Planning Secretary's Environmental Assessment Requirements

Section 5.16 of the *Environmental Planning and Assessment Act 1979*

Application Number	SSI 18_9737
Proposal	Sydney Gateway Road Project comprising a new direct high capacity road connection linking the Sydney motorway network at the St Peters interchange with Sydney Kingsford Smith Airport Terminal 1 and Airport Drive in the south, and Qantas Drive in the east. It includes new bridges over Alexandra Canal, a new access to Terminals 2/3 and active transport connections.
Location	Land within the localities of Mascot, Tempe and St Peters
Proponent	Roads and Maritime Services
Date of Issue	15 February 2019

1. General Standard SEARs

Desired Performance Outcome	Requirement	Current Guidelines[1]
1. Environmental Impact Assessment Process The process for assessment of the proposal is transparent, balanced, well focussed and legal.	1. The Environmental Impact Statement must be prepared in accordance with Part 3 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation). 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, supplementary environmental assessment requirements may need to be issued to ensure that a streamlined assessment under an Accredited Assessment can be achieved. 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. 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.* 5. The onus is on the Proponent to ensure legislative requirements relevant to the proposal are met.	EPBC Act Environment Assessment Process (SEWPAC, 2010)

[1] Guidelines listed are the current list of guidelines that may be applicable to a SSI proposal. It is the Proponents responsibility to identify, and justify, which guidelines have been applied to a specific proposal.

2. Environmental Impact Statement The proposal is described in sufficient detail to enable clear understanding that the proposal has been developed through an iterative process of impact identification and assessment and proposal refinement to avoid, minimise or offset impacts so that the proposal, on balance, has the least adverse environmental, social and economic impact, including its cumulative impacts.	1. The EIS must include, but not necessarily be limited to, the following: (a) 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 – – the proposed route, – all surface road work upgrades including road widening, intersection treatments, partial or full road closures and bridges, – pedestrian and cyclist facilities including any temporary changes resulting from construction activities, – construction and operational ancillary facilities and infrastructure, – the relationship of the proposal with existing and proposed road and freight transport services; – all utility undertakings (relocations, augmentations, adjustments and protection works) which will be undertaken as part of the proposal.; and – land use changes and acquisition of privately owned, council and crown land.; (c) a statement of the objective(s) of the proposal; (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 landuse strategies and policies, and district plans; (e) an analysis of any feasible alternatives to the proposal.[2]; (f) a description of feasible options within the proposal, including the placement of any bridge piers within or in close proximity to Alexandra Canal.[3]; (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; (h) a concise description of alternative construction methods that were analysed and preferred methods;	

[2] Alternatives to a proposal are different proposals which would achieve the same proposal objective(s) including the consequences of not carrying out the proposal. For example, alternatives to a road proposal may be a rail proposal in the same area and alternate routes for the road.

[3] Options within the proposal are variations of the same proposal. For example, options within a road proposal could be staged delivery; tolls; design of an intersection; the location or design of a bridge; locations for a ventilation outlet structure.

	(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; (j) a demonstration of how the proposal design has been developed to avoid or minimise likely adverse impacts; (k) the identification and assessment of key issues as provided in the 'Assessment of Key Issues' performance outcome; (l) a statement of the outcome(s) the proponent will achieve for each key issue; (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; (n) consideration of the interactions between measures proposed to avoid or minimise impact(s), between impacts themselves and between measures and impacts;[4] (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; (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; (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	

[4] Measures proposed to avoid or minimise one impact may cause an unintended impact on another issue. Therefore, these impacts and their interactions need to be analysed and resolved where possible.

	– 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 (r) relevant proposal plans, drawings, diagrams in an electronic format that enables integration with mapping and other technical software. 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.	
3. Assessment of Key Issues* Key issue impacts are assessed objectively and thoroughly to provide confidence that the proposal will be constructed and operated within acceptable levels of impact. * Key issues are nominated by the Proponent in the CSSI proposal application and by the Department in the SEARs. Key issues need to be reviewed throughout the preparation of the EIS to ensure any new key issues that emerge are captured. The key issues identified in this document are not exhaustive but are key issues common to most CSSI proposals.	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. 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; (b) describe the legislative and policy context, as far as it is relevant to the issue; (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; (d) demonstrate how options within the proposal potentially affect the level of impacts relevant to the issue; (e) demonstrate how potential impacts have been avoided (through design, or construction or operation methodologies); (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 (g) detail how any residual impacts will be managed or offset, and the approach and effectiveness of these measures.	

	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.	
4. Consultation The proposal is developed with meaningful and effective engagement during proposal design and delivery.	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. 2. The Proponent must document the consultation process and demonstrate how the proposal has responded to the inputs received. 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.	

2. Key Issue Standard SEARs

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
1. Transport and Traffic Network connectivity, safety and efficiency of the transport system in the vicinity of the proposal are managed to minimise impacts. The safety of transport system customers is maintained. Impacts on network capacity and the level of service are effectively managed.	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; (b) the indicative number, frequency and size of construction related vehicles (passenger, commercial and heavy vehicles, including spoil management movements); (c) construction worker parking; (d) the nature of existing traffic (types and number of movements) on	Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2007) Guide to Traffic Generating Developments Version 2.2 (RTA, 2002) Cycling Aspects of Austroads Guides (Austroads, 2014) NSW Bicycle Guidelines v 1.2 (RTA, 2005) Planning Guidelines for Walking and Cycling (DIPNR, 2004)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
Works are compatible with existing infrastructure and future transport corridors.	construction access routes (including consideration of peak traffic times, pedestrians and cyclists and parking arrangements); (e) access constraints and impacts on public transport, pedestrians and cyclists (infrastructure and services); (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 (g) impacts to on street parking, including for residents and businesses; (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. 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; (b) travel time analysis for the different road transport modes; (c) performance of key interchanges and intersections by undertaking a level of service analysis at key locations; (d) wider transport interactions (local and regional roads, cycling, public transport, airport, port and freight transport); (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; (f) property and business access and on-street parking.	NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
2. Noise and Vibration - Amenity Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on acoustic amenity. Increases in noise emissions and vibration affecting nearby properties and other sensitive receivers during operation of the proposal are effectively managed to protect the amenity and well-being of the community.	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. 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); (b) the intensity and duration of noise (both air and ground borne) and vibration impacts. This must include consideration of extended construction impacts associated with ancillary facilities (and the like) and construction fatigue; (c) the identification of receivers, existing and proposed, during the construction period; (d) the nature of the impact and the sensitivity of receivers and level of impact; (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); (f) noise impacts of out-of-hours works (including utility works), possible locations where out-of-hours works would be undertaken, the	Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (ANZECC, 1990) Assessing Vibration: A technical guideline (DEC, 2006) Interim Construction Noise Guideline (DECCW, 2009) Noise Policy for Industry (EPA, 2017) Construction Noise Strategy (TfNSW, 2012) NSW Road Noise Policy (DECCW, 2011) Environmental Noise Management Manual (RMS 2001) Noise Mitigation Guideline (RMS, 2015) Noise Criteria Guideline (RMS, 2015) Construction Noise and Vibration Guideline (RMS, 2016) NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)

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	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); (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; (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 (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. 3. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	
3. Noise and Vibration - Structural Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage.	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 2. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures Assessing vibration: A technical guideline (DEC, 2006) BS 7385 Part 2-1993 Evaluation and measurement for vibration in buildings" Part 2

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
Increases in noise emissions and vibration affecting environmental heritage as defined in the *Heritage Act 1977* during operation of the proposal are effectively managed.		
4. Place Making and Urban Design The proposal design complements the amenity, character and quality of the surrounding environment. The proposal contributes to the accessibility and connectivity of communities. The proposal contributes to an increase in tree canopy for greater Sydney.	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; (b) identify areas of reduced traffic volumes and reduction of traffic permeation, particularly in and around commercial and community centres; (c) avoid locating infrastructure, including ancillary facilities, adjoining residential areas and other sensitive receivers, and justify where this cannot be achieved; (d) achieve high quality landscape design, streetscapes, architecture and design; (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; (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; (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 (h) explore the use of Crime Prevention Through Environmental Design (CPTED) principles during the design development process, including natural surveillance, lighting, walkways, signage and landscape.	Better Placed – an integrated design policy for the built environment in NSW (NSW Government Architect, 2017) AS4282-1997 Control of the obtrusive effects of outdoor lighting Beyond the Pavement: RTA urban design policy, procedures and design principles (RMS, 2014) Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012) NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013) Crime prevention and the assessment of development applications (DUAC, 2001) Crime Prevention through Environmental Design (CPTED) (Queensland Government, 2007) Disability (Access to Premises – Buildings) Standards 2010 Technical guideline for Urban Green Cover in NSW Healthy Urban Development *Checklist* (NSW Health, 2009)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	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; (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 (c) opportunities to integrate and enhance accessibility including the provisions public and active transport infrastructure as a result of the proposal. 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 (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.	Cycling Aspects of Austroads Guides (Austroads, 2014) NSW Bicycle Guidelines v 1.2 (RTA, 2005) Planning Guidelines for Walking and Cycling (DIPNR, 2004)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
5. Visual Amenity The proposal minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.	1. The Proponent must assess the visual impact of the proposal and any ancillary infrastructure on: (a) views and vistas; (b) streetscapes, key sites and buildings (including existing landscape works, greenspace and tree canopy); (c) heritage items including Aboriginal places and environmental heritage; and (d) the local community. 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.	AS4282-1997 Control of the obtrusive effects of outdoor lighting Beyond the Pavement: urban design policy, procedures and design principles (RMS, 2014) Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012) NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013) Technical guideline for Urban Green Cover in NSW (OEH, 2015)
6. Socio-economic, Land Use and Property The proposal minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The proposal minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.	**Social** 1. The Proponent must assess social and economic impacts in accordance with the current guidelines. 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 3. the assessment must address as relevant, how environmental changes in the locality may affect people's: (a) way of life; (b) community;	Social Impact Assessment Guideline (DPE, 2017) Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment (RMS, 2013)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	(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. It must also consider how different groups may be disproportionately affected and communities severed by the proposal.	
7. Heritage The design, construction and operation of the proposal facilitates, to the greatest extent possible, the long-term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places. The design, construction and operation of the proposal avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places.	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; (b) Aboriginal places of heritage significance, as defined in the Standard Instrument – Principal Local Environmental Plan; (c) environmental heritage, as defined under the *Heritage Act 1977*; (d) items listed on the State, National and World Heritage lists; (e) heritage items and conservation areas identified in local and regional environmental planning instruments applicable to the proposal area 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	Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) Aboriginal Cultural Heritage Consultation requirements for proponents (DECCW, 2010) Code of practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010) NSW Skeletal Remains: Guidelines for Management of Human Remains (Heritage Office, 1998) Aboriginal site recording form Aboriginal site impact recording form Aboriginal Heritage Information Management System (AHIMS) database Care agreement application form

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	Container Terminal and Mascot underbridges (O'Riordan and Robey Streets) (including significance assessment) and a historical archaeological assessment; (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); (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) (d) outline measures to avoid and minimise those impacts during construction and operation in accordance with the current guidelines; and (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). 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). 4. Where impacts to Aboriginal objects and/or places are proposed, consultation must be undertaken with Aboriginal people in accordance with the current guidelines.	Criteria for the assessment of excavation directors (NSW Heritage Council, 2011) NSW Heritage Manual (Heritage Office and Department of Urban Affairs and Planning, 1994) Assessing Heritage Significance (NSW Heritage Office, 2001) The Australia ICOMOS Burra Charter Historical Archaeology Code of Practice (Heritage Council, 2006) Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Council, 2009)

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8. Biodiversity The proposal design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity. Offsets and/or supplementary measures are assured which are equivalent to any remaining impacts of proposal construction and operation.	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. 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. [5] 3. The BDAR must be submitted with all digital spatial data associated with the survey and assessment as per Appendix 10 of the BAM. 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. 5. The BDAR must include details of the measures proposed to address offset obligations. 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 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).	Biodiversity Assessment Method (OEH, 2017) Policy and Guidelines for Fish Habitat Conservation and Management – Update 2013 (DPI, 2013) Threatened Species Survey and Assessment Guidelines Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003) NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013) Aquatic Ecology in Environmental Impact Assessment – EIA Guideline (Marcus Lincoln Smith, 2003)

[5] OEH will provide specific assessment requirements for any such impacts during agency consultation on the SEARs.

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
9. Flooding The proposal minimises adverse impacts on existing flooding characteristics. Construction and operation of the proposal avoids or minimises the risk of, and adverse impacts from, infrastructure flooding, flooding hazards, or dam failure.	1. The EIS must include maps illustrating the following features relevant to flooding as described in the *NSW Floodplain Development Manual* (2005): (a) flood prone land; (b) flood planning areas and any areas below the flood planning level; (c) hydraulic categorisation (floodways and flood storage areas); and (d) flood hazard. 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; (b) consistency (or inconsistency) with applicable Council floodplain risk management plans/studies; (c) compatibility with the flood hazard of the land; (d) compatibility with the hydraulic functions of flow conveyance in flood ways and storage areas of the land; (e) adverse effects to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the proposal; (f) redirection of flow, flow velocity and scour potential (including erosion, siltation, and bank stability of water courses from removal of riparian vegetation); (g) impacts the development may have upon existing community emergency management arrangements for the full range of food risks. These matters must be discussed with the State Emergency Services and Council; and (h) any impacts the development may have on the social and economic	NSW Government's Floodplain Development Manual (Department of Natural Resources, 2005) PS 07-003 New guideline and changes to section 117 direction and EP&A Regulation on flood prone land Practical Consideration of Climate Change - Flood risk management guideline (DECC, 2007)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	costs to the community as consequence of flooding. 3. The assessment should take into consideration any flood studies undertaken by local government councils and State government agencies.	
10. Water - Hydrology Long term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised. The environmental values of nearby, connected and affected water sources, groundwater and dependent ecological systems including estuarine and marine water (if applicable) are maintained (where values are achieved) or improved and maintained (where values are not achieved). Sustainable use of water resources.	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. 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. 3. The Proponent must assess (and model if appropriate) the impact of the construction and operation of the proposal and any ancillary facilities (both 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; (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	Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008) NSW Aquifer Interference Policy (DPI, 2012) NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013) Risk assessment Guidelines for Groundwater Dependent Ecosystems (Office of Water, 2012) Guidelines for Controlled activities on Waterfront Land (2012)

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	settlement; (c) changes to environmental water availability and flows, both regulated/licensed and unregulated/rules-based sources; (d) direct or indirect increases in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses; (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 existing stormwater systems where discharges are proposed through such systems; and (f) water take (direct or passive) from all surface and groundwater sources with estimates of annual volumes during construction and operation. 4. The Proponent must identify any requirements for baseline monitoring of hydrological attributes. 5. The assessment must include details of proposed surface and groundwater monitoring.	
11. Water - Quality The proposal is designed, constructed and operated to protect the NSW Water Quality Objectives where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the proposal to the extent of the proposal impact including	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; (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; (c) identify and estimate the quality and quantity of all pollutants that	NSW Water Quality and River Flow Objectives at http://www.environment.nsw.gov.au/ieo/ Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC, 2006) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ ARMCANZ, 2000) Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECC, 2008)

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estuarine and marine waters (if applicable).	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 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; (e) describe the proposed measures for treating and disposing of construction and operational wastewater flows; (f) identify the rainfall event that the water quality protection measures will be designed to cope with; (g) assess the significance of any identified impacts including consideration of the relevant ambient water quality outcomes; (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 will continue to be protected; and – where the NSW WQOs are not currently being met, activities will work toward their achievement over time; (i) justify, if required, why the WQOs cannot be maintained or achieved over time; (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; (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 (l) identify proposed monitoring locations, monitoring frequency and	Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008) Botany Bay & Catchment Water Quality Improvement Plan 2011

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	indicators of surface and groundwater quality. 2. The assessment should consider the results of any current water quality studies, as available, for the catchment areas traversed by the proposal.	
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; (b) an assessment of potential risks to human health and the environmental receptors in the vicinity of the site; (c) a description and appraisal of any mitigation and monitoring measures; and (d) consideration of whether the site is suitable for the proposed development. 2. Any assessment of contamination must be in accordance with relevant guidelines produced or approved under the Contaminated Land Management Act 1997. 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	Managing Land Contamination: Planning Guidelines SEPP 55 –Remediation of Land, (DUAP & EPA, 1998) Guidelines for Consultants Reporting on Contaminated Sites (OEH, reprinted 2011) Guidelines for the NSW Site Auditor Scheme (DEC, 2006) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015) Other guidelines made or approved under section 105 of the *Contaminated Land Management Act 1997*

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. 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.	
13. Soils The environmental values of land, including soils, subsoils and landforms, are protected. Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulfate soils and site contamination.	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. 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. 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. 4. The Proponent must assess the impacts of the proposal on soil salinity and how it may affect groundwater resources and hydrology. 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.	Acid Sulfate Soils Assessment Guidelines (DoP, 2008) Acid Sulfate Soils Manual (Acid Sulfate Soil Management Advisory Committee, 1998) Acid Sulfate Soils Planning Maps via Data.NSW Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets (http://www.environment.nsw.gov.au/salinity/solutions/urban.htm) which includes *Site Investigations for Urban* Salinity (DLWC, 2002) Landslide risk management guidelines presented in Australian Geomechanics Society (2007) Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000) Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volume 2 (A. Installation

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
		of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)
14. Air Quality The proposal is designed, constructed and operated in a manner that minimises air quality impacts (including nuisance dust and odour) to minimise risks to human health and the environment to the greatest extent practicable.	1. The Proponent must undertake an air quality impact assessment (AQIA) for construction and operation of the proposal in accordance with the current guidelines. 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)*; (b) the identification of all potential sources and types of air pollution (including PM10, PM2.5, CO, NOX, 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; (c) any proposed air quality monitoring; (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 (e) proposed construction and operational management measures.	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016) Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC, 2007) Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006)
15. Health and Safety The proposal avoids or minimises any adverse	1. The Proponent must assess the potential health impacts of the proposal, in accordance with the current guidelines.	Environmental Health Risk Assessment, Guidelines for assessing human health risks from environmental hazards, Commonwealth of Australia (enHealth, 2012)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
health impacts arising from the proposal. The proposal avoids, to the greatest extent possible, risk to public safety.	2. The assessment must: (a) describe the current known health status of the affected population; (b) assess health risks associated with exposure to environmental hazards; (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; (d) assess opportunities for health improvement; (e) assess the distribution of the health risks and benefits; (f) assess the potential for construction fatigue and outline proposed management measures; and (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. 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.	Methodology for Valuing the Health Impacts of Changes in Particle Emissions (EPA, 2013) Health Impact Assessment: A practical guide (NSW Health, 2007) Health Impact Assessment Guidelines, (enHealth, 2017) SEPP No. 33 - Hazardous and Offensive Development
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*; b) demonstrate that, during the construction and operation phases of the proposal, the proposal would not lead to non-compliance of the existing	Australian Standard AS 2885 Pipelines – Gas and liquid petroleum State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011)

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	HPDG pipelines licensed under the *Pipelines Act 1967*with the current edition of *AS 2885 - Pipelines—Gas and liquid petroleum*; and, 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).* 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.	Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).
17. Sustainability The proposal reduces the NSW Government's operating costs and ensures the effective and efficient use of resources. Conservation of natural resources is maximised.	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. 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.	Infrastructure Sustainability Rating Tool

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18. Waste All wastes generated during the construction and operation of the proposal are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.	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; 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; c) handling of waste including measures to facilitate segregation and prevent cross contamination; d) management of waste including estimated location and volume of stockpiles; e) waste minimisation and reuse; f) lawful disposal or recycling locations for each type of waste; and g) contingencies for the above, including managing unexpected waste volumes. 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.	EPA's Waste Classification Guidelines (as in force from time to time) NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013) Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)
19. Climate Change Risk The proposal is designed, constructed and operated to be resilient to the future impacts of climate change.	1. The Proponent must assess the risk and vulnerability of the proposal to climate change in accordance with the current guidelines. 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. 3. The EIS must include a qualitative assessment of changes to the heat island effect in the local area.	Australian Government's Climate Change Impacts and Risk Management – A Guide for Business and Government (2006) AS/NZS 3100:2009 Risk Management – Principles and Guidelines Technical Guide for Climate Change Adaptation for the State Road Network (RMS, in draft)