airport precinct. However these are not included in the project's program of work.
	• We welcome your ongoing feedback on what other shared cycle and pedestrian pathway connections you feel are important.

Design • Consider necessary mobility requirements of the surrounding community such as; safe and direct walking and cycling links to Green Square, St Peters, Sydney Park, Erskineville, Tempe and Mascot to minimise the numbers of locals needing to drive. • Suggestion for grade separated shared cycle and pedestrian pathways and more off road routes. • Improve wayfinding onto Foreshore Drive and Botany Road due to interactions with heavy vehicles and traffic, and around the airport precinct. • Deliver safe walking and cycling facilities around the airport with an 'orbital' network connecting into other active	• Providing an option for a northern canal side shared cycle and pedestrian pathway has required us to overcome a number of technical challenges. We are pleased to have identified a route option which is widely supported by the community, councils and cycleway users. • Safety, surrounding landscapes and the ability to connect to existing and proposed shared cycle and pedestrian pathway are a few factors that led to the project's proposed alternative route. • Feedback from local councils, bike users and pedestrians has strongly shaped and influenced the proposed replacement shared cycle and pedestrian pathway. • We welcome your ongoing feedback on what other connections you feel are important.

2.3.4 Shared cycle and pedestrian pathways (active transport)

Key concerns raised and feedback received	Roads and Maritime response
transport routes. It's a once in a generation opportunity as part of the project's implementation.	
Safety • Suggestion for better pedestrian safety around Mascot and Tempe during construction. • Upgrade cyclist and pedestrian access on Giovanni Brunetti Bridge to better connect into the airport cyclist network and improve safety. • Ensure appropriate separation of cyclist and pedestrians from passing traffic through the use of concrete barriers. • Minimise pedestrian and cyclist proximity to cars and trucks to avoid inhaling fumes and polluted air. • Maintain a safe gradient along temporary and permanent shared cycle and pedestrian pathways.	• Following feedback from cyclists, pedestrians and local councils, we will be providing a canal side shared cycle and pedestrian pathway replacement route once construction is complete. This new route will ensure pedestrians and cyclists are separated from cars and trucks. • The proposed replacement route will include a 20 metre long underpass at the Nigel Love Bridge and a dedicated bridge across Alexandra Canal, with enhancements to lighting and surveillance. • A construction environmental management plan will be developed once our contractor has been appointed to ensure the safety of pedestrians, cyclists and the local community is maintained throughout construction.
Other suggestions and comments/out of scope • There is a lack of pedestrian footpaths in East Tempe. • The existing shared cycle and pedestrian pathway connection to Canal Road, proposed as part of WestConnex, should go ahead to improve links in the Mascot area. • There has been a lack of consultation with the cycling community.	• We are continuing conversations with Transport for NSW, Sydney Airport Corporation and local councils to explore options for further enhancements to shared cycle and pedestrian pathways within the area. These will not be delivered within the project. • We are committed to ongoing engagement with the cycling community as part of the delivery of the project. • As part of our ongoing design development and consultation with the cyclist community, we have held briefings with cycling groups including BikEast and Bicycle NSW, hosted design workshops and meetings with cyclists and held multiple community information and pop up sessions. • We encourage you to register to receive project updates to get the latest information on the project. Please email sydneygateway@rms.nsw.gov.au to be added to our stakeholder database.

2.3.5 Parking

Key concerns raised and feedback received	Roads and Maritime response
Group 3: Peak bodies, industry and interest groups Group 4: General public/local community and active transport groups	
Parking • Reduce airport parking fees to encourage more people to park at Sydney Airport rather than in local residential streets in Tempe. • Clarify the access routes to Terminal 1 from the project. • Concerns about street access in Tempe East during construction and local roads being used by construction heavy vehicles. • Concerns about the cumulative impacts of the project and Sydney Airport's Ground Transport Interchange impacting the accessibility of the airport and deterring customers. • Suggestions for more parking to be available around the airport to cater for more people driving via the project. • Discourage people parking in local streets while they travel to avoid paying parking at Sydney Airport. • Digital parking spot signage on the approach to Sydney Airport should be implemented to improve decision making. • Restrict parking on O'Riordan Street to allow two lanes of traffic from Redfern to the airport.	• The impact assessment will include an assessment of the potential impacts on parking within the project corridor during construction and operation. • Parking changes, restrictions on local roads, and determining off-street parking requirements for new developments remains the responsibility of local councils. • Heavy vehicles will travel on major roads to access construction sites. Any travel on local roads in Tempe East will be limited. • We will work with councils to determine any potential changes to parking on the local road network as part of the development of the design for the project. • During construction, we will ensure parking spaces for construction vehicles are available within the project construction sites, and encourage ride sharing and use of public transport where possible. • Sydney Airport's ground transport interchange is part of a large program of ground transport improvements to enhance parking and access at Sydney Airport. • The project will provide for a future connection to the round transport interchange at Terminals 2/3 providing signal-free access for public transport and private vehicles to the Terminals 2/3 precinct via the Sydney Motorway network as well as free-flowing private vehicle pick up and direct access to parking. • Further information on planned ground transport improvements at Sydney Airport is available in the Sydney Airport Master Plan 2039 at: masterplan2039.com.au

2.3.6 Property and access

Key concerns raised and feedback received	Roads and Maritime response
Group 3: Peak bodies, industry and interest groups Group 4: General public/local community and active transport groups	
Property • Interest around the use of unused land after the road is completed.	• We are committed to improving open space after construction and will be working closely with Inner West Council and the local community on options for open space. • An UDLP will be prepared by the appointed contractor(s), in close consultation with Inner West Council and the community. The UDLP will outline detailed designs for the project, including shared cycle and pedestrian pathways, landscaping, vegetation, lighting, signage and more. We will seek feedback on the UDLP from the community. • We will work with Inner West Council in the development of its master plan. • Every effort will be made to minimise the impact on properties close to the project. • Roads and Maritime is responsible for the acquisition of commercial properties required for the project in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*.
Access • Concerns about vehicle access into Terminal 1 from the project. • Concern about access to Terminal 1 and Terminals 2/3 as a result of congestion on Ross Smith Avenue. • Suggestions that Airport Drive be used for transporting airport employees between Terminal 1 and Terminals 2/3. • Concerns about travel delays on the Sydney Airport road network and designated access to pick-up and drop-off locations.	• We are committed to minimising the project's impacts on the local community and businesses, and we will work together to manage and mitigate impacts to access. • The project will complement existing Airport East and Airport North road upgrades (planned for completion late 2020) by improving traffic flow and access around Terminals 2/3 precinct and Port Botany. • The project will include two four-lane bridges over Alexandra Canal with two lanes on each bridge servicing Terminal 1. • We will have traffic management plans in place to minimise impact to traffic and access.

2.3.7 Freight industry

Key concerns raised and feedback received	Roads and Maritime response
Group 3: Peak bodies, industry and interest groups Group 4: General public/local community	
Access to Port Botany and Mascot • Provide a road link between St Peters interchange and Port Botany. • The project should demonstrate the longer term benefits to Port Botany. • Container trucks will continue to use local roads around Canal Road, Ricketty Street, Kent Road, Coward Street, Bourke Road and O'Riordan Street for access to Port Botany. • It is important for motorists to be able to efficiently access business parks. • Incorporate future forecasted port uses and future demand usage into traffic modelling to inform the project's environmental assessments and preferred design. • The project needs to demonstrate linkages/benefits to the port/rail to ensure longer term benefits. • The project should accommodate the proposed rail run out from the Cooks River Intermodal Terminal (CRIT) to Port Botany. This involves shuttle trains directly to and from Port Botany. This line would cross directly underneath the design.	• Traffic modelling indicates that by 2036, 50 per cent of heavy vehicles travelling to and from Port Botany will use the project. • The new 'flyover' to Terminals 2/3 will provide dedicated access to Sydney Airport and separate vehicles heading to the airport from traffic bound for Port Botany. It will help to ease congestion and improve journey times for freight to and from Port Botany, as well as major logistic centres in Western Sydney • A Port Botany Access Study is being carried out to consider options for additional traffic improvements that may be required in the short, medium and longer-term to help address congestion around Port Botany. • The study identified some cost effective road enhancements that would improve traffic performance at these key bottlenecks until 2030. • Planning approval and delivery of these works will be taken forward by Roads and Maritime once competitive assessment and funding has been secured. These works are not part of the project. • Roads and Maritime is working closely with NSW Ports and Transport for NSW on these options. • ARTC is delivering the Botany Rail Duplication to implement additional rail track to increase freight rail capacity to Port Botany. • We appreciate feedback from the freight industry on the need to improve access to Port Botany and reduce heavy vehicle movements through Mascot. • Some of these suggestions are not in the scope of the project but will be considered as part of Roads and Maritime's future planning to improve key intersections.
Impacts on heavy vehicle and freight operations • Residential apartments and other land uses in Mascot may attract a curfew for heavy vehicle travel on local roads and negatively impact truck operations. • Concern about relocating Tyne Containers and the loss of major empty container park terminals close to Port Botany.	• The project's new road connections will support the efficient distribution of freight vehicles to and from Port Botany, as well as major logistic centres in Western Sydney. • It also supports the forecast growth in containerised freight by increasing rail capacity and service reliability for freight moving in and out of Port Botany. • There are no plans to introduce heavy vehicle curfews in Mascot.

2.3.7 Freight industry

Key concerns raised and feedback received	Roads and Maritime response
Empty container market • The relocation or removal of Tyne Containers from Tempe will reduce the volume of empty container park capacity close to Port Botany. Empty containers should be deferred to Port Botany and repositioned. • Loss of investment land leased to Tyne Containers will impact on Inner West Council's revenue.	• The project will acquire land currently leased to Tyne Containers, with options for relocation currently being explored. • We have commissioned an independent report into the empty container capacity in and around Port Botany, to explore the impacts of the potential loss of Tyne Containers in 2020, should the business not be successful in relocating its operations (see Technical Working Paper 12 (Business Impact Assessment) Appendix D). • The current oversupply of empty containers being held close to Port Botany is a cyclical trend resulting in part from the recent drought. This is likely to naturally ease over the next two years as normal market activity returns, and industry transitions towards movement of empty containers by rail. We will see expanded empty container storage capacity at intermodal terminals, such as Moorebank. • Inner West Council will be compensated for all reasonable costs incurred and loss of income resulting from the project in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*.
Requests for heavy vehicle entry and exit ramps at Canal Road, St Peters • The project does not provide reasonable or efficient access to the project from the Cooks River Intermodal Terminal onto/off Sydney Gateway. • Include on and off ramps at Canal Road for heavy vehicle access onto/off the project to service and support freight – only road assets and neighbouring businesses like Boral and Goodman's warehouse facility. • If ramps at Canal Road are not implemented, heavy vehicles will be forced to use areas like Kent Street, Bourke Street and Coward Street, Canal Road, Ricketty Street, Bourke Road and O' Riordan Street and will have to navigate through already congested local urbanised streets, affecting efficiency and time cycles. • Ramps at Canal Road would improve productivity through truck turnaround time savings. • Without ramps at Canal Road, the design sends a message that freight is not a priority. • Without suitable route options, container transport operations will be severely disadvantaged.	• We understand there is concern from the freight industry about the project not including heavy vehicle access onto/off Canal Road. • The project did consider an early concept for access ramps onto/off the project at Canal Road for cars and trucks with and without tolling. • Traffic modelling studies were carried out to determine the impact of any proposed Canal Road ramps on the local and surrounding road network. • The future transport and general traffic benefits were low by comparison to the estimated costs of constructing the ramps and acquiring additional land from Sydney Airport and the Australian Government. • Based on these studies, a decision was made not to progress with the Canal Road ramps and these are not part of the scope for the project. • We have welcomed feedback from the freight industry, and Transport for NSW and Roads and Maritime have been working with industry throughout 2019 to explore options for a dedicated heavy vehicle access onto and off the project at Canal Road. • While Canal Road ramps are not part of the project or funding package, its design will not preclude any

2.3.7 Freight industry

Key concerns raised and feedback received	Roads and Maritime response
• Ramps at Canal Road would enable efficient travel for higher productivity vehicles, particular during off peak and throughout the night for continuous operations of empty container returns. • Implementing the Canal Road ramps would complement the NSW Freight and Port Strategy 2018-2023 which is critical to the whole freight supply chain.	ramps at Canal Road being incorporated at a later date. • Ramps would require a separate business case with funding, and approvals from Sydney Airport and Government.

2.3.8 Public transport

Key concerns raised and feedback received	Roads and Maritime response
Group 1: Local councils Group 3: Peak bodies, industry and interest groups Group 4: General public/local community	
• Encourage improved public and active transport. • Suggestions to increase bus and train services to the airport. • There are insufficient public transport routes to the airport. • Suggestions to improve public transport connections, including buses from the south, particularly for employees who live south of the airport. • Remove the station access fee on journeys to Terminal 1 and Terminals 2/3 train stations to encourage more people to use public transport. • Request for an analysis on public transport options compared to the travel time savings of the project.	• We are working with Transport for NSW and Sydney Airport Corporation to explore options to improve public transport within the airport precinct. • The 'More Trains, More Services' program has increased the number of services to Sydney Airport's train stations, including along the T8 Airport and South Line. • From the early 2020s, train services will run on average every four minutes instead of every six. This will increase commuter capacity by around 50 per cent to support your journey to the airport. • Transport for NSW Future Transport Strategy 2056 provides improved commuter bus access to Sydney Airport, with better east, west and southern links. This includes a new suburban route for journeys between Miranda and Sydney Airport through to St George. • Feedback on the need for future investment in public transport has been referred to Transport for NSW who manage public transport bus and train services to Sydney Airport.

2.3.9 Other

Key concerns raised and feedback received	Roads and Maritime response
Group 1: Local councils Group 3: Peak bodies, industry and interest groups.	
Businesses and revenue • Employee travel delays will result in financial implications for airlines and airport security providers. • Construction staging, the height of the road, proposed traffic volumes and reduced travel times will impact on advertising revenue for advertisers. • The project will impact how advertising is installed and promoted throughout the airport precinct. • The project will cost businesses money due to construction impacts and its operation. • Inner West Council should be compensated for loss of income from the relocation of Tempe Golf Driving Range and Academy.	• The impact assessment includes detailed assessments on socio-economic, business, land use and property impacts. It will identify the mitigation measures required for all phases of the project. • We are working closely with Sydney Airport Corporation and will ensure businesses and employees are kept well informed of construction impacts and have opportunities to provide comments and feedback. • As part of the project's detailed environmental assessment process, we surveyed local businesses to understand potential impacts as a result of the project both during construction and operation. This helped us to consider their needs and identify opportunities to minimise impacts to their operations. • Inner West Council will be compensated for all reasonable costs incurred and loss of income resulting from the project in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991.*
Group 4: General public/local community	
• Will there be more planes flying overhead with the airport expansion? • What is the cost benefit ratio for this project?	• The planned expansion of Sydney Airport is a proposed development in planning led by Sydney Airport Corporation. Further information is available in the Sydney Airport Master Plan 2039 at: *masterplan2039.com.au* • The project is economically viable as the overall benefits are demonstrated to exceed the expected costs. Refer to http://insw.com/media/2154/sydney-gateway-program_final-business-case-summary.pdf

3. Public display of the combined EIS/preliminary draft MDP

3.1 Planning process overview

The project is unlike most other major road projects in NSW as it passes through both Sydney Airport controlled land, owned by the Commonwealth, and land subject to the NSW *Environmental Planning and Assessment Act 1979*. As a result, the project will require approval under both NSW and Commonwealth government legislations.

Under the NSW planning process, an EIS is required, that will be assessed under Division 5.2 of the *Environmental Planning and Assessment Act 1979*.

In line with the Commonwealth *Airports Acts 1996*, the preliminary development of a draft MDP is also required as part of the Commonwealth planning process.

A single document is being prepared that provides an integrated assessment of the project to fulfil both State and Commonwealth approval processes.

3.2 Engagement activities as part of the combined EIS/preliminary draft MDP consultation

Consultation activities to support the public exhibition will include:

- Project overview which provides summary information about the design of the project, potential construction and operational impacts and measures that will be put in place to manage impact
- Sydney Gateway interactive portal
- Stakeholder briefings
- Doorknocks with the community
- Community information sessions
- Information booths
- Fact sheets for key environmental and project information
- Distribution of project community and business updates
- Media releases
- Newspaper advertising.

3.3 Engagement after the combined EIS/preliminary draft MDP consultation

If the project receives planning approval, we would continue to engage with stakeholders and the community in the lead up to and during construction. A communications strategy will be developed for the construction phase of the project, which would include:

- A 24-hour free community project information line
- A community complaints and response management system
- Notifications regarding work outside standard working hours and work that might impact residents, businesses and stakeholders
- Email/SMS updates

- Project website
- Newsletters, information brochures and fact sheets
- Regular community updates to provide updates on the construction progress
- Meetings with key stakeholders
- Traffic alerts
- Site signage
- Media including media releases, social and advertisements
- Ongoing role of Community Engagement Manager(s) to act as a single point of contact for the community
- Translator interpreter services.

4. Appendices

4.1 Appendix 1 - List of stakeholders engaged and briefed

Stakeholders groups	Stakeholders engaged
Group 1: Government organisations (includes State and Federal departments, councils and utilities) 	• Department of Planning, Industry and Environment (DPIE) • Department of Infrastructure, Transport, Cities and Regional Development (DITCRD) • Department of the Environment and Energy • Airport Environment Officer • Civil Aviation Safety Authority • Airservices Australia • Transport for NSW (TfNSW) • Sydney Co-ordination Office (CBD Coordination) • Transport Management Centre (TMC) • Property NSW • Heritage NSW, Department of Premier and Cabinet • Department of Planning, Industry and Environment – Environment, Energy and Science Group • Department of Planning, Industry and Environment – Water Group • NSW Environmental Protection Authority (EPA) • NSW Health • Sydney Water • Inner West Council • Bayside Council • City of Sydney • NSW State Emergency Service
Group 2: Landowners (directly impacted) (includes lessors and utilities) 	• Tyne Container Services • Boral Concrete • Boral Recycling • Tempe Golf Driving Range and Academy • Qube • NSW Ports • Port Botany Lessors • Tempe Tyres • Inner West Council • Qantas • oOh! Media • Visy Cardboard and Paper Recycling • Sydney Desalination Plant • Ausgrid • Jemena • Qenos • Telstra • Optus • Viva Energy • Caltex • TPG/APPT • Vocus • AARNet • Uecomm • NBN

Stakeholders groups	Stakeholders engaged
Group 3: Peak bodies, local businesses and interest groups (includes Sydney Airport Precinct, freight industry associations and local businesses) 	• Sydney Airport Corporation • Australian Rail Track Corporation (ARTC) • Sydney Airport Community Forum (representatives from local State and Federal MP offices, councils, Virgin, CASA, Airservices Australia and community members) • NSW Business Chamber • SNP Security – Aviation (Certis Group) • Qantas Airways Limited • Virgin Australia • Singapore Airlines • Air Canada • Delta Air Lines • Emirates Group and Emirates Leisure Centre • All Nippon Airways Co. Ltd. (Zennikkū/ANA) • Etihad Airways • Aeromedical – NSW Ambulance • Sydney Airport Regional Emergency Services Forum (representatives from NSW Police, Australian Federal Police, NSW Ambulance, Fire and Rescue NSW) • Avis Car Rental • Europcar • DHL • Dnata • Kentucky Fried Chicken (KFC) • Branksome Hotel • Stamford Plaza Sydney Airport • Felix Hotel (Citadines Connect Sydney Airport) • Uber • Sheba • NSW Hire Car Association • BusNSW • NSW Taxi Council • 13CABS • NSW Taxi Operator and Drivers Association • Heinemann • AMG Sydney (Mercedes-Benz) • JC Decaux • JJ Lawson Customs & Freight Brokers • Australian Logistics Council (ALC) • Port Botany Community Consultative Committee • NSW Ports • Road Freight NSW • Goodman Group • Shipping Australia • TOLL Group • Freight and Trade Alliance (FTA) • Australian Peak Shippers Association • Container Transport Alliance Australia (CTAA)

Stakeholders groups	Stakeholders engaged
Group 4: General public, local community and active transport groups 	• Residents in Tempe, Botany, Mascot, Wolli Creek and Zetland • Business and leisure travellers using Sydney Airport • BikEast • Bicycle NSW • Sydney Orbital • St George BUG

4.2 Appendix 2 - Communication collateral

The project's external facing communication material during both preliminary and concept design consultation periods have included the following:

- Community Update – Spring 2018
- Community consultation summary Preliminary design – Spring 2018
- Concept Design Project Overview – Autumn 2019
- Community Update – Autumn 2019
- Project Update for Business – Autumn 2019
- Shared cycle and pedestrian pathways fact sheet – Autumn 2019.

4.3 Appendix 3 – Engagement activities undertaken to date

Activity	Description	Timing	
		Preliminary design	Concept design
Traditional engagement and collateral			
1800 number and email	Contact methods were set up to enable community members to contact the project team: • Email: sydneygateway@rms.nsw.gov.au • Phone: 1800 654 446.	September 2018	
Community update	A community facing overview document, describing the project and distributed to the project's surrounding communities. Available on the webpage and portal.	27,000 distributed – September 2019	22,000 distributed – May 2019
Business update	A summary of the project released at concept design including benefits specific to businesses in proximity to the project. Available on the webpage and portal.	1,000 distributed – May/June 2019	
Project overview	A detailed overview of the project released at concept design including key features, benefits and impacts. Available on the webpage and portal.	500 distributed – May/June 2019	
Active transport fact sheet	An active transport fact sheet was developed at concept design showing proposed permanent options for a replacement shared cycle and pedestrian pathway and temporary routes during construction. Available on the webpage, portal, information sessions and emailed to subscribers.	May 2019	
Planning process factsheet	A summary of the NSW and Commonwealth planning process. Available on the webpage, portal information sessions and emailed to subscribers.	September 2018	
Route alignment factsheet	Information on why the proposed route of the project has been chosen, and the contributing factors. Available on the webpage and portal.	September 2018	

Activity	Description	Timing	
		Preliminary design	Concept design
Digital engagement			
Sydney Gateway project webpage	A dedicated webpage was established at: www.rms.nsw.gov.au/sydneygateway The webpage has been updated at regular intervals with ongoing announcements and updates as the project has progressed.	2016	
Sydney Gateway interactive portal	The interactive portal is a web-based digital platform that provides stakeholders with a single point of access to all project information.	Launched 27 May 2019	
Sydney Gateway animation	An overview animation was developed for preliminary design consultation, which has been updated as more information becomes publically available. Animation can be found on both the project webpage and portal.	Launched September 2018	
Interactive 'have your say' map	An online community consultation feedback mapping tool was made available on the project webpage. The tool provided an online mechanism for feedback and comments directly to the map.	September/ October 2018	May/June 2019
Social media campaign	Posts shared on the NSW Roads Facebook page. Two posts were published during preliminary design consultation	Two posts – October 2018	Four posts, reaching 94,021 people – June 2019
Sydney Airport static display	During both preliminary and concept design a dedicated display was installed at the International and Domestic terminals. For preliminary design, this consisted of a TV with the animation on loop. Concept design had two large interactive touch screens with the new interactive portal available.	One display, two weeks in Terminals 2/3 and two weeks in Terminal 1 – September/ October 2018	Two displays, one in Terminals 2/3 and another in Terminal 1 for four weeks – May/June 2018

Stakeholder briefings

Stakeholder	Engagement activity	Dates engagement started
Group one – Government		
Transport Cluster Transport for NSW, Sydney Coordination Office, Transport Management Centre	Ongoing liaison to inform the development of the project including design and integration with new and existing transport networks.	Ongoing since 2016
Local Councils Inner West Council (IWC), Bayside Council, City of Sydney	Project briefings with local Councils to inform engagement approach with residents and businesses in relevant LGA. Land negotiations with IWC. Inner West Council/Sydney Gateway Working Group. Council participation in active transport workshops	Ongoing since September 2018
Department of Infrastructure, Transport, Cities and Regional Development (DITCRD)	Planning focus group meeting to discuss issues relevant to the preparation of the impact assessment. Briefings on the project during the preparation of the impact assessment including discussion on key environmental matters.	Ongoing since September 2018
Airport Environmental Officer	Briefings on the project during preparation of the impact assessment, including a discussion on the Airports Act approvals, cross jurisdictional matters, contamination and groundwater including existing environment and management expectations.	30 August 2018, 8 March 2019, 23 August 2019 and ongoing
Airport Building Controller	A briefing on the project during preparation of the impact assessment, including a discussion on the Airports Act approvals, and cross jurisdictional matters.	30 August 2018, 8 March 2019
Civil Aviation Safety Authority (CASA)	Briefings on the project during preparation of the impact assessment including information on the aviation assessment.	9 July 2019, 23 September 2019 and ongoing
Airservices Australia	Briefings on the project during preparation of the impact assessment including information on the aviation assessment.	12 July 2019, 23 September 2019
Department of the Environment and Energy	Briefings on the project during preparation of the impact assessment including due diligence assessment of Matters of National Environmental Significance, and discussion on key environmental matters documented in the impact assessment.	Ongoing since November 2018
State Government Agencies Department of Planning, Industry and Environment (DPIE), Environment Protection Authority (EPA), NSW Health, Department of Planning, Industry and Environment (Water Group)	Planning focus group meeting to discuss issues relevant to the preparation of the impact assessment. EPA – Meetings to discuss cross jurisdictional matters, out-of-hours works, interactions with the former Tempe landfill, existing contamination and contamination management, and surface water discharge criteria.	Ongoing since September 2018

Stakeholder	Engagement activity	Dates engagement started
Heritage NSW, Department of Premier and Cabinet	Department of Planning, Industry and Environment (Water Group) – A briefing on the project during preparation of the impact assessment, specifically targeting the groundwater assessment methodology. Heritage NSW, Department of Premier and Cabinet – A site visit and briefing on the project during preparation of the impact assessment, including a discussion as to whether a Heritage Council meeting was required.	
Sydney Water Corporation	A briefing on the project during preparation of the impact assessment including potential interactions with Alexandra Canal.	Ongoing since September 2018
Emergency Services NSW Police, Australian Federal Police, Fire and Rescue NSW, NSW Ambulance, NSW Health NSW State Emergency Service	Introductory briefing to the project and to consider the needs of emergency services in and around Sydney Airport. A briefing on the project to discuss flooding and the potential impact of the project on existing emergency management arrangements.	June 2019 November 2019
Federal Ministers in neighbouring electorates Hon Matt Thistlethwaite MP, Hon Linda Burney MP, Hon Anthony Albanese MP	Contacted local electorate offices to offer a project briefing. No briefings requested to date.	June 2019
State Ministers in neighbouring electorates Hon Ron Hoenig MP, Hon Michael Daley MP, Hon Stephen Kamper MP, Hon Joanna Haylen MP	Contacted local electorate offices to offer a project briefing. Briefing requested by Joanna Haylen (to be held in November 2019).	June/August 2019
Group two – Landowners/leaseholders		
Sydney Airport Corporation	Ongoing commercial, technical, operational, planning and communications meetings to support the design and delivery of the project.	Ongoing since 2017
Australian Rail Track Corporation (ARTC)	Ongoing meetings to support the interface of the project and the Botany Rail Duplication (delivered by ARTC).	Ongoing since late 2017
Utilities Sydney Water, Ausgrid, Jemena, Qenos, Telstra, Sydney Desalination Plant, Viva Energy, Caltex, Optus, TPG/APPT, Vocus, AARNet, Uecomm, NBN, Department of Defence	Ongoing discussions to understand utility configurations and potential impacts from project design and delivery.	Ongoing since September 2018

Stakeholder	Engagement activity	Dates engagement started
Impacted landholders and leaseholders IWC, Tyne Containers, Tempe Golf Driving Range, Boral, Qube, NSW Ports, Port Botany Lessors, oOh! Media, Tempe Tyres	Ongoing property negotiations led by Roads and Maritime property team.	Ongoing since September 2018
Sydney Airport leaseholders Boral, Qube, Visy, Qantas	Project briefings provided jointly by Sydney Airport and Roads and Maritime. Ongoing property negotiations held between Sydney Airport and its tenants.	Meetings arranged as required since November 2018
Group three – Peak bodies, local business and business interest groups		
Airport precinct **Airport operations and airlines** **Qantas, SNP Security, Virgin, Singapore Airlines, Air Canada, Delta, Emirates, ANA, Etihad, Air Ambulance, Emergency Services** **Car hire, rideshare and taxi companies** AVIS, Europcar, Uber, Sheba, NSW Hire Car Association, BusNSW, NSW Taxi Council, 13CABS, NSW Taxi Operator and Drivers Association **Retailers** Emirates Leisure Centre, Heinemann, KFC, AMG Mercedes **Freight and logistics** DHL and Dnata **Wider airport precinct** JC Decaux, Stamford Plaza, Felix Hotel, Branksome, JJ Lawson Customs & Freight Brokers, Goodman Group, Abbvie, NSW Rural Doctors Network, JSI Telecom Pty Ltd, Landis and Gyr, Lagardere Travel Retail Pacific, Transport for NSW **Sydney Airport Planning Coordination Forum** Bayside Council, IWC, City of Sydney, Sutherland Shire Councils, TfNSW, DPIE, Sydney Business Chamber	Introductory project briefings to understand the needs of stakeholders and develop mitigations to minimise traffic impacts where possible. 70 businesses within the airport precinct where contacted to offer a 1:1 briefing. 17 businesses requested a briefing. Presentations held at six Sydney Airport stakeholder forums.	Ongoing since January 2019

Stakeholder	Engagement activity	Dates engagement started
Sydney Airport Active Transport Forum Inner West Council, Bayside Council, City of Sydney, BIKEast, Bicycle NSW, Sydney Orbital, Transport for NSW		
Sydney Airport Community Forum (SACF) SACF's membership comprises: Federal MPs for Bennelong, and representatives from Reid, Grayndler, Sydney, Watson, Wentworth, Kingsford Smith, Cook, Barton, North Sydney and Bradfield, State MPs for Heffron and representative from Summer Hill,Officers from Bayside, Inner West and Sutherland Shire Council, International and domestic airline representatives, being Captain Rob Edney (Virgin Australia) and Mr Barry Abrams (Board of Airline representatives Australia), Community representatives, being Mr Kevin Hill (Community South), Ms Maria Patrinos (Community West) and Mr Bob Hayes (Community North), DITCRD, CASA, Airservices Australia	Presentation on the project delivered by Roads and Maritime. The views expressed by members are summarised in Chapter 4 of the impact assessment. It was noted that when the impact assessment is released for comment SACF members would be contacted and offered an opportunity to be briefed and make a submission.	11 October 2019
Freight industry Port Botany Community Consultative Committee, Road Freight NSW, NSW Ports, TOLL Group, Freight and Trade Alliance, Container Transport Alliance Australia, Australian Peak Shippers Association, Australian Logistics Council	Introductory project briefings provided to Port Botany Community Consultative Committee and Road Freight NSW. 31 freight companies and industry associations were contacted in May 2019 to offer a project briefing. Six companies and industry associations responded to request a briefing.	October/November 2018 and June/July 2019
Active transport groups BIKEast, Bicycle NSW and local councils	Workshops and discussions to explore shared pedestrian and cycle path route options and understand user preferences	November/December 2018 and June 2019
Group four – General public		
Residents and businesses in Tempe, Botany, Mascot, Wolli Creek and Zetland	Doorknocking, information sessions and booths as part of consultation to collect feedback and inform the development of the project	September and December 2018, May/June 2019
Business and leisure travellers using Sydney Airport		

Appendix F
Strategic planning review

F1 Strategic planning review

A summary of the plans and strategies that are relevant to the need for, and development of, the project is provided below.

National strategic planning

Australian Infrastructure Plan and Priority List

The *Australian Infrastructure Plan* (Infrastructure Australia, 2016) sets out the infrastructure challenges and opportunities that Australia faces over the next 15 years and the solutions required. The plan was informed by a comprehensive review of existing and required infrastructure over the coming decades. The plan has four main themes:

- Productive cities, productive regions
- Efficient infrastructure markets
- Sustainable and equitable infrastructure
- Better decisions and better delivery.

In relation to the fourth theme, the plan recognises that Australia relies on its air and sea ports to provide vital links both within the country and to the global economy. It notes that demand for airport infrastructure is projected to approximately double between 2011 and 2031.

As part of the *Australian Infrastructure Plan*, the *Infrastructure Priority List* (Infrastructure Australia, 2019) is designed to give guidance to decision makers and provide transparency for industry and the community. It is a 'rolling' list that is updated periodically as proposals move through development and delivery and in response to emerging challenges and opportunities.

Sydney Gateway, described by the *Infrastructure Priority List* as a 'connection from WestConnex to Sydney Airport and Port Botany' is included as a high priority near-term (0–5 years) initiative on the priority list in the NSW urban congestion category. The priority list notes the following:

- Road congestion on the arterial road network in and around Sydney Airport and Port Botany is growing as airport and port throughput increases, causing significant delays
- Congestion is a problem throughout the day, rather than just at peak times, with the major road links congested for over half the day – part of this congestion is generated by road freight in and around Sydney Airport and Port Botany
- Increasing rail's share of both passenger and freight traffic through the precinct will reduce potential demand on the road network over coming years; however, the road network will still need substantial expansion to cater for traffic to and from locations that are only effectively serviced by road
- Sydney Gateway will provide substantial additional capacity into and out of the Sydney Airport and improve access to the Port Botany precinct, allowing airport and port traffic to avoid local arterial roads when accessing the broader Sydney motorway network (ie WestConnex).

National Land Freight Strategy

The *National Land Freight Strategy* (Standing Council on Transport and Infrastructure, 2012) is a partnership between Australian, State and local governments and industry to deliver a streamlined, integrated and multimodal freight transport and logistics system, capable of efficiently moving freight throughout Australia. The strategy recognises that:

- The efficient movement of land freight is crucial for Australia's productivity and competitiveness, and affects the lives of every Australian
- Continued growth in freight volumes is giving rise to a range of increasingly complex challenges for governments, industry and the community.

The strategy seeks to direct the efforts of all governments and industry towards the long-term vision, objectives and outcomes for freight in Australia. Identifying the current and future places for freight movement is a core element of the strategy.

The discussion paper for the strategy, the *National Land Freight Strategy Discussion Paper* (Infrastructure Australia, 2011) notes that general freight is likely to grow near population centres. In addition, population growth and urban consolidation will place added pressure on routes used by freight vehicles.

As a result of the predicted growth in population and freight, especially in urban areas, the need to resolve issues around effective freight movement will become increasingly important. The project would assist in addressing freight transport needs and congestion by providing an alternative route for State and regional freight travelling to and from Sydney Airport and Port Botany. This new route would be a high capacity road that would link to other arterial roads (ie Qantas Drive and Joyce Drive), as opposed to other arterial roads (including Botany Road or O'Riordan Street) that also provide a local transport and access function. In doing so, the project would assist in improving the efficiency of freight movement.

National Ports Strategy

The *National Ports Strategy* (Infrastructure Australia and the National Transport Commission, 2011) was developed as part of a collaborative approach to the future development and planning of Australia's port and freight infrastructure. The strategy covers bulk commodity ports and container ports, identifying:

- The most effective regulatory and governance frameworks
- Ways to improve land planning and corridor preservation
- Future infrastructure requirements of Australia's ports, including road and rail links.

The strategy notes that there are major efficiency implications for Australia if significant improvements are not made to ports and related landside road and rail systems over the coming decades.

The *National Ports Strategy* illustrates the need for improvements to the freight supply chain operating from Port Botany. The project would provide an alternative route between the to be constructed Sydney motorway network (at St Peters interchange) and existing arterial roads – Qantas Drive and onwards to Joyce Drive and General Holmes Drive – which provide access to Port Botany. This would assist in improving Port Botany's land-side transport capacity and contribute to improved accessibility, improving the productivity of national exports.

NSW planning

State Infrastructure Strategy

Building Momentum State Infrastructure Strategy 2018 – 2038 (Infrastructure NSW, 2018) establishes the strategic directions, projects and initiatives to meet the infrastructure needs of a growing population and a growing economy.

The strategy investigates infrastructure demands over the next 20 years. With regard to Sydney Airport, it notes that: 'An extra 48 million passenger trips are expected to and from Sydney Airport in 2036. This is the same annual growth rate as expected in 2012'. The strategy notes that container trade through Port Botany is expected to grow by 114 per cent between 2016 and 2036.

With regard to transport, the strategy notes the following:

- Rising congestion on parts of the road network will increase travel times and affect the reliability of the freight network
- Maintaining the efficiency of infrastructure networks and access to the international trade gateways of Sydney Airport and Port Botany will be critical to support the ongoing competitiveness of Sydney and NSW
- The value of goods moved by air freight through Sydney Airport is the same as almost the entire agricultural production of Australia

- Sydney Airport will remain the point of arrival for most international visitors and it is important that it operates to its highest potential.

The strategy recognises the importance of the Sydney Gateway road project, and states the following:

- Sydney Gateway will provide a valuable connection between WestConnex and the key international gateways of Sydney Airport and Port Botany. Planning for this link has consistently demonstrated that it returns a high benefit relative to its cost, commensurate with the high value of the productive traffic that is expected to use it
- Once the Sydney Gateway, Botany Rail Duplication and road pinch point works to improve freight flows in the Port Botany and Sydney Airport precinct are completed, the city's major road and rail networks will efficiently connect Sydney's eastern international gateways to strategic centres via WestConnex and the Botany Rail Line.

The project is consistent with the following strategic directions in the strategy:

- Improve access to international gateways
- Optimise existing infrastructure networks to provide greater capacity for better services.
- Maintain the Eastern Harbour City's position as the primary international gateway for people, goods and services by providing efficient and reliable connections to Sydney Airport and Port Botany.

The following action includes reference to the project: *60. Infrastructure NSW recommends that Transport for NSW finalise business cases by the end of 2018 to enable the NSW Government to partner with the Commonwealth Government to fund investment in Sydney Gateway, Port Botany Rail Duplication and Foreshore Road/Botany Road, as well as the Moorebank Intermodal Terminal Road Access Strategy, to remove bottlenecks on connections to and from Sydney Airport and Port Botany and to capitalise on development of the Moorebank Intermodal Terminal. (Planning: 0-5 years; Investment: 0-5 years).*

Future Transport Strategy

The *Future Transport Strategy 2056* (Transport for NSW, 2018c) is a suite of strategies and plans for transport developed in conjunction with the Greater Sydney Commission's *A Metropolis of Three Cities – the Greater Sydney Region Plan* and supporting regional plans, and Infrastructure NSW's *State Infrastructure Strategy.* The *Future Transport Strategy 2056* provides an integrated 40-year vision, directions and outcomes for transport in NSW.

The strategy provides a 40-year vision for our transport system. The strategy outlines a vision, strategic directions and customer outcomes, with infrastructure and services underpinning the delivery of these directions across the state. The strategy focuses on the role of transport in delivering movement and place outcomes that support the character of the places and communities we want for the future.

The strategy's vision for the future of transport is for road and transport links to form part of an integrated and connected network across the Greater Sydney region with each of the three cities described in *A Metropolis of Three Cities* (the Eastern Harbour City, Central River City and Western Parkland City). The vision for the future of transport is based on six outcomes:

- Customer focused
- Successful places
- A strong economy
- Safety and performance
- Accessible services
- Sustainability.

The project is consistent with the strategy, as it would provide for new high-capacity road connections, strengthening the linkages between Sydney Airport and Sydney's strategic road network. It would support safe, efficient and reliable journeys for people and freight.

The strategy shows Sydney Airport's location on the proposed city-shaping and city-servicing corridors. It also shows an additional connection between Sydney Airport and the Greater Sydney strategic road network via a new strategic road. The project would address these priorities.

As a result, the project is a key element of the strategy. Sydney Airport is Australia's busiest airport and Port Botany is one of the highest frequency freight terminals, serving state, national and international markets. The project would greatly improve access to this important precinct. The project would strengthen Sydney's position as a global city, providing more efficient connections to major business hubs, key commercial centres and freight terminals across Greater Sydney.

NSW State and Premier's priorities

The NSW Government has committed to 30 State Priorities, 12 of which are Premier's Priorities. The priorities aim to keep the economy strong, create jobs, deliver world-class services, protect the vulnerable and ensure that all NSW citizens and communities share in the state's success.

Relevant priorities, and the project's consistency with each, are summarised below:

- Creating jobs – the project would directly create jobs during construction and would service the predicted growth in employment in the study area
- Delivering infrastructure – the project involves delivering significant and important road infrastructure
- Encouraging business investment – the project would encourage business investment by improving the connections between Sydney Airport and Port Botany and other areas of Sydney and would provide improved conditions for freight transport
- Improving road travel reliability – the project would address existing congestion and access issues to and around Sydney Airport and towards Port Botany, delivering travel time savings
- Reducing road fatalities – the project would provide free-flowing high speed road connections, reduce traffic on local roads and improve traffic flows, which are correlated with a lower number of road crashes.

NSW Freight and Ports Plan

The *NSW Freight and Ports Plan 2018–2023* (Transport for NSW, 2018a), which forms part of *Future Transport Strategy 2056*, sets the strategic direction for freight and ports over the next 40 years. The plan identifies priority actions and initiatives to create a transport network where goods move efficiently to their markets. The plan notes that access by both road and rail to and from freight facilities such as ports is becoming increasingly constrained, and that congestion and constraints on the supporting land transport network can reduce the performance of ports.

With regard to Sydney Airport and air freight, the plan notes that:

- Most air freight (about 80 per cent) is carried in the hold of passenger planes, with the remainder being transported by dedicated freight aircraft
- Sydney Airport handles half of Australia's international freight and a third of the domestic freight task
- Sydney Airport handled $39 billion in imports and $12 billion in exports in 2016 (predicted to increase to $54 billion in imports and $17 billion in exports by 2036), with the volumes of exports and imports estimated to increase from 369,000 tonnes in 2016 to 613,000 tonnes in 2036 (a 65 per cent increase).

The plan also notes that about 80 per cent of freight in Greater Sydney is transported by road, and that WestConnex will become a major part of the freight network. The plan recognises that to support the growth in air freight, a range of constraints will need to be addressed, including congestion on the road network around Sydney Airport. The plan notes that congestion contributes to the cost of moving freight,

and that the cost of avoidable congestion in Sydney was $6.1 billion in 2015, projected to increase to between $9.5 billion and $12.6 billion by 2030.

As traffic volumes increase, it will be necessary to manage congestion for key freight areas, particularly around Port Botany and Sydney Airport, supporting the growth of international trade. The project is consistent with the following objectives and goals in the plan:

Objective 2: Efficiency, connectivity and access, Goal 2: Improve flow of freight through trade gateways

The plan states that as access to the Port Botany precinct is impacted by traffic associated with Sydney Airport, the NSW Government will work with Sydney Airport Corporation to explore ways to improve the efficiency of operations in and around the airport.

Objective 3: Capacity, Goal 2: Deliver new infrastructure to increase road freight capacity and improve safety

The plan states that Sydney's motorway network is set to become more connected with the WestConnex and NorthConnex projects underway. It notes that the Sydney Gateway road project will provide additional road infrastructure to connect Sydney's motorway network to Sydney Airport and Port Botany.

The plan included reference to the project as part of the following action: *Develop a link between WestConnex at St Peters Interchange and the Sydney Airport and Port Botany precinct, improving freight connectivity between Port Botany and the strategic motorway network (subject to Final Business Case and funding).*

Metropolitan/regional planning

A Metropolis of Three Cities – the Greater Sydney Region Plan

A Metropolis of Three Cities – the Greater Sydney Region Plan (Greater Sydney Commission, 2018a) sets a 40-year vision (to 2056) and establishes a 20-year plan to manage Greater Sydney's growth and change. The plan is built on a vision of three cities, where most residents live within 30 minutes of jobs, education, health facilities, and other services – the Western Parkland City, Central River City and Eastern Harbour City. The plan notes that:

- Efficient trade gateways, freight and logistics networks are required for the Sydney region to be more internationally competitive
- Sydney Airport and Port Botany are Greater Sydney's two nationally significant trade gateways, with significant growth projected
- Retaining internationally competitive operations at Sydney Airport and Port Botany is vital for a productive NSW economy
- Ensuring transport networks can support the needs of these trade gateways is of national significance
- Providing for growth requires an efficient and effective road and rail freight network integrated with ports and airports.

The plan includes 10 directions and 40 objectives for the future of Sydney. The project is consistent with the following objectives:

- Objective 3 – infrastructure adapts to meet future needs
- Objective 15 – the Eastern, Greater Parramatta and the Olympic Peninsula, and Western Economic Corridors are better connected and more competitive
- Objective 16 – the freight and logistics network is competitive and efficient.

The project would ensure Sydney's strategic centres, as defined by *A Metropolis of Three Cities*, are connected by an effective, integrated transport network, which is fundamental to supporting growth – providing access to jobs, housing, recreation activities and business interactions. It would also facilitate improved connections between Western Sydney, Sydney Airport and Port Botany, south and south-

western Sydney and northern Sydney, as well as better connectivity between the important economic centres along Sydney's Global Economic Corridor and local communities

Eastern City District Plan

The Greater Sydney Commission's five district plans are a guide for implementing *A Metropolis of Three Cities – the Greater Sydney Region Plan* at a district level. These 20-year plans are a bridge between regional and local planning. Their purpose is to inform local environmental plans, community strategic plans and the assessment of planning proposals.

The project is located in an area subject to the *Eastern City District Plan* (Greater Sydney Commission, 2018b). Eastern Sydney is considered to be Australia's global economic gateway and the most concentrated area of economic activity, jobs and investment. The plan notes that Sydney Airport and Port Botany are global gateways that form part of the Eastern Economic Corridor. The plan recognises that:

- A significant freight and logistics task will remain in the Eastern City due to the competitive advantages and efficiencies afforded by proximity to these gateways
- Sydney Airport and Port Botany will grow significantly
- The Eastern City has the highest concentration of parcel deliveries across Greater Sydney, many of which arrive via air freight with others via road. The Sydney Airport curfew and the consequent timing of parcel deliveries and collections often coincides with the morning and evening peaks, intensifying peak traffic congestion.

The project is consistent with the following planning priorities in the *Eastern City District Plan*:

- E9 Growing international trade gateways
- E10 Delivering integrated land use and transport planning and a 30-minute city.

The project is consistent with these priorities as it would provide improved access to Sydney Airport and towards Port Botany. By reducing the growth of traffic through the Mascot and Botany town centres, it would improve amenity for land uses in these areas while also reducing traffic congestion.

The plan recognises the project as an important freight-related initiative and includes the following relevant actions:

- 30h Manage the interfaces of industrial areas, trade gateways and intermodal facilities by … providing the required commercial and passenger vehicle, and freight and passenger rail access
- 31d Protect and grow Port Botany by… investigating a corridor for an enhanced road link from Port Botany to WestConnex
- 31k Protect and grow Sydney Airport by… facilitating road planning to connect Sydney Airport to WestConnex

The project is consistent with the above actions. In conjunction with the Botany Rail Duplication project, it would improve access for freight to Sydney Airport and Port Botany. It would also provide an enhanced road link between the Sydney motorway network and towards Port Botany

Greater Sydney Services and Infrastructure Plan

The *Greater Sydney Services and Infrastructure Plan* (Transport for NSW, 2018b), which forms part of the *Future Transport Strategy 2056*, sets the strategic direction for transport in NSW over the next 40 years. Building on the State-wide transport outcomes identified in the *Future Transport Strategy 2056*, the plan identifies specific transport outcomes for Greater Sydney and the policy, service and infrastructure initiatives to achieve these outcomes.

The plan defines the vision for Sydney's future transport networks, including the strategic freight network, and shows that the Sydney Gateway road project is part of Greater Sydney's strategic freight network. The plan notes that the NSW Government is investing or has committed to a number of initiatives to expand the freight network. It notes that WestConnex and Sydney Gateway will effectively extend the M4 corridor to

Port Botany and boost capacity on the M5 corridor, better connecting Port Botany and freight precincts in western Sydney.

Local planning

Sydney Airport Master Plan

As part of the planning framework under the Airports Act, leased federal airports are required to prepare a master plan. Section 70(1) of the Airports Act requires airports regulated by the Act to have a final master plan.

The *Sydney Airport Master Plan 2039* (SACL, 2019a) (the Master Plan) provides a 20-year plan for the development and operation of Sydney Airport.

The Master Plan includes reference to the Sydney Gateway road project and notes that Transport for NSW is preparing the concept design and working with Sydney Airport Corporation. The Master Plan was developed with reference to the project potentially being part of the external road network (subject to project approval). The Master Plan's five-year ground transport plan for Sydney Airport (2019 to 2024) has been developed to complement the project.

The Master Plan notes that:

- A Sydney Gateway connection will complement Sydney Airport's planned infrastructure improvements
- The ground transport solutions proposed at Sydney Airport's terminals recognise the potential changes in traffic volumes and patterns resulting from the opening of WestConnex and any Sydney Gateway connection
- The ground transport plan allows for widening of Qantas Drive and Airport Drive and a partial grade separated road at the entry to Terminals 2/3.

All development within Sydney Airport needs to be consistent with the Master Plan. Further information about the consistency of the project with the Master Plan is provided in Chapter 3 (Strategic context and project need) and in Chapters 9 to 27 in relation to each of the environmental issues.

The project is consistent with future planning for ground transport as described by Master Plan. One of the objectives of the plan is to 'improve ground access to, from and past the airport'. The needs defined by the plan, which would be met by the project, include access improvements to Sydney Airport terminals, and to Sydney Airport's northern lands for the planned aviation support precinct (including freight and logistics facilities). The master plan identifies that these improvements may include new roads and a bridge over Alexandra Canal, Airport Drive and the existing rail corridor, which are proposed as part of the project.

The project is consistent with future planning for ground transport as described by the Master Plan, and meets Sydney Airport's development, growth and infrastructure needs as defined in these plans. As described in section 5.14, Sydney Airport Corporation has proposed and carried out a number of road and access improvements within Sydney Airport land, including the proposed ground transport interchange. The project would complement and enhance the operation and efficiency of these improvements, working together to improve access to and from Sydney Airport's terminal and freight facilities.

NSW Ports' 30 Year Master Plan

NSW Ports began operations in mid-2013 under a 99-year lease for Port Botany, Port Kembla, the Cooks River Intermodal Terminal and the Enfield Intermodal Logistics Centre. *Navigating the Future: NSW Ports' 30 Year Master Plan* (NSW Ports, 2015) documents the actions required to create a sustainable port supply chain that will meet the needs of NSW over the next 30 years and beyond. It details expected trade growth and outlines the actions to address this growth. The plan notes that:

- Port Botany is vital to the economic wellbeing of Sydney and NSW and is NSW's only container port and the largest bulk liquid and gas port

- Most of Port Botany's trade caters for Sydney's consumers and businesses, with 80 per cent of import containers delivered within a 40 kilometres radius from Port Botany
- Port Botany will be required to cater for growing trade volumes over the next 30 years
- Container volumes could more than triple from 2.3 million to 8.4 million TEUs over the next 30 years
- Maximising the capacity of Port Botany and its ability to meet the predicted growth in freight throughput requires a combined investment in, and optimisation of, both road and rail networks.

The plan identifies five objectives to respond to these needs and sustainably cater for forecast trade growth. A key part of meeting Port Botany's future transport needs will be maximising the transport of containers by rail between Port Botany and Sydney metropolitan intermodal terminals. The Botany Rail Duplication project will contribute to meeting this objective.

The plan recognises that while the increased use of freight rail will assist in managing growth in truck volumes, roads will continue to be an important means of moving freight to and from ports and intermodal terminals. It is therefore essential that efficient road connections are available. The project will assist in achieving this and the plan's objective 1: 'Provide efficient road connections to the ports and intermodal terminals'. With regard to this objective, the plan notes that managing the growth in truck numbers will be important to limit congestion at Port Botany and to limit impacts on the local community. The plan notes a number of actions under this objective, including 'deliver an efficient connection from Foreshore Road to the proposed M4 Motorway connection at St Peters'.

The project would provide new high capacity road connections between the Sydney motorway network, towards Port Botany, allowing traffic to bypass roads through local areas, including Botany Road. It would provide a connection from St Peters interchange to the arterial road network near Sydney Airport, which would enable trucks to access Foreshore Road via General Holmes Drive and Joyce Drive.

The project, together with the Botany Rail Duplication project, the development of the Sydney motorway network (eg M4 East, New M5 and M4-M5 Link), and other key road infrastructure projects, would expand capacity and support connections to Port Botany.

Botany Bay Planning Strategy 2031

The *Botany Bay Planning Strategy 2031* (City of Botany Bay, 2009) was prepared to provide a framework for growth of the (then) Botany Bay local government area (now part of the Bayside local government area). The strategy provides employment and housing targets for different areas within the local government area, and notes the areas that provide opportunities for housing growth, renewal and redevelopment (including around Mascot Station and Botany Road).

The plan recognises that Sydney Airport is a nationally significant asset. One of the strategy directions of the plan is 'Maintaining Sydney Airport as a Global Gateway'.

The plan notes that many of the streets in the local government area have high daily traffic volumes, with a high proportion of traffic (including heavy vehicle traffic) associated with Sydney Airport and Port Botany, and that there is little distinction between local and regional traffic functions on roads in the local government area. In particular, the strategy notes urban amenity issues associated with heavy vehicle volumes using Botany Road to access Port Botany. The plan provides a number of actions aimed towards amenity improvements along O'Riordan Street and Botany Road.

The project is consistent with the strategy's planning principle 7: 'Separate regional and local traffic rail and road movements'. By providing high capacity road connections between the Sydney motorway network, Sydney Airport and towards Port Botany, the project would facilitate improved connections between Western Sydney, Sydney Airport and Port Botany. It would expand road capacity for airport and port traffic, and assist in improving traffic flow and reducing congestion on other roads in the local government area. It would facilitate opportunities for future urban renewal by reducing the growth in road traffic on Botany Road, O'Riordan Street and local roads. It would also create opportunities for improved connectivity, active transport links and public transport improvements, and improved urban design outcomes and local amenity.

Appendix G
Preliminary environmental risk assessment

Sydney Gateway Road Project

Environmental Impact Statement / Preliminary Draft Major Development Plan

Roads and Maritime Services | May 2019

Appendix G

Preliminary Environmental Risk Assessment

NSW GOVERNMENT

Sydney Gateway Road Project

Environmental Impact Statement / Preliminary Draft Major Development Plan

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1. Introduction

1.1 Background

Sydney Kingsford Smith Airport (Sydney Airport) and Port Botany are two of Australia's most important infrastructure assets, providing essential domestic and international connectivity for people and goods. Together they form a strategic centre, which is set to grow significantly over the next 20 years. To support this growth, employees, residents, visitors and businesses need reliable access to the airport and port, and efficient connections to Sydney's strategic centres.

The NSW and Australian governments are making major investments in the transport network to achieve this vision. New road and freight rail options are being investigated to cater for the forecast growth in passengers and freight through Sydney Airport and Port Botany. Part of this solution is Sydney Gateway, which comprises the following road and rail projects:

- Sydney Gateway road project (the subject of this environmental risk assessment)
- Botany Rail Duplication.

Sydney Gateway will expand and improve the road and freight rail networks to Sydney Airport and Port Botany to keep Sydney moving and growing. The Sydney Gateway road project forms part of the NSW Government's long-term strategy to invest in an integrated transport network and make journeys easier, safer and faster.

As part of Sydney Gateway, NSW Roads and Maritime Services (Roads and Maritime) and Sydney Airport Corporation propose to build the Sydney Gateway road project (the project). The project comprises new direct high capacity road connections linking the Sydney motorway network at St Peters interchange with Sydney Airport's terminals and beyond.

The project is declared State significant infrastructure under Division 5.2 of the NSW *Environmental Planning & Assessment Act 1979* (EP&A Act) and needs approval from the NSW Minister for Planning and Public Spaces. The project is also major airport development under the Commonwealth *Airports Act 1996* (Airports Act) and needs approval from the Australian Minister for Infrastructure, Transport, Cities and Regional Development. A combined environmental impact statement (EIS) and draft major development plan (MDP) will be prepared to support the application for approval under the EP&A Act and the Airports Act, respectively.

1.2 Purpose

As part of the process of undertaking a detailed environmental impact assessment for the project, an environmental risk assessment has been undertaken. The purpose of undertaking the risk assessment process was to identify key issues and impacts to be incorporated into the impact assessment.

This environmental risk assessment also addresses the requirement to identify the impacts of the project, including the likelihood and consequence (including worst-case scenario) of the impact (comprehensive risk assessment) in accordance with Secretary's Environmental Assessment Requirements (SEARs) reference 3(c). There are no MDP requirements specifically relevant to environmental risk assessment.

2. Risk analysis framework

The environmental risk analysis was undertaken in general accordance with the principles of the Australian/New Zealand Standard *AS/NZS ISO 31000:2009 Risk management – Principles and* guidelines (Standards Australia, 2009). The risk analysis involved assessing the risk level of each identified potential impact by identifying the consequences of the impact and the likelihood that the impact can occur.

Definitions of the 'consequence' and 'likelihood' of the impacts are discussed in more detail in the following sections.

2.1 Evaluating consequence

Consequence is defined as the implication of an impact. The consequences of an impact require a degree of subjective assessment as the likely consequences of an impact may consist of several elements.

The elements that have been considered in this risk assessment are described in Table 2.1.

Table 2.1 Consequence definitions

Consequence	Definition
Extreme	▪ Long-term (greater than 12 months) and irreversible large-scale environmental, social or economic impacts ▪ May be local or wider spatial extent (including up to state-wide) ▪ One or more fatalities ▪ Resulting in major prosecution under relevant environmental legislation ▪ Extended substantial disruption and impacts to stakeholders
Major	▪ Medium to long-term (6 to 12 months) and potentially irreversible ▪ May be local or wider spatial extent (no greater than nearby local government areas) ▪ Two to ten serious injuries ▪ Extensive remediation required ▪ Resulting in a fine or equivalent penalty under relevant environmental legislation ▪ Severe disruptions or long-term impacts to stakeholders
Moderate	▪ Short to medium-term (1 to 6 months), reversible and/or well-contained impacts ▪ May be local spatial extent (the site and nearby surrounds) ▪ One serious injury ▪ Minor remedial actions ▪ Moderate disruptions or impacts to stakeholders
Minor	▪ Short-term (less than 1 month), and reversible ▪ May be localised spatial extent (within site boundaries) ▪ One or more minor injuries ▪ Within environmental regulatory limits ▪ Minor or short-term disruptions or impacts to stakeholders
Not significant	▪ Very short-term and readily reversible (not significant) ▪ No appreciable changes to environment ▪ No injuries ▪ Negligible impacts to environment, stakeholders or customers

2.2 Evaluating likelihood

The likelihood of an impact occurring can be described in terms of probability. Overlaying this is the need to recognise the uncertainty that may be associated with the possible impacts, particularly during the initial risk assessment process. Where there is scientific uncertainty a cautious approach will identify a higher level of risk (worst-case scenario).

Each identifiable impact can be assigned likelihood between rare and certain (refer to Table 2.2). In simplifying the possible impacts for the purpose of a risk assessment, an element of subjectivity is introduced. The purpose of the risk assessment is not necessarily to agree on the probability of any particular impact, but to facilitate an understanding of the relative probability of different impacts.

Table 2.2 Likelihood definition

Likelihood	Definition
Certain	Expected to occur frequently during the time of activity or project
Likely	Expected to occur occasionally during the time of activity or project
Possible	More likely to occur than not occur during the time of activity or project
Unlikely	More likely not to occur than occur during the time of activity or project
Rare/highly unlikely	Not expected to occur during the time of activity or project

2.3 Environmental risk assessment matrix

Based on the assessment of consequence and likelihood any foreseeable impact can be assigned a risk level. This determines the significance of the environmental risk associated with a given impact. Table 2.3 is to be read as a matrix, with increasing consequence left to right and decreasing likelihood top to bottom.

Table 2.3 Environmental risk assessment matrix

	Consequence				
Likelihood	**Not significant**	**Minor**	**Moderate**	**Major**	**Extreme**
Almost Certain	Medium	Medium	High	Very high	Very high
Likely	Low	Medium	High	High	Very high
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	High

Very high impacts were considered the highest priority and, where present, were the focus of the concept design and environmental assessment. In general, the following was applied when scoping requirements for the environmental assessment.

- **Very high impacts** – Assessment and planning is necessary to avoid these impacts to the greatest extent possible.
- **High impacts** – Detailed specialist investigation and assessment is necessary to enable identification of appropriate management and mitigation options.
- **Medium impacts** –Further investigation as part of the environmental assessment is desirable, to address some uncertainties. Impacts could be mitigated through the application of relatively standard environmental mitigation measures.
- **Low impacts** – May not require specialist investigations, particularly where identifiable management/mitigation guidelines exist then potentially only broad or desktop investigation is necessary. Impacts could be mitigated through other working controls (such as detailed design requirements, normal working practice, safety and quality controls).

3. Environmental risk assessment

Using the risk framework discussed in section 2 a preliminary environmental risk assessment and residual environmental risk assessment were undertaken for the construction and operation of the project and are presented in Table 3.1.

The preliminary environmental risk assessment was carried out in the form of a preliminary, desktop level risk assessment, to broadly assess the potential environmental impacts and risks associated with construction and operation of the project. The assessment was based on evidence, previous experience and professional judgement of potential risks, and their consequence, likelihood and significance (without mitigation). The environmental risk assessment identified and ranked potential impacts with the aim of refining and prioritising the scope of the environmental assessment including the specialist studies which support this environmental impact statement.

The environmental impact assessment addresses the issues that were confirmed as key issues through this preliminary environmental risk assessment process in addition to those identified in the Secretary's Environmental Assessment Requirements (SEARs). Key issues are those issues that have medium or higher impacts (actual or perceived) and require comprehensive assessment to determine the severity of potential effects and to identify appropriate management and mitigation measures. Those impacts that were identified as medium or above as part of the preliminary environmental risk assessment are detailed in Chapter 9 to Chapter 26.

Based on the impacts identified as part of the environmental impact assessment (refer to Chapter 9 to Chapter 26) the preliminary risk assessment was re-evaluated to assess the residual risks of the project. This enabled the preliminary risk analysis to be refined and to also take into account available mitigation measures, hence representing an analysis of residual risks. The assessment was based on evidence, previous experience and professional judgement of potential risks, and their consequence, likelihood and significance with mitigation (provided in section 27.3).

No impacts were identified as having a high residual risk following implementation of the environmental management approach and mitigation measures proposed in section 27.3. Residual risks are discussed further in Chapter 9 to Chapter 26.

For the majority of these impacts the risk ranking was high prior to mitigation, indicating that implementation of the environmental management approach and mitigation measures proposed in this EIS would effectively minimise the impacts associated with the project.

Table 3.1 Environmental risk assessment

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
Traffic, transport and access – construction	Changes to intersection and traffic performance due to heavy vehicle movements, narrowing of lanes, speed restrictions and temporary lane closures	Likely	Moderate	High	Refer to section 27.3	Possible	Moderate	Medium
	Disruptions and delays to public transport operations, particularly buses	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts on access to Sydney Airport	Likely	Major	High	Refer to section 27.3	Possible	Major	High
	Impacts on access to commercial properties in the vicinity of work areas	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts to pedestrian and cyclist access where modifications are required to accommodate access to construction areas	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Impacts to the existing shared path in Tempe and along Alexandra Canal	Likely	Moderate	High	Refer to section 27.3	Likely	Moderate	High
	Impacts on the availability of on street parking on local streets surrounding construction work areas	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low
	Impacts to access to residential properties	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Impacts to access for emergency services vehicles, particularly potential for delays	Possible	Major	High	Refer to section 27.3	Unlikely	Major	Medium
	Cumulative traffic and transport impacts taking into account other projects in the study area, particularly the Botany Rail Duplication project	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Traffic, transport and access – operation	Changes (detrimental) to intersection and traffic performance in surrounding areas	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Effects on access to Sydney Airport	Unlikely	Major	Medium	Refer to section 27.3	Unlikely	Major	Medium
	Access changes associated with the closure of Swamp Road, Tempe	Almost Certain	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Increase in heavy vehicles travelling on Burrows Road	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
Noise and vibration (amenity) – construction	Elevated noise and vibration levels around construction sites, compounds, site accesses and haul routes affects amenity for sensitive receivers	Likely	Moderate	High	Refer to section 27.3	Possible	Moderate	Medium
	Noise impacts on sensitive receivers (including residents, employees, hotel guests and recreation facility users) for work undertaken outside of standard working hours (such as works the potential to intrude	Possible	Moderate	Medium	Refer to section 27.3	Possible	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Sydney Airport's prescribed airspace)							
	Cumulative noise impacts with the Botany Rail Duplication	Possible	Minor	Medium	Refer to section 27.3	Possible	Minor	Medium
	Cumulative noise impacts with other projects	Possible	Minor	Medium	Refer to section 27.3	Possible	Minor	Medium
Noise and vibration (structural) – construction	Vibration impacts on heritage structures causing structural damage	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Vibration impacts on sensitive equipment	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Vibration impacts on other structures	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Noise and vibration – operation	Impacts on sensitive receivers as a result of noise associated with the operation of new road infrastructure including elevated structures (such as bridges)	Possible	Moderate	Medium	Refer to section 27.3	Possible	Moderate	Medium
	Effects on noise generated by Sydney Airport as a result of the removal of potential noise shielding provided by buildings at the Qantas Jet Base on Qantas Drive	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
Air quality and odour– construction	Impacts on air quality as a result of dust generation during construction (from earthworks, ground disturbance, vegetation removal, exposed soil/stockpiles, excavation and vehicle movements)	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts on air quality from decommissioning and demolition activities	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts on air quality as a result of emissions from vehicles or plant during construction	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Impacts to air quality as a result of odours/emissions from disturbance of waste materials at the former Tempe Tip site	Possible	Moderate	Medium	Refer to section 27.3	Possible	Moderate	Medium
Air quality and odour – operation	Impacts to air quality as a result of vehicle exhaust emissions	Possible	Moderate	Medium	Refer to section 27.3	Possible	Minor	Medium
Aviation hazards – construction	Risks to aviation as a result of the use of large plant and equipment (such as cranes and pilling rigs) which may intrude into Sydney Airport's prescribed airspace (including the OLS).	Likely	Extreme	Very high	Refer to section 27.3	Rare	Extreme	High
	Risks to aviation as a result of light spill	Possible	Extreme	High	Refer to section 27.3	Unlikely	Extreme	High
	Risks to aviation as a result of interference with navigational aids	Unlikely	Extreme	High	Refer to section 27.3	Unlikely	Extreme	High

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Accidental disruptions to utilities and services, which may affect airport lighting or power to navigational aids.	Unlikely	Major	Medium	Refer to section 27.3	Unlikely	Major	Medium
Aviation hazards – operation	Risks to aviation as a result of temporary or permanent intrusions in Sydney Airport's prescribed airspace (including the OLS)	Possible	Extreme	High	Refer to section 27.3	Unlikely	Extreme	High
	Risks to aviation as a result of light spill from new lights and headlight glare	Possible	Extreme	High	Refer to section 27.3	Unlikely	Extreme	High
	Risks to aviation as a result of windshear and turbulence caused by the introduction of new structures or landforms close to the airport	Possible	Extreme	High	Refer to section 27.3	Unlikely	Extreme	High
Contamination – construction	Management and disposal of leachate from the former Tempe landfill where the removal of the capping layer results in the infiltration of rainwater and the production of additional leachate that may not be managed by the existing leachate system	Almost Certain	Moderate	High	Refer to section 27.3	Almost Certain	Moderate	High
	Potential disturbance to the leachate and gas management systems	Likely	Moderate	High	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Disturbance / mobilisation of the landfilled materials and contaminants at the Tempe Tip	Likely	Moderate	High	Refer to section 27.3	Unlikely	Moderate	Medium
	Disturbance / mobilisation of contaminated sediments in Alexandra Canal (as a result of construction in the banks of the canal)	Likely	Moderate	High	Refer to section 27.3	Unlikely	Moderate	Medium
	Interaction with potentially contaminated soils and groundwater, including PFAS	Almost Certain	Moderate	High	Refer to section 27.3	Likely	Moderate	High
	Accidental discharge of potentially contaminated groundwater	Likely	Moderate	High	Refer to section 27.3	Unlikely	Moderate	Medium
	Dewatering, management and disposal of contaminated groundwater / managing the disposal of contaminated soils.	Likely	Moderate	High	Refer to section 27.3	Unlikely	Moderate	Medium
	Contamination of soils and groundwater due to spills or leaks of fuels, oil or other hazardous substances	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Direct contact and or inhalation of contaminated soil / groundwater by site workers	Likely	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
Contamination – operation	Disturbance / mobilisation of sediments in Alexandra Canal due to new stormwater outlets	Likely	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Impacts on the leachate management system at the former Tempe Tip site	Unlikely	Minor	Low	Refer to section 27.3	Rare	Moderate	Low
Water quality – construction	Sedimentation of local and downstream watercourses and water bodies, including Alexandra Canal, Tempe Wetlands, Cooks River, and Botany Bay	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts to water quality due to disturbance of actual or potential acid sulphate soils and / or acid drainage	Likely	Moderate	High	Refer to section 27.3	Likely	Minor	Medium
	Impacts on surface water from spills or leaks from construction plant and equipment.	Likely	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
Water quality - operation	Impacts on surface water quality as a result of runoff from road and pavement surfaces containing contaminants from vehicle movements (oils, grease, heavy metals etc)	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Spills or leaks of fuel and/or oils from vehicle accidents impacting surface water quality	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Sedimentation or scouring effects at stormwater discharge locations	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Hydrology and flooding – construction	Impairment or modification of existing drainage infrastructure which results in changes to overland flows, drainage pathways and flood regimes.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Changes to impervious areas and/or the catchment area of existing drainage infrastructure, reduction in floodplain storage	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low
	Impacts on existing flood evacuation routes and flood risk areas	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Changes to overland flows and drainage pathways as a result of the disruption of existing flow patterns and infrastructure	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Changes to flooding regimes and behaviour upstream or downstream of the location of temporary construction infrastructure and compounds	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low
Hydrology and flooding - operation	Changes to impervious areas and/or the catchment area of existing drainage infrastructure, reduction in floodplain storage	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low
	Impacts on existing flood evacuation routes and flood risk areas	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Changes to flooding regimes, including potential for increased property inundation, increased flood duration/velocities and impacts.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Groundwater – construction	Dewatering activities resulting in drawdown of the groundwater table, impacts to subsurface flow and potential settlement/ stability of nearby structures.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Groundwater – operation	Potential impacts to groundwater flows associated with new bridge piers and other subsurface infrastructure.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Minor	Low
Non-Aboriginal heritage – construction	Direct physical impacts to items listed on the State Heritage Register (Alexandra Canal)	Almost Certain	Moderate	High	Refer to section 27.3	Likely	Moderate	High
	Direct (physical) impacts on other heritage items	Almost Certain	Minor to moderate	Medium to High	Refer to section 27.3	Likely	Minor to moderate	Medium to High
	Impacts to the fabric of items as a result of vibration generated by construction in the vicinity of the item	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Temporary impacts to views to or from a heritage item.	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
Non-Aboriginal – operation	Impacts to the heritage significance of Alexandra Canal as a result of the change in the landscape and visual context	Likely	Major	High	Refer to section 27.3	Possible	Major	High

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Impacts to items of heritage significance at Sydney Airport	Likely	Moderate	High	Refer to section 27.3	Possible	Moderate	Medium
	Cumulative impacts to heritage in the study area	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low
Aboriginal heritage – construction	Impacts on the identified areas of archaeological potential	Likely	Moderate	High	Refer to section 27.3	Unlikely	Moderate	Medium
	Disturbance of any previously undiscovered items of Aboriginal heritage significance	Unlikely	Minor to moderate	Low to Medium	Refer to section 27.3	Unlikely	Minor	Low
Social and business impacts - construction	Impacts on some businesses as a result of the land requirements for the project (acquisition and lease cessation)	Almost Certain	Moderate	High	Refer to section 27.3	Likely	Moderate	High
	Impacts on community infrastructure at Tempe Lands as a result of the temporary land requirements of the project	Almost Certain	Minor	Medium	Refer to section 27.3	Likely	Minor	Medium
	Community and business amenity impacts during construction	Possible	Moderate	Medium	Refer to section 27.3	Possible	Moderate	Medium
	Temporary impacts on community values and lifestyle for local residents, workers, and visitors, due to changes to travel patterns	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Temporary access restrictions or changes resulting from construction sites and activities,	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	which may affect how people access community infrastructure, and how they use the existing rail and road infrastructure							
	Indirect (amenity) impacts to Tempe Recreation Reserve such that recreation land uses are affected	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Minor	Low
Social and business impacts - operation	Impacts on properties, including advertising structures located along Qantas and Joyce Drive, Qantas Flight Training General as a result of the project's land requirements	Almost Certain	Moderate	High	Refer to section 27.3	Likely	Moderate	High
	Changes to connectivity and access in and around the project site, negatively impacting local businesses and the community.	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts to community and business amenity, including as a result of changes to traffic, noise, air quality and the visual environment.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Impacts on amenity and the use of other nearby community facilities and areas within the Tempe Recreation Reserve as a result of the presence of the project.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Impacts on community infrastructure as a result of the permanent land requirements of the project	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Land use, property - construction	Temporary leasing of additional areas outside the operational footprint to facilitate construction negatively affects the availability of land for other uses (temporary impacts to land use)	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Temporary direct impacts to land uses at Tempe Recreation Reserve, including restrictions of use in some areas	Unlikely	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
	Temporary loss of public open space (recreation land uses) at Tempe Lands	Almost Certain	Moderate	High	Refer to section 27.3	Likely	Moderate	High
	Temporary leasing of additional areas outside the operational footprint to facilitate construction negatively affects the availability of land for other uses (temporary impacts to land use)	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
Land use and property impacts - operation	Permanent impacts on the availability of land for recreation uses (in Tempe Lands)	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Changes to land use and future development potential, including	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	as a result of any severance or sterilisation of land.							
	Land permanently required for the project results in a significant change to land use in the study area, negatively affecting the availability of land for non-transport related uses (including changes to the availability of industrial zoned land)	Possible	Moderate	Medium	Refer to section 27.3	Possible	Moderate	Medium
Urban design and visual – construction	Temporary visual impacts to sensitive visual receivers in the vicinity of the construction works and from areas with views of the project site	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Urban design and visual – operation	Permanent visual impacts as a result of introduction of new road infrastructure visible from a number of viewpoints (including new bridges, other elevated sections of road infrastructure, and permanent noise mitigation measures)	Likely	Moderate	High	Refer to section 27.3	Possible	Moderate	Medium
	Impacts on the landscape characteristics and visual amenity of Tempe Recreation reserve.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Visual impacts on the character and appearance of Alexandra Canal as a result of the proposed new bridges, including the provision of any piers within the canal	Likely	Moderate	High	Refer to section 27.3	Possible	Moderate	Medium
	Visual impact as a result of the removal of mature trees and vegetation in some areas	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Issues associated with the integration with the design of adjoining and nearby projects and developments, including St Peters interchange, the Botany Rail Duplication and developments at Sydney Airport.	Unlikely	Minor	Low	Refer to section 27.3	Unlikely	Minor	Low
Biodiversity – construction	Indirect impacts to aquatic habitats downstream of the project site (including as a result of reduced water quality)	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Direct impacts to species and habitats at Tempe Wetlands	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Impacts on foraging habitat for threatened species, such as the Grey headed flying fox	Likely	Minor	Medium	Refer to section 27.3	Possible	Minor	Medium
	Impacts to native vegetation	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Loss of fauna habitat, fragmentation and loss of connectivity	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Impacts to threatened flora species and/or communities	Unlikely	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Mortality of fauna during construction	Possible	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Introduction and/or spread of weeds.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Biodiversity – operation	Impacts to native vegetation and habitats as a result of uncontrolled discharge of polluted stormwater.	Rare	Minor	Low	Refer to section 27.3	Rare	Minor	Low
	Mortality of fauna during operation	Rare	Minor	Low	Refer to section 27.3	Rare	Minor	Low
Soils, landform and geology – construction	Erosion of exposed soil and stockpiled materials	Likely	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Exposure of soil containing acid sulfides to oxygen, resulting in the production and mobilisation of sulfuric acid	Likely	Moderate	High	Refer to section 27.3	Likely	Not significant	Low
	Increases in salinity levels in soil							
	Potential for localised changes to landforms such as earth embankments and cut or fill areas which could impact local hydrology	Almost Certain	Minor	Medium	Refer to section 27.3	Likely	Minor	Medium

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
Resource and waste – construction	Inappropriate management of waste generated during construction resulting in excessive waste being directed to landfill.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
	Inappropriate management of waste during construction and operation resulting in environmental, health and amenity impacts, including contamination, water quality impacts, odour and dust.	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Risks, health and safety - construction	Accidental release of dangerous or hazardous materials to the environment due to improper handling or storage or in the event of a vehicle or construction equipment incident	Possible	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
	Accidental damage to, or interference with, live underground services during construction with impacts on utility users, including businesses and individuals	Possible	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
	Hazardous materials exposure during demolition of buildings/structures and impacts on the surrounding environment, including nearby populations	Possible	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
	Working in/near an operating road and rail environment - worker safety	Possible	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
	Unauthorised public access to the site causing public safety risks, due to the close proximity to residents, road users and business owners	Possible	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
Risks, health and safety - operation	Risks associated with the accidental release of dangerous or hazardous materials to the environment in the event of a vehicle accident	Unlikely	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
	Road safety risks for motorists, pedestrians and cyclists during operation.	Possible	Moderate	Medium	Refer to section 27.3	Rare	Moderate	Low
	The potential for negative health impacts associated with changes to the noise and air environment	Possible	Moderate	Medium	Refer to section 27.3	Unlikely	Moderate	Medium
Climate change and GHG – construction	Greenhouse gas emissions from combustion of fuels by construction plant/vehicles	Likely	Minor	Medium	Refer to section 27.3	Unlikely	Minor	Low
	Increased energy consumption associated with site compounds	Likely	Minor	Medium	Refer to section 27.3	Rare	Minor	Low

Key issue	Potential impact/risk	Initial risk rating			Potential mitigation and management approaches	Post-mitigation (residual) risk rating		
		Likelihood	Consequence	Risk rating		Likelihood	Consequence	Risk rating
Climate change and GHG – operation	Greenhouse gas emissions resulting from: ▪ Fuel consumed by vehicles using the road ▪ Road maintenance activities ▪ Electricity to power control systems such as computer systems, signage and lighting	Almost certain	Minor	Medium	Refer to section 27.3	Likely	Minor	Medium
	Increased frequency and intensity in extreme weather events causing damage to road surfaces	Likely	Moderate	High	Refer to section 27.3	Likely	Minor	Medium
Waste - Construction	Inappropriate management of waste generated during construction resulting in excessive waste being directed to landfill	Possible	Minor	Medium	Refer to section 27.3	Rare	Minor	Low
Waste - Operation	Littering from maintenance teams resulting in pollution of receiving environments	Unlikely	Minor	Low	Refer to section 27.3	Rare	Minor	Low

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