



# Assessment Requirements Library

## Impact Assessed Development

s.108 (1)(b)(c) of the PDI Act 2016

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# 1. INTRODUCTION

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For impact assessed development – either declared by the Minister or prescribed by regulation under s.108(1)(b) or (c) of the *Planning, Development and Infrastructure Act 2016* (the Act) – the State Planning Commission (the Commission) has the responsibility to prepare Assessment Criteria (i.e. guidelines) for the preparation of an Environmental Impact Statement (EIS) by the developer.

An EIS seeks to understand the nature and extent of potential impacts of a particular development or project on its receiving environment from a social, economic and environmental perspective. An EIS is the main assessment document that informs the general public, state agencies, local councils and the Commission on how critical assessment issues have been investigated, and attributable impacts avoided, mitigated and/or managed.

The process in developing, consulting upon, and implementing project specific Assessment Requirements in the preparation of an EIS document is outlined under s.112-113 of the Act and Practice Direction 17.

This library resource has been developed as a preliminary reference guide for both developers, practitioners and Planning and Land Use Services (PLUS) assessment staff alike, to help understand likely assessment matters to be addressed and information requirements needed in preparing an EIS, and to populate the Assessment Requirements template contained in Practice Direction 17.

The library contains a set of *baseline* criteria, for both the detailed and/or standard level assessment of typical issues, which may be modified or updated as needed for each project, whilst more specific criteria, that may be unique to a certain development or the nature of a potential impact for individual projects, will be further developed in consultation with state agencies (and where needed, the Commonwealth) during the drafting process

The Commission has ultimate responsibility in setting the Assessment Requirements under the Act, an iterative process informed by professional advice, state agency and council feedback, proponent review and specialist members (when appointed to the Commission for a particular project).

The initial development of the Assessment Requirements library was undertaken by JBS&G, an Environmental Consultancy, who were commissioned by PLUS, Department for Trade and Investment, to specifically develop a suite of model criteria for impact assessed developments under the Act.

The library will be periodically updated by PLUS.

## 2. LIBRARY FORMAT AND PRESENTATION

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The Assessment Requirements Library Guide has been developed as a reference document in association with Practice Direction 17. It is not a statutory document or instrument under the Act, but assists in the preparation of *draft* Assessment Requirements for the Commission's consideration for each impact assessed project where an EIS is required by the Act.

In recognition that an impact assessed development may result in significant impacts, including cumulative impacts, the library is arranged in nine assessment themes or environmental attributes, covering (1) amenity and environmental quality, (2) biological environment, (3) climate change and resource use efficiency, (4) economic environment, (5) hazards and risks, (6) land use and site conditions, (7) physical environment, (8) design and (9) social and community. Each environmental attribute may have multiple sub-attributes.

The detail in which the EIS considers each environmental attribute and the level of assessment required should be proportionate to the scale, nature and extent of potential impacts.

These impacts may be classified as 'detailed' (focussed assessment) or 'standard' (general consideration) and provide guidance to proponents on the level of assessment expected for an environmental attribute or potential impact for their EIS investigations.

## 3. KEY FACTORS TO CONSIDER

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The following factors should be considered in identifying whether the level of assessment required for an environmental attribute in the context of specific project is 'standard' or 'detailed':

- scale of the impact taking into account intensity, geographical extent and duration
- nature of the impact which should consider direct, indirect, cumulative and perceived impacts
- sensitivity of the receiving environment
- the ability to avoid, minimise and/or offset the impacts of the project, to the extent known at the scoping application stage
- the complexity of technical assessments and investigations required to identify and assess mitigation measures.

Cumulative impacts of the proposed project on environmental attributes are characterised by impacts which are:

- impacts to environmental values over time or in combination with other impacts in the dimensions of scale, intensity, duration or frequency of the impacts
- created by the activities on other adjacent, upstream and downstream developments and infrastructure, and landholders.

To assist in the preparation of Assessment Requirements, a proponent will be asked to prepare an initial EIS Scoping study, which should provide a detailed overview of the key factors that have been considered in the initial assessment of potential impacts (and focus of preliminary investigations) for the EIS.

Refer to **Table 1** below.

**Table 1: Description and examples of key factors to consider during scoping**

Key factor	Components of factor	Description of example
<b>Scale of the Impact</b>	Severity	<p>The scale or degree of the impact relative to the current situation or adopted standards or performance measures.</p> <p>The intensity may be measured quantitatively and compared to reference values (e.g. area of vegetation cleared, air and water quality, noise levels, change or disruption to ecological community function) or qualitatively.</p>
	Geographical extent	The geographical reach of the impacts of the development or the range within which the impacts are observable.
	Duration	<p>The timeframe over which the impact occurs (e.g. for a short period, during construction only; during operations permanently).</p> <p>It may also refer to the period/s in which the impacts are observable and the regularity of the impacts (e.g. irregular, intermittent, regularly during operations).</p>
<b>Nature of the Impact</b>	Direct impacts	Impacts caused directly by the development. They usually occur at the same time as the development and within the vicinity of the site (e.g. vegetation clearing, air emissions).
	Indirect impacts	<p>Impacts that occur as a consequence of the development or its direct impacts.</p> <p>Impacts may be delayed and happen further away from the site (e.g. project changes water table, changes affect wetland and causes an impact on groundwater dependent ecosystems).</p>

Key factor	Components of factor	Description of example
		Impacts may also occur due to growth or land use changes facilitated by the project (e.g. a new transmission line may open up new areas for renewable energy generation).
	Cumulative impacts	The combined impacts of the project on a matter combined with other relevant existing and future projects (e.g. marine impacts from multiple port developments).
	Perceived impacts	There are a range of perceptions of the same impacts by people or groups.
<b>Sensitivity of the Receiving Environment</b>	Existing regulations and guidance	The degree of sensitivity expressed in legislation or relative to adopted standards and performance measures (e.g. Guidelines for the use of the <i>Environment Protection (Noise) Policy 2007</i> ).
	Value to society	<p><u>Environmental value</u>: e.g. water quality, natural habitat).</p> <p><u>Social value</u>: e.g. community value, landscape, recreation, lifestyle disturbance, water quality, cultural heritage, amenity.</p> <p><u>Economic value</u>: e.g. water supply, critical transport routes.</p>
	Vulnerability / resilience to change	The degree of vulnerability of the environment to the impacts of the project or resilience to cope with change. Regard should be had to the likely scale and nature of the impacts of the development and the sensitivity and adaptive capacity of the environment.

## 4. ASSESSMENT LEVEL CHARACTERISTICS

The level of assessment required for an environmental attribute in the context of a specific project will be determined as 'standard' or 'detailed' based on the scale of the project, nature of the impacts, sensitivity of the receiving environment, ability to avoid, minimise and/or offset the impacts and complexity of technical assessment required.

When project impacts are well understood and not likely to be significant if managed through conventional management and mitigation measures, it is expected that a 'standard' level of assessment would be appropriate and detailed investigations would not be warranted. Alternatively, where significant or cumulative impacts are likely or there is sufficient complexity, uncertainty or need for further investigation, these should be designated as 'detailed' requirements. This ensures the assessment effort is directed to matters requiring detailed investigation.

For example, some forms of development – such as dredging works and disposal methods for a major port development – may result in significant environmental impacts requiring a 'detailed' assessment, whilst other activities may have more easily determined and quantifiable impacts, requiring a 'standard' level of assessment (i.e. carparking requirements). Other activities may still require an initial investigation to determine whether or not a detailed assessment is required, and where it remains unclear that either a standard or detailed assessment is required, a full assessment will be needed.

Typical characteristics of 'standard' and 'detailed' levels of assessment are provided in **Table 2**. A detailed level of assessment is required if the impact of the development has one or more of the characteristics set out below.

Detailed requirements will generally supplement standard level requirements.

**Table 2: Characteristics of detailed and standard assessment**

Level of Assessment	Characteristic of the impact of the development
<b>Standard</b>	<p>The project is unlikely to result in significant impacts on the environmental attribute if managed through conventional management and mitigation measures, including cumulative impacts.</p> <p>While the assessment of the impacts of the development on the environmental attribute will involve technical specialists, these impacts are likely to be:</p> <ul style="list-style-type: none"><li>• well understood by regulators and stakeholders</li><li>• relatively easy to predict using standard methods</li><li>• capable of being mitigated to comply with relevant standards or performance measures.</li></ul> <p>The assessments will be supported by quantitative assessment methods, although the focus and coverage may be on specific project components or project locations.</p> <p>The assessment is unlikely to involve any significant uncertainties, or require any detailed cumulative impact assessment.</p>

Level of Assessment	Characteristic of the impact of the development
<b>Detailed</b>	<p>The development has a high / medium probability of causing significant environmental impact on the environmental attribute, including cumulative impacts.</p> <p>There is a high / medium probability of impacts on the development from external environmental factors, such as those associated with climate change (sea-level rise, increased frequency of bushfire, floods etc).</p> <p>It is considered important by the Commission, and/or there is a public perception that an activity has the potential to cause significant impacts on the environmental attribute (even though this may be mistaken), or the activity has been the subject of extensive media coverage.</p> <p>Potential impacts to a Matter of National Environmental Significance (MNES) are likely to require referral and approval under the <i>Environment Protection Biodiversity and Conservation Act 1999</i>. The development raises requirements under other legislation applicable for the development (e.g. prescribed activities of environmental significance under the <i>Environment Protection Act 1993</i>).</p> <p>Assessment of the impacts of the development on the environmental attribute will require detailed studies and investigations to be carried out by technical specialists. During this assessment, these specialists may need to:</p> <ul style="list-style-type: none"> <li>• work closely with specialists assessing the impacts of the project on other environmental attributes to determine the likely indirect impacts of the project</li> <li>• undertake a detailed cumulative impact assessment for the project.</li> </ul> <p>Assessment is likely to involve several uncertainties in relation to one or more of the following and specific strategies may be required to address these uncertainties (e.g. further monitoring, review, technical investigations and adaptive management).</p> <ul style="list-style-type: none"> <li>• data collection (e.g. baseline information, availability of data for cumulative impacts assessment)</li> <li>• identifying the specific mitigation measures or suitable offsets for the project</li> <li>• the methods available for predicting the impacts of the project, including the indirect and cumulative impacts</li> <li>• criteria for evaluating the acceptability of the impacts of the project</li> <li>• specific strategies may be required to address these uncertainties (e.g. further monitoring, review, technical investigations and adaptive management).</li> </ul>

## 5. STRUCTURE OF THE ASSESSMENT REQUIREMENT LIBRARY

The Assessment Requirements (ARs) library comprises example ARs based on a list of environmental attributes that would ordinarily be addressed in an EIS. Table 3 outlines the structure of the Assessment Requirements structure, and Table 4 provides an overview of the nine environmental attributes that comprise the full library.

**Table 3: Structure of example Assessment Requirements**

AR element	Content
Objective	An environmental objective for each environmental attribute should be identified which identifies the desired outcome. The EIS should demonstrate how the project will meet this objective.
Context	This section sets out the context for the environmental attribute. This may include the legislative framework, the scope of the potential issues, importance of the issue to the South Australian community, or any relevant broader context (national / international).
Considerations	<p>This section sets out the baseline or minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed.</p> <p>Such considerations may include evidence that publicly available databases have been searched, identification of important matters under State and Commonwealth legislation, basic overview of existing / known environmental, social and economic conditions has been provided, and a preliminary desktop assessment of potential issues has been undertaken.</p>
Assessment Requirements	<p>Example standard and Detailed Assessment Requirements which may apply following consideration of the key scoping factors (see Table 1) and align with the characteristics in Table 2 above).</p> <p>For some environmental attributes, only examples of Detailed Assessment Requirements have been provided as the nature and scale of projects typically assessed by EIS would generally require detailed assessment (e.g. social and economic impact assessments).</p>
Suggested guidance documents	This is a suggested (and not exhaustive) list of existing legislation, policies, guidelines, standards etc. that should be considered by the proponent in the assessment.

***Please note - Additional Information for assessors for each environmental attribute and sub-sections is provided in italics.***

**Table 4: Assessment categories and environmental attributes**

Assessment category	Environmental attribute and typical issues
Amenity and Environmental Quality	<p><b>Air quality</b> Ground level concentrations (include construction / traffic), odour, stack emissions, receptors (location and sensitivity).</p> <p><b>Noise / Vibration</b> Noise / vibration type (include traffic noise), underwater noise, noise level, sensitive receptors and location. Sensitive receptors may include terrestrial and marine fauna.</p> <p><b>Transport and Traffic</b> Traffic disruptions- commuter and local, public transport, pedestrians / cyclists, changes to traffic flow and volumes - temporary / ongoing, road / maritime safety, car parking, presence of heavy vehicles, impacts to road pavement, marine traffic / shipping.</p> <p><b>Visual amenity</b> Interface with adjoining land, landscape changes, built form, light spill</p>
Biological Environment	<p><b>Biosecurity</b> Weeds, pest species (including marine pests), diseases and pathogens.</p> <p><b>Matters of National Environmental Significance</b> Nationally threatened species and communities, migratory species, wetlands of national importance (Ramsar), Commonwealth marine areas.</p> <p><b>Marine Flora and Fauna</b> Marine protected areas, threatened species, communities/ ecosystems, seagrass clearance, biodiversity loss.</p> <p><b>Terrestrial and Aquatic Flora and Fauna</b> Protected areas, threatened species and communities, native vegetation clearance, habitat loss through clearing fire or fragmentation, biodiversity loss.</p>
Climate Change and Resource Use Efficiency	<p><b>Climate Change Adaptation</b> Climate change risk assessment</p> <p><b>Greenhouse gas emissions</b> Greenhouse gas emissions including emissions reduction targets, NGER reporting, cumulative impacts on state and national GHG inventories and targets.</p> <p><b>Sustainable use of resources</b> Sustainable procurement, products / materials, energy efficiency</p> <p><b>Waste Management</b> Waste hierarchy; waste recycling / disposal</p>

Assessment category	Environmental attribute and typical issues
Economic Environment	<p><b>Local, regional and state economies</b> Economic impact assessment which addresses workforce / employment, existing economic land and marine uses (primary production, tourism, ports, fisheries), infrastructure - utilities (energy, water), telecommunications, ports, rail), displacement, competition, opportunities, temporary and ongoing for existing businesses / industries, property and land values</p>
Hazards and Risks	<p><b>Bushfire, Floods, Site Contamination</b> Hazard risk management, bushfire, flooding, contamination and dangerous goods</p>
Land Use and Site Considerations	<p><b>Land Tenure, Protected Areas and Land Use</b> Land tenure (freehold, pastoral lease, mining, oil and gas, native title, crown land), generalised land use, population centres, major infrastructure and utilities (including marine infrastructure), P&amp;D Code Overlays and Zones, reserved areas (including marine parks), changes / displacement of land uses</p>
Physical Environment	<p><b>Coastal and Marine</b> Coastal land systems (dunes, estuaries, beaches, island), and marine water quality</p> <p><b>Soils, Landform and Geology</b> Erosion and sedimentation, soil compaction and inversion, contamination (spills), land subsidence and acid sulfate soils.</p> <p><b>Surface Water and Groundwater</b> Surface water quality (sedimentation, wastewater, spills, use of surface water) and groundwater use and quality.</p>
Design	<p><b>Design Quality</b> Supporting design excellence to create desirable and socially inclusive places.</p>
Social and Community	<p><b>Aboriginal cultural heritage</b> Known and unknown Aboriginal sites, objects and remains</p> <p><b>Community wellbeing</b> Social impact assessment which addresses impacts to specific groups, impacts to services, impacts / displacement of residential areas, public safety (including perceptions), recreation and public space amenity</p> <p><b>Heritage Places and Areas</b> Listed national, state and local heritage sites</p>

## 6. ASSESSMENT REQUIREMENTS LIBRARY

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### Environmental Attribute 1: Amenity and Environmental Quality

#### AEQ1: Air Quality

##### *Objective*

To ensure the development does not have unacceptable adverse air quality impacts on the surrounding receiving environment, in particular sensitive receivers in proximity to polluting development.

##### *Context*

Emissions from a development which impact on air quality have the potential to adversely affect human health and amenity, terrestrial and marine fauna and flora and other sensitive receivers. The extent of impacts is also affected by the ability of the surrounding environment and local and regional meteorology to influence the dispersal of contaminants and assimilate additional contaminants.

Impacts to air quality from or to a proposed development can be caused by emissions (e.g. particulates, dust or odour) from a variety of sources. These sources include point sources such as chimney stacks, process flares, crushers, storage bins, stockpiles and biological treatment lagoons), diffuse sources such as dust from unsealed areas of the site, and fugitive emissions such as leaks from containment vessels).

The *Environment Protection (Air Quality) Policy 2016* (Air Quality EPP) sets out the air quality standards adopted by the SA EPA, and should be read in conjunction with the the EPA's Ambient Air Quality Assessment 2016 publication.

Guidance on meeting requirements in the Air Quality EPP is provided in *the Evaluation distances of effective air quality and noise management 2016* which provides recommended evaluation distances between polluting activities and sensitive receivers within which potential adverse impacts need to be assessed.

*[The Assessment Requirements for Greenhouse Gas Emissions address emissions reduction and National Greenhouse and Energy Reporting for the development]*

##### *Considerations for air quality*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential impacts to air quality from or to a development should consider:

- Description of the activities likely to generate emissions with potential to impact air quality (including odour) and identification of the likely nature and level of those emissions (diffuse, point source or fugitive).

- Whether the development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993*, but without limiting a wider consideration on meeting a *general environmental duty* (as required by section 25 of the EP Act), the Objects of the EP Act and Environment Protection Policies.
- Description of the existing character, land uses and environmental values of the receiving air environment and any nearby sensitive places and receivers
- Whether the development is defined as a sensitive use in the guidance document for evaluation distances and likely to be impacted by nearby uses. If so, whether there is likely to be an interface issue (based on application of evaluation distances)?
- The likelihood of air quality impacts on the health and biodiversity of ecosystems
- Overview of potential impacts to air quality during construction and operation.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for air quality impact assessment should be prepared to assist proponents]*

1. Describe the existing air environment at the proposed development site and the surrounding area and airshed, including local and regional meteorology, existing sources of contaminants and background / ambient levels of air contaminants.
2. Provide an emissions inventory and description of the characteristics of contaminants or materials that would be released from point and diffuse sources and fugitive emissions when carrying out the development activity. This should address construction, commissioning, operation, upset conditions, and closure of the proposed development.
3. Provide an assessment of predicted impacts of emissions on environmental values of the receiving environment in accordance with the Air Quality EPP. Assessment should take into account the sensitivity and assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts.
4. Provide an assessment of the compatibility of the development's air emissions with existing or potential land uses in surrounding areas and the cumulative impact of emissions with other known releases of contaminants, materials or wastes associated with existing development and possible future development (i.e. as described by approved plans and existing project approvals).
5. Describe the proposed mitigation measures to protect the environmental values for air quality, how the relevant standards and indicators may be achieved. If required, revisit project design and construction methodologies to reduce air quality impacts to demonstrate that the Air Quality EPP will be met.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to air quality may be required]:*

- The preliminary assessment indicates that there is high or medium probability that significant air emissions from the development will be dispersed beyond the development's site boundaries.

- There is a public perception that the development has the potential to cause significant air quality impacts, and /or these potential impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.
- The preliminary assessment indicates that there is high or medium probability that air quality impacts from the proposed development will exceed the Air Quality EPP criteria (including criteria for odour or ground level concentrations).
- The preliminary assessment indicates that there is high or medium probability that the development will be impacted by significant air emissions from surrounding uses.
- A proposed activity is likely to be classed as a prescribed activity of environmental significance under the Environment Protection Act.
- The potential impacts to a MNES (e.g. nationally threatened species) are likely to require referral and approval under the *Environment Protection Biodiversity and Conservation Act 1999*.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. Provide an air quality impact assessment prepared by an appropriately qualified specialist for all potential sources of dust / particles and gaseous pollutants associated with the construction and ongoing operation of the proposed development, to identify any known or potential human health and amenity effects of air emissions (including point source and diffuse sources) on the residential population and local businesses and describe how these would be mitigated, minimised, managed and monitored.
3. The impact assessment must include modelling undertaken in accordance with the *Environment Protection (Air Quality) Policy 2016* and the EPA's *Ambient Air Quality Assessment 2016* guidance document. Techniques used to obtain the predictions should be referenced and key assumptions and data sets explained.
4. Impact assessment must outline the impacts of dust / particles and gaseous pollutants on existing commercial operations and any other identified nearby sensitive receivers in the vicinity of the proposed development, including cumulative impacts.
5. If potential impacts of air emissions on MNES require approval under the EPBC Act, an assessment of air quality impacts on the affected MNES must be prepared by an appropriately qualified specialist. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 16: Emissions and Hazardous Activities](#)
- *Environment Protection Act 1993*
- *Environment Protection (Air Quality) Policy 2016*
- Evaluation distances of effective air quality and noise management 2016 (SA EPA)
- Ambient Air Quality Assessment 2016 (SA EPA)
- Emission Testing Methodology for Air Pollution 2012 (SA EPA)

## AEQ2: Noise / Vibration

### Objective

To ensure the development does not have unacceptable adverse noise or vibration impacts on the surrounding environment, in particular sensitive receivers in proximity to noise sources.

### Context

Noise or vibration from a development has the potential to adversely affect human health and amenity, terrestrial and marine fauna and other sensitive receivers such as vibration-sensitive equipment.

The main legislation relevant to noise is the *Environment Protection Act 1993* (EP Act), which creates a general environmental duty (GED) to take all reasonable and practical steps to prevent or minimise any resulting environmental harm.

The *Environment Protection (Noise) Policy 2007* (Noise EPP) establishes criteria for the assessment and management of various noise sources, including industrial, mechanical noise, construction noise. As not all noise sources are managed by the Noise EPP, where the Noise EPP does not address the noise source the GED under the EP Act is used.

The Noise EPP provides a legal framework for the assessment of a wide range of complex noise issues, balancing legitimate activities which cause noise, with the rights of people who are exposed to and potentially affected by the noise. The Noise EPP should be read in conjunction with the *Guidelines for the use of the Environment Protection (Noise) Policy 2007*. Noise is often commonly defined as unwanted sound and can include underwater noise and groundborne noise/vibration.

Guidance on meeting requirements in the Noise EPP is provided in the *Evaluation distances of effective air quality and noise management*. This document provides recommended evaluation distances between polluting activities and sensitive receivers within which adverse impacts need to be assessed.

Noise that impacts matters of national environmental significance (MNES) such as nationally listed fauna species may have implications under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

*[The Assessment Requirements for Land address land use, land tenure and protected areas.]*

### Considerations for noise and vibration

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential impacts of noise and vibration from a development should consider:

- Description of the activities likely to generate noise / vibration and identification of the likely nature and level of noise (including development related traffic).
- Description of the existing character, land use, land use category and environmental values of the receiving environment and any nearby sensitive places and receivers (including MNES).
- Whether the development is defined as a sensitive use in the guidance document for evaluation distances and likely to be impacted by nearby uses

- Whether the noise / vibration impacts are of a type that would be covered by the Noise EPP
- Identification of activities which are excluded from the Noise EPP and may be regulated under the GED of the EP Act. *Note - The general environmental duty is a requirement of the Environment Protection Act to (amongst other obligations) ensure that a person must not undertake an activity unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.*
- The likelihood of noise / vibration impacts on the health and biodiversity of ecosystems.
- Overview of potential noise / vibration impacts during construction and operation.

The SA EPA has advised that the *Environment Protection (Noise) Policy 2007* is in the process of being updated. Information regarding the public consultation of the Draft *Environment Protection (Commercial and Industrial) Noise Policy 2022* can be found at:

[www.epa.sa.gov.au/community/have\\_your\\_say](http://www.epa.sa.gov.au/community/have_your_say) .

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for noise modelling should be prepared to assist proponents]*

1. Describe and illustrate the locations of any noise and vibration sensitive receivers both proposed or existing (including marine and terrestrial fauna). Also describe any other environmental values that could be impacted by noise emitted from or to the development.
2. Describe current background noise and vibration levels at sensitive receivers, including their location, who they are, and how have they been defined. *Note – the analysis must clearly identify all types of sensitive receivers, noting that these could include commercial/industrial land uses, and for the protection of the workers at those sites.*
3. Describe sources and characteristics of noise and vibration that would be emitted during the construction, commissioning, operation, upset conditions, and closure of the development.
4. If MNES have been identified, undertake an assessment of potential noise impacts to MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
5. Provide an assessment of the compatibility of the development's noise emissions with existing or potential land uses in surrounding areas and the cumulative impact of emissions with other known noise / vibration emissions associated with existing development and possible future development (i.e. as described by approved plans and existing project approvals).
6. Describe noise emission and vibration impacts on fauna, including nocturnal species, and how these impacts will be managed.
7. Describe and design strategies to mitigate noise and vibration impacts and how environmental management objectives for noise and vibrations would be achieved. If required, revisit project design and construction methodologies to reduce noise/vibration impacts to demonstrate that the Noise EPP and/or environmental duty will be met.

### Underwater noise

8. Describe how underwater noise from the development (including piling, dredging, drilling, shipping movements and onshore blasting etc) could impact marine fauna.
9. Undertake assessment of underwater noise and demonstrate how the development will meet the General Environmental Duty under the *Environment Protection Act 1993*.
10. Describe and design environmental management strategies to mitigate noise and vibration impacts of underwater noise on marine fauna.

### Categorisation of Matters Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to noise and vibration may be required]:*

- The preliminary assessment indicates that there is high or medium probability that noise / vibration impacts from the proposed development on sensitive receivers, or on the proposed development from existing noise sources, will exceed the Noise EPP or not meet the General Environmental Duty under the *Environment Protection Act 1993*.
- There is a public perception that the development has the potential to cause significant noise or vibration impacts, and /or these potential impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.
- A proposed activity is likely to be classed as a prescribed activity of environmental significance under the *Environment Protection Act 1993*. *Note - The general environmental duty is a requirement of the Environment Protection Act to (amongst other obligations) ensure that a person must not undertake an activity unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.*
- The potential impacts to a MNES (e.g. nationally threatened species) are likely to require referral and approval under the *Environment Protection Biodiversity and Conservation Act 1999*.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.]*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. Provide an impact assessment of noise / vibration from or on the proposed development, prepared in accordance with the *Guidelines for the use of the Environment Protection (Noise) Policy 2007\** by a suitably experienced, professional acoustic engineering consultant. *\*Note – this policy is under active review and may soon be replaced by the Environment Protection (Commercial and Industrial) Noise Policy.*
3. The assessment should describe changes to background noise and vibration levels as a result of the development (during both the construction and operational phases). Sufficient data should be gathered to provide baseline information for comparison with any future monitoring undertaken during the construction and operational phases.

4. The noise assessment should include noise contours from a suitable acoustic model for all significant noise generating activities operating under worst case acoustic and meteorological (and or oceanographic for marine underwater noise) conditions for the transmission of noise from source to receivers.
5. If potential impacts of noise and vibration on MNES require approval under the EPBC Act, an assessment of noise / vibration impacts on the affected MNES must be prepared by a suitably experienced, professional acoustic engineering consultant. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
6. Provide a vibration assessment prepared by a suitably experienced, professional acoustic engineering consultant, assessing the worst case predicted vibration from the development. The report must describe what reasonable and practicable measures will be taken to minimise vibration impacts on sensitive receivers, including marine mammals where relevant, and the likely effectiveness of these measures, with a view to demonstrating how the 'General Environmental Duty' (as described in section 25 of the *Environment Protection Act 1993*) will be met.
7. Underwater noise modelling must be undertaken by suitably experienced specialist. Modelling must include modelling of bed substrates (acoustically reflective or acoustically absorptive) to understand the propagation beyond the proximity of the noise source (e.g. piling). The assessment must identify the distance to which there would be a biological impact to aquatic species.
8. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
9. Describe how environmental management objectives for noise and vibrations would be achieved, monitored, audited and reported, and how corrective actions would be managed.
10. Propose environmental management strategies that will avoid long-term impacts of underwater noise on marine fauna and describe how objectives would be monitored and audited, and how corrective actions would be managed.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 16: Emissions and Hazardous Activities](#)
- *Environment Protection Act 1993*
- Environment Protection (Noise) Policy 2007
- Evaluation distances of effective air quality and noise management (SA EPA)
- *Guidelines for the use of the Environment Protection (Noise) Policy 2007*
- [Department for Infrastructure and Transport Underwater Piling Noise Guidelines](#) (new version in prep).
- [Guidelines for the assessment of noise from rail infrastructure](#) (SA EPA Guideline)
- [Road Traffic Noise Guidelines](#) (DIT Guideline)

## AEQ3: Transport and Traffic

### Objective

To ensure impacts to the safety and efficiency of transport modes and the broader transport and traffic system and infrastructure are avoided or mitigated.

### Context

Movement of plant, equipment, materials and workers during the construction phase of a development lead to impacts on local and regional transport and traffic infrastructure. Impacts can range from traffic disruption, changes to traffic flow and volume, road safety, car parking, the presence of heavy vehicles and impacts to road pavements. There also may be ongoing impacts from operations and maintenance activities for some projects.

*[The Assessment Requirements for Air Quality address air quality impacts to amenity and liveability due to transport and traffic (e.g. dust and fuel emissions); the Assessment Requirements for Noise and Vibration address noise and vibration impacts to amenity and liveability from traffic and transport.]*

### Considerations for transport and traffic

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential impacts to transport and traffic from a development should consider:

- Description of materials to be transported, anticipated timing, sources of materials, routes, number and methods of transport (e.g. shipping, heavy vehicles, rail, air)
- Whether the development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993* (e.g. railway operations, aerodromes, bulk shipping, helicopter landing facilities)
- Identification of key potential impacts to:
  - transport and traffic infrastructure during both construction and operational phases (temporary or permanent)
  - access to arterial or local roads, rail, air or port facilities
  - road safety impacts
  - pedestrians, cyclists or public transport
  - car parking.

### Assessment Requirements

#### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for transport impact assessment should be prepared to assist proponents]*

1. A Transport and Access Impact Assessment should be prepared by a suitably qualified traffic and access engineer, evaluating current and proposed access arrangements including the effect on the arterial road network and car parking, and vehicle interface with the local road network. Any assessment must address implications for the entire supply chain and the traffic and access impact for the construction, operation, maintenance and decommissioning phases.

2. The assessment should determine the transport system asset improvements, asset management / maintenance requirements, and operational management requirements to accommodate the increase in movements and/or vehicle sizes/mass for affected transport assets and services across all modes for the proposal's construction / implementation and operational phases. The assessment should provide where relevant:
  - A summary of the transport task for the development (including workforce and end-to-end supply chain (input and output)) during construction, operations and decommissioning phases of the development. This should address predicted traffic volumes, proposed vehicle types, number/frequencies, hours of activity and traffic peaks, any requirements that are outside of the current gazetted heavy vehicle networks, and any measures required to ensure compliance with the 'Heavy Vehicle National Law'.
  - A description of the existing transport and traffic environment (using traffic data, accident statistics) and include (where relevant) public transport networks, car parking, school bus routes, and public pedestrian, cycle pathways or trails.
  - Any operational management measures to minimise delays and ensure safety for other transport users (e.g. temporary road closures/detours), including transport of plant and equipment to/from the site.
  - Requirements for temporary or permanent modifications to roads or rail infrastructure (including rail crossings and bridges), upgrades to road surfaces, access on arterial and / or local roads and car parking as a result of the development including any increase (temporary or ongoing) in maintenance requirements of transport assets.
  - Any management measures for transport of hazardous materials.
  - Describe how identified impacts to transport and access will be mitigated. Mitigation strategies may include works, contributions or other strategies that can be documented in a traffic management plan. Strategies must be prepared in close consultation with relevant transport authorities, including local government.

#### Maritime operations (if relevant)

3. Describe expected marine traffic volumes to and from port / wharves, including expected boat/ship movements, timing and patterns.
4. Describe marine traffic impacts associated with these movements (e.g. interaction with other vessels, impacts to navigation aids) including to existing operators (e.g. tourist operators, ferry services, recreational users).
5. Discuss the measures that will be undertaken to mitigate these impacts and any safety measures that will be implemented to ensure public safety.

#### Rail operations (if relevant)

6. Assess the potential impacts of any temporary or permanent disruption of existing freight and passenger rail services that would be due to either track works, increased rail traffic, or subsidence.
7. Discuss the measures that will be undertaken to mitigate these impacts.

#### Air operations (if relevant)

8. Assess the capacity of existing airports or airfields to handle the demand for air transport of people and/or freight. If existing facilities do not have sufficient capacity, describe and illustrate the requirements for any new or altered air transport facilities (e.g. runways, radar, lights and/or beacons).

9. Describe the likely additional number of flights, size of aircraft, their frequency and timing, particularly noting any increase in night arrivals or take-offs. Describe and illustrate any air routes that would take new or increased air traffic.
10. Describe any features of the project that could impact on air transport, such as the placement of waste dumps, stacks or flares beneath flight paths.
11. Discuss the measures that will be undertaken to mitigate these impacts.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to traffic and transport may be required]:*

- The preliminary assessment indicates that there is high or medium probability of large scale and significant ongoing disruption or modification to traffic movement and/ or infrastructure.
- The preliminary assessment indicates there is high or medium probability for extensive and ongoing direct and indirect impacts to transport systems (including rail, road and maritime systems).
- There is a public perception that the development has the potential to cause large scale and ongoing disruption to transport and traffic and / or potential transport and traffic impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.
- A proposed activity is likely to be classed as a prescribed activity of environmental significance under the Environment Protection Act (e.g. railway operations, aerodromes, bulk shipping, helicopter landing facilities)

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.]*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. The scope of a transport and traffic impact assessment requiring detailed assessment will build on the Standard Assessment Requirements and be driven by the scale, nature and location of the development and the anticipated transport and traffic impacts. It is expected that the content of the assessment would be determined in consultation with state and local government and other transport infrastructure operators.
3. The detailed transport and traffic impact assessment report must be prepared by a suitably qualified planner/engineer and will address end-to-end supply chain (input and output) potential impacts to road, rail, maritime and air transport operations (where relevant). The transport and traffic impact assessment must address each proposed project-affected mode (e.g. road, rail, air, port and sea) for each phase of the proposed project.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 11: Strategic Transport Infrastructure](#)
- Relevant Regional Plans
- Planning and Design Code (online)
- AUSTROADS Guide to Road Design
- AUSTROADS Guide to Traffic Management
- Highway Capacity Manual Volume 2 (HCM)
- Heavy Vehicle National Law (schedule to the Heavy Vehicle National Law Act 2012 (Qld).
- Australian Level Crossing Assessment Model (ALCAM 2020).

## AEQ4: Visual Amenity, Landscape and Open Space

### Objective

To ensure adverse effects on visual amenity, landscape and open space values are avoided or minimised and opportunities to enhance these values are maximised.

### Context

Perceived impacts to visual amenity can be subjective and are driven by the sensitivity of the viewpoint and the perspective of the viewer. Scenic quality is an important aspect of visual amenity and is a significant environmental and community resource. Locations potentially sensitive to changes in visual amenity include residential dwellings, locations of public and private importance, tourist destinations and heritage sites and major roads.

Potential impacts at sensitive locations result from the presence of temporary and permanent development infrastructure and alteration or removal of public open space, landscape buffers and vegetation which affect enjoyment of open space. Light spillage from temporary and permanent infrastructure can also decrease the amenity of adjacent neighbourhoods, parks and community facilities.

The Planning and Design Code provides for performance outcomes designed to enhance the visual appearance of development and minimise aesthetic impacts of the design and siting of structures on residential areas and townships, rural vistas, the natural environment, existing public views to landscape from key vantage points, scenic routes and public roads. A planning assessment undertaken for the development would address the required performance outcomes for visual amenity under the Code.

*[The Assessment Requirements for Community Wellbeing / Social Impact Assessment address potential temporary or permanent effects of developments on the use of open space and the enjoyment of passive and active recreational opportunities.]*

### Considerations for visual amenity, landscape and open space

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. [Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Currently, there is no formalised standard methodology at local, state or federal government levels for visual assessment. Preliminary assessment in the proponent's scoping application of the potential impacts to visual amenity, landscape and open space from a development should consider:

- A description of the elements of the development (including activities and infrastructure) likely to result in temporary or permanent impacts to visual amenity in terms of landscape and open space values (including night lighting).
- An overview of the existing landscape character and the likely sensitive locations and landscapes / open space which would be the focus of further detailed visual impact assessment (including areas covered by the Significant Landscape Protection Overlay of the Code)
- A description of the likely impacts of the development (both temporary and permanent) on surrounding sensitive locations, scenic or significant vistas, including light spill.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for visual impact assessment should be prepared to assist proponents]*

1. Provide a description of the landscape character, features and values of the development area and its environs. This should address (where relevant):
  - components of the development that may result in impacts to visual amenity
  - public and private viewsheds to the development and the visual values of the area
  - viewsheds in which the development features, including from nearby residences, public lookouts, tourist attractions, roads and key vantage points in the vicinity
  - existing built features within the landscape and their impact on the existing landscape and visual setting.
2. Describe the effects of the development on visual amenity and landscape quality for residents and visitors for both near and distant views, from important viewing points, including from the land and sea. This should include construction, operations and closure / rehabilitation aspects of the proposal and address light spill from the development.
3. If required, provide a visual analysis of the development from key viewpoints, including photomontages or perspectives showing the proposed and likely future development.
4. Describe the rationale for the major design elements of the proposed development and measures to mitigate their visual impact.
5. Describe how the design and construction of all buildings and structures will be controlled to ensure cohesive visual amenity, including details of construction materials, colours and landscaping for all buildings and structures.
6. Describe the use of screening / amenity / landscape plantings and potential broad scale revegetation, including the opportunities for the use of locally endemic species.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to visual amenity may be required]:*

- The preliminary assessment indicates that there is high or medium probability of significant visual impact on sensitive visual receptors from the project including on scenic landscape quality or the visual amenity of an urban landscape.
- There is a public perception that the development has the potential to cause significant visual impact on sensitive visual receptors and / or potential visual impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Provide a visual impact assessment (VIA) undertaken by an appropriately qualified specialist that addresses the visual impacts of the development on sensitive visual receptors. This should include:
  - A quantitative desktop assessment to determine the theoretical visual impact of the development, including determination of the Theoretical Zone of Visual Influence (TZVI) to assist in defining the visual impact study area, and a description of the landscape character, features and values of the project area and its environs.
  - Determination of the TZVI and visual impacts study area using spatial data analysis and photomontages to model the visual impact. Photomontages should be selected to provide a variety of views toward the development in a variety of landscape contexts.
  - A qualitative assessment of the photomontage to verify and support the quantitative analysis and assess the level of visual impact.
2. In response to the VIA, describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.

#### Urban landscapes

3. Provide a visual impact assessment (VIA) undertaken by an appropriately qualified specialist that addresses the visual impacts of the development on sensitive visual receptors *[in accordance with the requirements above]*. The VIA should describe the proximity of proposed structures to the nearest dwellings and any potential impacts of the proposal on quality of lifestyle and how the visual landscape and amenity will be altered by the development, for residents and visitors.
4. Outline and evaluate potential design and siting options that could avoid and minimise potential effects on landscape, open space and visual amenity of neighbouring residences and communities and additional management strategies that may further minimise potential effects.
5. Demonstrate that the development provides a high-quality design that complements natural landscaped settings, open space and surrounding locality.
6. Provide details of the interfaces of the development and demonstrate how the landscape integrates and merges into the built form to minimise the visual impact.
7. Describe alternative measures for minimising potential loss of visual amenity (for example structural design and placement and screening) and detail any compensatory and site rehabilitation measures that will be undertaken to minimise visual impacts as a result of vegetation clearance.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 2 Design Quality](#)
- [Principles of Good Design](#)
- Guidance Note for Landscape and Visual Assessment (2018)
- Guidelines for Landscape and Visual Impact Assessment (Third Edition) (2013), Landscape Institute;
- Visual Landscape Planning in Western Australia. (2007). A manual for evaluation, assessment, siting and design, Western Australian Planning Commission;
- Swanwick, C. (2013). Guidelines for Landscape and Visual Impact Assessment. 3rd ed.

## Environmental Attribute 2. Biological Environment

### BE1: Biosecurity

#### *Objective*

To ensure that construction and operation of the development avoids the introduction or spread of biosecurity threats including pest or nuisance animal and plant species (including marine pests), diseases and pathogens.

#### *Context*

Biosecurity is the protection of terrestrial and marine environments, agricultural industries and human health from the adverse impacts of biological threats, such as invasive pest animal and plant species, diseases and pathogens. Development can pose biosecurity risks through the introduction or spread of these threats to local and regional areas or State waters.

Pest plants (weeds) compete with crops, pasture, livestock and native flora and fauna, contaminate crops and seeds, degrade production resources and the value of the natural environment. Pest species such as Queensland Fruit Fly and diseases such as Pacific Oyster Mortality Syndrome (POMS) have the potential for significant impacts to important primary industries in South Australia.

Declared and noxious exotic plant and animal species are regulated under the *Landscape South Australia Act 2019* and the *Fisheries Management Act 2007*. The Commonwealth *Biosecurity Act 2015* regulates biosecurity risks associated with goods, people and conveyances entering Australia.

*[Note: South Australia's proposed Biosecurity Act was still in draft form at the time of writing these Assessment Requirements].*

#### *Considerations for biosecurity*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential biosecurity threats from a development should consider:

- Description of the activities with potential to introduce or spread exotic, pest or nuisance animal and plant species, diseases and pathogens to terrestrial, aquatic and marine environments
- An overview of existing exotic, pest or nuisance plant and animal species, and diseases and pathogens in the development's terrestrial, aquatic and marine environs
- An overview of existing uses and environmental values of the development's terrestrial, aquatic and marine environs and any sensitive places and receivers (including MNES) which may be impacted by biosecurity threats.

#### *Assessment Requirements*

##### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for biosecurity impact assessment should be prepared to assist proponents]*

### Terrestrial / Aquatic

1. Describe the extent and significance of existing exotic, pest or nuisance plant and animal species, diseases and pathogens in the development's terrestrial and aquatic environs.
2. Describe the existing uses and environmental values of the development's terrestrial and aquatic environs and any sensitive places and receivers (including MNES) which may be impacted by introduced biosecurity threats.
3. If MNES have been identified, undertake an assessment of potential biosecurity threats to MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
4. Identify the potential for the introduction or dispersal of new exotic, pest or nuisance plant and animal species, diseases and pathogens, and the associated implications for native species, habitat, agricultural land and other environmental values.
5. Identify the potential for increased distribution and abundance of existing exotic, pest or nuisance plant and animal species, disease and pathogens, and the associated implications for native species, habitat, agricultural land and other environmental values.
6. Propose measures to remove, control and limit the introduction or spread of exotic, pest or nuisance plants and animals, diseases and pathogens on the development site and any areas under the proponent's control (e.g. decontamination of vehicles, mobile plant, equipment and materials), having regard to the effectiveness of such mitigation measures in the past. This includes declared plants and animals under relevant State and Commonwealth legislation.

### Marine

7. Describe the extent and significance of existing exotic, pest or nuisance plant and animal species, diseases and pathogens in the development's marine environs.
8. Describe the existing uses and environmental values of the development's marine environs and any sensitive places and receivers (including MNES) which may be impacted by introduced biosecurity threats.
9. If MNES have been identified, undertake an assessment of potential biosecurity threats to MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
10. Provide a biosecurity risk analysis that outlines the potential risk of introduction of exotic marine organisms and disease (e.g. through vessel ballast water, bilge and/or biofouling) and measures proposed to eliminate this risk.
11. Outline strategies to prevent the introduction of exotic marine organisms and disease (including from incoming ship ballast and bilge waters or biofouling).
12. Detail the response procedure that will be followed in the event of a new exotic organism being detected.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to biosecurity may be required]:*

- The preliminary assessment indicates that there is a high probability that the development will result in exposure to declared plant and animal pest species (including marine pests) diseases and pathogens.

- The development involves shipping operations and is proposed to be a first port of call for international ships travelling to Australian waters.
- There is a public perception that the development has the potential to cause a significant biosecurity threat and / or potential biosecurity impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.
- The potential impacts to a MNES (e.g. nationally threatened or migratory species) are likely to require referral and approval under the *Environment Protection Biodiversity and Conservation Act 1999*.
- The proposal is located on Kangaroo Island requiring consideration of the *Biosecurity Strategy for Kangaroo Island 2017–2027*

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. If potential biosecurity impacts on MNES require approval under the EPBC Act, an assessment of the potential impacts on the affected MNES must be prepared by a suitably experienced and professional specialist. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
3. Describe how the proposal is consistent with the *Biosecurity Strategy for Kangaroo Island 2017–2027* (where relevant).
4. Detail a monitoring program that would audit the success of biosecurity measures, identify whether objectives have been met, and describe corrective actions to be used if monitoring indicates objectives are not being met.

### Marine

5. Provide information on the proposed management techniques for incoming ship ballast and bilge waters.
6. Describe how the introduction of exotic marine organisms or notifiable pathogens (disease) will be avoided or managed.
7. Outline strategies to monitor for the early detection of marine exotic organisms at or near the site, especially on and around marine infrastructure (e.g. wharf, jetty)
8. Outline measures to ensure consistency with the Australian Ballast Water Management Requirements (and national biofouling management guidelines)
9. Outline strategies to monitor and prevent the introduction of vermin and other nuisance species that can be attracted to port facilities, and measures to manage and monitor such species.
10. Outline strategies to monitor, control and manage biofouling of wetted surfaces.

11. Describe how the proposal is consistent with the *Biosecurity Strategy for Kangaroo Island 2017–2027* (where relevant).

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy: SPP8 Primary Industry; SPP4: Biodiversity](#)
- Relevant Regional Plans
- *Landscape South Australia Act 2019*
- *Fisheries Management Act 2007*
- *Biosecurity Act 2015 (Cth)*
- [Biosecurity Strategy for Kangaroo Island 2017–2027](#)
- [South Australia's Biosecurity Policy 2020-2023](#)
- [Declared Plant Policies - Landscape South Australia Act 2019](#)
- [Australian Pest Animal Strategy 2017-2027](#)
- [State Landscape Strategy](#)
- [Marine Pest Plan 2018-202: The national strategic plan for marine pest biosecurity](#)
- [National biofouling management guidelines](#)

## BE2: Marine Flora and Fauna

### Objective

To ensure that the nature and scale of the development avoids or minimises adverse effects on biodiversity, threatened and protected marine flora and fauna species, their ecological communities and habitat.

### Context

The large, sheltered tidal gulf ecosystems of Gulf St Vincent and Spencer Gulf and the far west coast region from Streaky Bay to Davenport provide habitat for some of the largest areas of temperate mangrove, seagrass and tidal saltmarsh communities in Australia. Marine fauna and flora of South Australia includes both the typical cold temperate biota of Tasmania, Victoria and southern New South Wales and the transitional warm to cool temperate biota of southern Western Australia.

South Australia has many fish species of conservation significance, including seadragons, seahorses and pipefish, as well as the world's largest known breeding aggregation of Australian giant cuttlefish. Southern Bluefin Tuna are listed as conservation dependent and are a commercially important species whose offshore feeding and migration paths are of importance to the industry. Our waters are feeding, breeding and calving grounds for endangered blue whales, bottlenose dolphins, sperm and pilot whales, and southern right whales.

The *Marine Parks Act 2007* protects a variety of habitats, from sandy beaches and sheltered seagrass beds to mud habitats on the abyssal plain. Marine national park and sanctuary zones established under the Act are the core conservation areas, protecting vital feeding, breeding, nursery and resting areas for marine plants and animals.

Marine fish, some marine invertebrates and crustaceans are protected under the *Fisheries Management Act 2007*, while marine mammals (e.g. seals, whales and dolphins) are protected under the *National Parks and Wildlife Act 1972*. Seagrass is protected under the *Native Vegetation Act 1992*.

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* protects Matters of National Environmental Significance which include nationally threatened species and ecological communities, migratory species and Commonwealth marine areas.

*[The Assessment Requirements for Noise address potential impacts of underwater noise on marine fauna; the Assessment Requirements for Biosecurity address the potential impact of marine pests, ballast water and biofouling].*

### Considerations for native fauna

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

State and Commonwealth government databases provide publicly available spatial data relevant to marine flora and fauna. The Code includes Overlays for Coastal Areas, Marine Parks and the Coastal Waters and Offshore Islands Zone. Preliminary assessment in the proponent's scoping application of marine flora and fauna should consider important habitat features, conservation significant species and public and private protected areas including but not limited to:

- Identification of marine protected areas (including aquatic reserves, marine parks (State and Commonwealth), special purpose areas, Adelaide Dolphin Sanctuary and rock lobster sanctuaries)
- Identification of State listed threatened marine species from review of the Biological Database of South Australia
- Identification of nationally listed threatened marine and / or migratory species from review of the EPBC Act protected matters database
- Identification of fauna colonies (sealions, fur seals, coastal wader birds, shorebirds and seabird sites)
- Identification of relevant coastal and marine Code Overlays applicable to the development.
- Description of the development activities with the potential to impact on marine flora or fauna species
- Whether the development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993* (e.g. dredging, desalination plants etc)
- Overview of potential impacts to the coastal and marine water environment during construction and operation
- Preliminary assessment of the potential for significant impacts to Matters of National Environmental Significance (MNES) protected under the EPBC Act.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for marine flora and fauna impact assessment should be prepared to assist proponents]*

*[Marine developments often intersect the coastal zone and therefore their assessment will require consideration of the interconnectivity of this environment including the use of other relevant assessments for the specific development, e.g. underwater noise assessment for construction of a port]*

1. Describe the location of marine protected areas (State and Commonwealth), sanctuaries and fisheries which may be impacted by the development.
2. Describe the location, extent, condition and significance of native marine fauna populations, including individual species and communities in the surrounding area (on land, cliffs and adjoining waters, including islands). Include listed threatened and migratory fauna species in the development's environs and identify those that are likely to be disturbed during construction and / or maintenance.
3. Identify and characterise the nearshore, benthic and offshore marine environment. Quantify and detail the extent, condition and significance of the marine flora and fauna (including individual species and communities) that currently exist on site, and within the immediately adjacent sites. Address any sensitive receptors including seagrasses, macro algae and other reef habitat and marine benthic biota and macrofauna.
4. Describe the development activities with the potential to impact on marine species, habitats and listed threatened and migratory fauna species and provide an assessment of how those impacts will be avoided or mitigated. Address discharge to marine waters, seabed disturbance and creation of artificial habitat (e.g. presence of development infrastructure).

5. Identify the potential impacts of shipping, transshipping and barge movements on estuarine and marine species. Address vessel interactions with marine megafauna.
6. If MNES have been identified, undertake an assessment of impacts to MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth].*
7. Identify all potential sources of light pollution from the construction and operation of the proposed development. Describe their impacts on marine species, including nocturnal species and how these impacts will be managed.
8. Detail appropriate buffer distances that would be required between proposed development (including coastal access points) and threatened marine species, including feeding areas, nesting / breeding and roosting sites.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to marine flora and fauna may be required]:*

- The preliminary assessment indicates a high or medium probability that the development has the potential to cause significant impacts to marine protected areas or State listed vulnerable and endangered marine species
- There is a public perception that the development has the potential to cause significant impacts to marine protected areas, State listed vulnerable and endangered marine species or these potential impacts have been the subject of extensive media coverage
- A proposed activity is likely to be classed as a prescribed activity of environmental significance under the Environment Protection Act (e.g. dredging)
- The potential impacts to a Matter of National Environmental Significance (MNES)(e.g. nationally listed threatened, migratory species, Commonwealth marine environment) are likely to require referral and assessment under the *Environment Protection Biodiversity and Conservation Act 1999*)
- The issue is considered by the Commission to warrant detailed assessment.

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. If potential impacts on MNES require approval under the EPBC Act, an assessment of impacts on the affected MNES must be prepared by an appropriately qualified specialist. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
3. Describe the nature and extent of the impacts likely to affect listed threatened native marine fauna species and populations during both construction and operation. Describe the ability of communities and individual species to recover, especially threatened or significant species (including those listed under the *National Parks and Wildlife Act 1972*). Detail any residual impacts that cannot be avoided and propose measures to offset the residual loss.

4. Assess the potential impacts of the proposed project's activities in the coastal zone. Model the spread and assess the impacts of any sediment plume to be created by dredging, construction or excavations. Assess the potential loss of habitat or diversity that could result from the activity and assess any potential impacts on commercial or recreational fisheries, including impacts that could arise from the loss of nursery habitat (e.g. seagrass beds, reefs, or mangroves) of target species (such as prawns and fish). Assess the potential short-term or long-term impacts of noise on marine fauna, particularly cetaceans.
5. Detail the potential impact, including cumulative impacts, (such as any likely increase in vessel numbers, or habitat fragmentation and loss) on marine fauna, both during construction and operation, including ecologically and economically important species (e.g. fisheries)
6. The assessment will also need to take into consideration the outputs of any underwater noise assessment, physical coastal and marine assessment, biosecurity assessment for potential impacts and incorporation of suitable mitigation measures in line with those and other relevant assessments for the development.
7. Prepare a Marine and Coastal Environment Management Plan, prepared by a suitably qualified coast and marine expert, which details the existing environment, identifies any coastal hazards (e.g. sand drift) and significant coastal or marine features or habitats. The report should also assess the impacts of the proposed operations and documents the environmental protection controls and measures to be implemented and monitored. The plan is to accord with the *Marine Parks Act 2007* and any relevant Marine Park management plan. The plan should address impacts on marine organisms from development activities (including noise, vibration, and water quality).

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy: SPP4 Biodiversity](#)
- [Special Legislative Schemes: \*Marine Parks Act 2007\*](#)
- Relevant Regional Plans
- Legislation
- [National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna](#)
- Other standards

## BE3: Terrestrial and Aquatic Flora and Fauna

### Objective

To ensure that the nature and scale of the development avoids or minimises adverse effects on biodiversity, threatened and protected terrestrial and aquatic flora and fauna species, their ecological communities and habitat.

### Context

South Australia's protected area system comprises protected areas on public, private and Aboriginal lands, and covers nearly one third of the State. It conserves most of the remaining native vegetation in the State's agricultural zone and large areas of native vegetation in the pastoral region. Protected areas in South Australia are generally reserved under the *National Parks and Wildlife Act 1972*, *Wilderness Protection Act 1992*, *Crown Land Management Act 2009* and *Forestry Act 1950*, and Indigenous Protected Areas.

Many ongoing pressures on local ecosystems continue to threaten biodiversity. Threats include widespread clearance of native vegetation, weed invasion and predation by exotic pest species, pollution and soil degradation, inappropriate fire regimes, destruction of habitat and more recently climate change. Numerous native species and communities are in decline and many are threatened and facing extinction. A significant number of local extinctions have already occurred, especially amongst small mammal species, birds and plants species.

South Australia's threatened plants and animals are listed under the threatened species schedules of the *National Parks and Wildlife Act 1972* while freshwater and marine fish, some marine invertebrates and crustaceans are protected under the *Fisheries Management Act 2007*. As part of protections for ecological communities of conservation concern, clearance of native vegetation is regulated under the *Native Vegetation Act 1991* and incentives and assistance are provided to landholders to help them preserve, enhance and manage native vegetation.

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* protects Matters of National Environmental Significance which include nationally threatened species and ecological communities, migratory species and wetlands of international importance (Ramsar wetlands).

*[The Assessment Requirements for Marine Flora and Fauna address potential impacts on marine species.]*

### Considerations for terrestrial and aquatic flora and fauna

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

State and Commonwealth government databases provide publicly available spatial data relevant to native vegetation, protected areas and threatened species. The Code includes Overlays addressing Landscape and Vegetation. Preliminary assessment in the proponent's scoping application of terrestrial flora and fauna should consider important habitat features, conservation significant species and public and private protected areas including but not limited to:

- Identification of protected areas reserved under the *National Parks and Wildlife Act 1972*, *Wilderness Protection Act 1992*, *Crown Land Management Act 2009* and *Forestry Act 1950*, and Indigenous Protected Areas
- Identification of areas protected under Heritage Agreements under the *Native Vegetation Act 1991*

- Identification of key areas of native vegetation relevant to the development
- Identification of State listed threatened flora and fauna species from review of the Biological Database of South Australia
- Identification of nationally listed threatened flora and fauna and / or migratory species from review of the EPBC Act protected matters database
- Identification of nationally significant wetlands including Ramsar wetlands
- Identification of relevant Code Overlays applicable to the development.
- Description of the development activities with the potential to impact on threatened flora or fauna species or native vegetation
- Overview of potential impacts to terrestrial flora and fauna during construction and operation.
- Preliminary assessment of the potential for significant impacts to Matters of National Environmental Significance (MNES) protected under the EPBC Act

## *Assessment Requirements*

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for terrestrial and aquatic flora and fauna impact assessment should be prepared to assist proponents]*

#### Protected areas

1. Describe the location of public or private protected areas reserved under the *National Parks and Wildlife Act 1972*, *Wilderness Protection Act 1992*, *Crown Land Management Act 2009* and *Forestry Act 1950*, and Indigenous Protected Areas which may be impacted by the development. Include reference to areas under Heritage Agreements through the *Native Vegetation Act 1991*.
2. Assess the impacts on public and private protected areas from the development including management of interface issues (e.g. biosecurity, fire management, access) and any implications for Heritage Agreements.

#### Flora and Native Vegetation

3. Describe the location, extent, condition and significance of native vegetation, including listed threatened flora species and ecological communities in the development's environs, and identify those that may need to be cleared or disturbed during construction and / or maintenance.
4. Identify and characterise any wetlands or groundwater dependant ecosystems that may be affected by altering the hydrogeological environment.
5. Describe the development activities with the potential to impact on native vegetation and listed threatened flora species and ecological communities, and provide an assessment of how those impacts will be avoided, mitigated or offset.
6. If MNES have been identified, undertake an assessment of impacts to MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth].*

7. If required, prepare a Native Vegetation Clearance Data Report prepared by an Accredited Consultant approved by the Native Vegetation Council. The assessment should undertake a survey of the vegetation and fauna (including EPBC Act Listed threatened species and communities), detail compliance with the impact mitigation hierarchy and describe how the significant environmental benefit would be achieved.
8. Detail potential impacts of fire on native vegetation, and the effects of fire risk management processes during construction, operation and maintenance.
9. Outline measures to mitigate effects on native vegetation by addressing the mitigation hierarchy, including any compensatory activities in already degraded areas and use of existing easements. Refer to guidelines produced by the Native Vegetation Council and outline the likely effectiveness of any mitigation measures adopted during both construction and maintenance.

### Fauna

10. Describe the location, extent, condition and significance of native fauna populations (including aquatic and subterranean fauna such as stygofauna) and listed threatened and migratory fauna species in the development's environs, and identify those that are likely to be disturbed during construction and / or maintenance.
11. Describe the development activities with the potential to impact on native fauna species and listed threatened and migratory fauna species and habitats, and provide an assessment of how those impacts will be avoided or mitigated.
12. If MNES have been identified, undertake an assessment of impacts to MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth].*
13. Identify all potential sources of light pollution from the construction and operation of the proposed development. Describe their impacts on native fauna, including nocturnal species, and how these impacts will be managed.
14. Detail appropriate buffer distances that would be required between the proposed development and threatened species, including feeding areas, nesting sites and roosting sites.
15. Identify the potential impact of fire / explosion on native fauna, and the effects of fire risk management processes during both construction, operation and maintenance.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to native flora may be required]:*

- The preliminary assessment indicates a high or medium probability that the development has the potential to cause significant impacts to public or private protected areas, State listed vulnerable and endangered flora and / fauna, and / or significant native vegetation clearance.
- There is a public perception that the development has the potential to cause significant impacts to public or private protected areas, State listed vulnerable and endangered flora and / fauna and / or significant native vegetation clearance and / or these potential impacts have been the subject of extensive media coverage.
- The potential impacts to a Matter of National Environmental Significance (MNES)(e.g. nationally listed threatened species, Ramsar Wetland) are likely to require referral and assessment under the *Environment Protection Biodiversity and Conservation Act 1999*.

- The issue is considered by the Commission to warrant detailed assessment.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. If potential impacts on MNES require approval under the EPBC Act, an assessment of impacts on the affected MNES must be prepared by an appropriately qualified specialist. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth].*
3. Prepare a Native Vegetation Clearance Data Report prepared by an Accredited Consultant approved by the Native Vegetation Council. The assessment should undertake a survey of the vegetation and fauna (including EPBC Act Listed threatened species and communities), detail compliance with the impact mitigation hierarchy and describe how the significant environmental benefit would be achieved.
4. Provide an assessment undertaken by an appropriately qualified specialist of the direct and indirect effects of the development on listed threatened flora species and ecological communities and populations, habitat and native vegetation that may occur over the life of the development:
  - Describe the location, extent, condition and significance of listed threatened native fauna species and populations that may be affected during construction and operation.
  - Describe the extent location, extent, condition, significance and habitat value of native vegetation species and communities proposed to be cleared by the development.
  - Identify significant wildlife habitat and characterise wildlife movement within the broader development area that could be directly or indirectly impacted by the development including alteration of habitat conditions (e.g. habitat fragmentation, severance of wildlife corridors or habitat linkages) that may occur over the life of the development. Assess the potential impacts on habitat connectivity of listed or other protected fauna species including but not limited to migratory species.
  - Include alteration of conditions that may directly or indirectly impact wetland, riparian and in-stream environments and undertake an assessment of the impacts of the development on aquatic ecology including impacts on key fish habitat and threatened species of fish (where relevant).
  - Describe the ability of communities, populations or individual species to recover, regenerate or be rehabilitated during construction and operation including maintenance.
  - Assess the ability of habitat to recover, especially for resident or migratory shore birds and listed threatened or significant species.
  - Describe the measures that will be taken to address displaced native fauna (if any).
  - Detail any residual impacts that cannot be avoided, and propose measures to offset the residual loss.

5. Detail any changes in biological diversity that may result at the interface between the development and existing native vegetation (i.e. the 'edge effect') during construction and over the life of the development.
6. Describe the monitoring measures, reporting regimes and audits for native flora and fauna that will be undertaken to measures implemented to mitigate impacts to flora and fauna are effective.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 4: Biodiversity](#)
- [Special Legislative Scheme: River Murray Act 2003](#)
- Relevant Regional Plans
- *National Parks and Wildlife Act 1972*
- *Fisheries Management Act 2007*
- *Native Vegetation Act 1991*
- *Landscape South Australia Act 2019*
- [South Australian Arid Lands Biodiversity Strategy](#)
- Other standards.

## Environmental Attribute 3: Climate Change and Resource Efficiency

### CCRE1: Climate Change Adaptation

#### *Objective*

To ensure that development and design are climate resilient and risks from climate change are reduced.

#### *Context*

In the context of climate change, it is important that measures are taken to reduce greenhouse gas emissions associated with a development, but also protect the proposed development is resilient to the impacts of a changing climate in the longer term.

Adapting to the changing climate is also essential to ensure the State's environment, businesses and communities have the resilience to cope with the changes. Priorities for climate change adaptation are set out in the *South Australian Government Climate Change Action Plan 2021 – 2025\** and include urban greening and water sensitive urban design, securing the coastal environment against increased coastal erosion and flooding and reducing risk and building resilience to more frequent and severe bushfires, storms, floods and heatwaves. *\*Note – this is in the process of being updated by DEW.*

The *Landscape South Australia Act 2019* expressly recognises the significance of climate change in managing landscapes and natural resources, including the need for both mitigation and adaptation. State Planning Policy 5 Climate Change notes that the planning system has a role enabling future adaptation through the appropriate location of development and inclusion of risk mitigation measures.

*[The Assessment Requirements for Greenhouse Gas Emissions address emissions reduction and National Greenhouse and Energy Reporting for the development; the Assessment Requirements for Sustainable Use of Resources addresses the use of resources to lower greenhouse gas emissions]*

#### *Considerations for Climate Change Adaptation*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential impacts from climate change on the development should consider:

- An overview of the development's vulnerabilities (including activities or structures) to South Australian climate change projections (e.g. increasing temperatures, extreme heat and heat waves, decline in rainfall, increased drought, extreme rainfall events, harsher fire weather, and sea level rise).
- The overview should identify risks that may affect the development over the developments lifetime (i.e. taking into account the period from construction time to the end of its useful life / replacement).

#### *Assessment Requirements*

##### **Standard Impact Assessment Requirements**

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for climate change adaptation should be prepared to assist proponents]*

1. Undertake a climate risk assessment of the relevant potential impacts on the development of projected climate change over the lifetime of the development (e.g. increasing temperatures, extreme heat and heat waves, decline in rainfall, increased drought, extreme rainfall events, harsher fire weather, and sea level rise). Include proposed adaptive management strategies.

For developments with a lifetime to 2050 or before, the risk assessment should be based on climate projections from the RCP 8.5 scenario (high greenhouse gas emissions scenario). For developments with a lifetime beyond 2050, the risk assessment should be based on climate projections under both the RCP 8.5 and RCP 4.5 scenario (moderate greenhouse gas emissions scenario).

2. Examine the potential cumulative effects of climate change from a risk management perspective (including adaptive management strategies).
3. Where relevant, outline the potential effects of, and identify strategies to protect against, extreme weather events, including a 1% AEP storm event and sea level rise as per Coast Protection Board policy and allowances from a risk management perspective, including adaptive management strategies. Include mitigation strategies should the structure not withstand such an event.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to climate change may be required]:*

- The preliminary assessment of the development's vulnerabilities to aspects of projected climate change indicates that a high probability of significant impacts to the proposed development.
- The issue is considered by the Commission to warrant detailed assessment.

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential climate change impacts and risks to the surrounding environment and on the development. Outline and justify any trade-offs in the design.
2. Undertake a detailed climate change risk assessment by a suitably qualified environmental expert to ensure that climate risks are fully taken into account and adaptation options are adequately assessed and addressed during development's planning and design phase. The risk assessment should consider:
  - Whether past extreme events caused physical damage or impacted similar developments or operations.
  - Direct and indirect impacts of projected climate changes on the development or its operations e.g. failure of local power supply during severe storm or heatwave, drought related drying of water wells, road closures due to flooding impacts, bushfire and whether the development can avoid or mitigate risks from those impacts
  - Whether detailed modelling is required to inform the risk / adaptation response (e.g. hydrological modelling)

- Adaptation treatments that will be implemented and indicative timing (what will be undertaken in the short, medium and long term) such as:
  - o building to maintain standards and level of service for the climate change scenario expected at end of life
  - o plan an upgrade program to progressively adapt infrastructure as climate change occurs
  - o redesign and reconstruct as required in response to verified climate change as part of existing maintenance or project upgrades.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 5 Climate Change](#)
- Relevant Regional Plans
- [Guide to climate projections for risk assessment and planning in South Australia](#)
- [Climate Change Adaptation Guideline](#) (DIT)
- [South Australian Government Climate Change Action Plan 2021-2025](#)

## CCRE2: Greenhouse gas emissions

### Objective

To ensure the development minimises greenhouse gas emissions associated with its construction and operation so as to meet South Australia's goal to reduce greenhouse gas emissions by more than 50% below 2005 levels by 2030 and achieve net zero emissions by 2050.

### Context

Under the PDI Act an EIS for a major development must include an analysis of the expected, predicted or potential effects of a development on the climate (i.e. through greenhouse gas emissions) and any proposed measures designed to mitigate or address those effects.

The *Climate Change and Greenhouse Emissions Reduction Act 2007* sets out State's greenhouse gas emission reduction targets the framework for government to work with business and the community to reduce emissions and build resilience to the impacts of climate change. In South Australia the main sectors contributing as emissions sources are energy, agriculture, industrial processes and waste.

In addition, the land use, land use change and forestry sector acts as both a source (deforestation activities) and a carbon sink (e.g. forest growth).

Some developments will be required to track and report greenhouse gas emissions as required under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act), which establishes the national reporting framework for corporations and facilities required to report their energy use and greenhouse gas emissions.

*[The Assessment Requirements for Climate Adaptation address climate change adaption and risk assessment; the Assessment Requirements for Sustainable Use of Resources addresses the use of resources to reduce greenhouse gas emissions]*

### Considerations for greenhouse gas emissions

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential impacts of the development's greenhouse gas emission should consider:

- Description of the activities likely to generate greenhouse gases (GHG) and a description by type.
- An overview of the likely nature of Scope 1, Scope 2 and Scope 3 GHG emissions from the development

### Assessment Requirements

#### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for greenhouse gas emissions should be prepared to assist proponents]*

1. Undertake a greenhouse gas assessment that:
  - identifies all sources GHG emissions that would be generated

- provides the estimated annual GHG emissions from each source
  - provides an estimate of yearly net GHG emissions and emissions intensity, including an uncertainty assessment
  - provide an inventory of projected annual Scope 1 and Scope 2 emissions for each GHG over the life of the development. Provide an estimate of annual Scope 3 GHG emissions for the life of the development.
2. Describe how the project will contribute to South Australia's emissions targets i.e. 100% renewable energy target by 2030, 50% emissions reduction below 2005 level by 2030 and zero net emissions by 2050.
  3. Describe measures that have been incorporated in the design to minimise, reduce and ameliorate greenhouse gas emissions, particularly the use of alternative or renewable energy sources and off-sets, energy efficiency and energy conservation measures, and if it incorporates integrated passive design principles and climate-responsive techniques and features and identify barriers to implementation.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to biosecurity may be required]:*

- If the preliminary assessment indicates that there is a high to medium probability that the development will generate significant greenhouse gas emissions, the proponent must quantify estimated emissions that can be minimised and reduced from the adoption of specific measures.
- If there is a public perception that the development has the potential to result in significant greenhouse gas emissions and /or these potential impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Explain feasible alternatives that were considered to avoid or reduce the project's emissions as well as the alternative of not proceeding with the proposed project. Address conceptual, technological, locality, configuration, scale and individual elements or components.
2. Undertake a detailed greenhouse gas emissions assessment prepared by a suitably qualified environmental expert for the development which describes:
  - measures (preferred and alternatives) proposed to avoid and/or minimise Scope 1 and Scope 2 GHG emissions of the development
  - options for avoiding and/or mitigating Scope 3 emissions (e.g. working with supply chain and customers).

3. The assessment should include:
  - opportunities and commitments for offsetting GHG emissions (including timeframe for implementation) through accredited and verified offsets that represent genuine emissions reductions within Australia (i.e. will be recognised in the National Greenhouse Accounts)
  - opportunities to reduce greenhouse emissions through renewable energy use and innovation
  - any voluntary initiatives, such as projects undertaken as a component of national programs, or research into reducing the lifecycle and embodied energy carbon intensity of the proposed project's processes or products
  - any additional carbon offsetting options for emissions that cannot be reduced (including, but not limited to, through carbon offsets, vegetation management). Offsetting activities should adhere to best practice standards (i.e. Climate Active standard, which only allows accredited offsets).
4. Quantify the emissions expected to be abated for each avoidance and mitigation measure.
5. Compare preferred measures for emission controls and energy consumption with best practice International environmental management in the relevant industry sector.
6. Describe and commit to:
  - periodic energy audits that measure progress towards improving energy efficiency
  - a process for regularly reviewing new technologies to identify opportunities to further reduce GHG emissions and use energy efficiently, consistent with best practice environmental management
  - monitoring, auditing and transparent public reporting on: GHG emissions from all relevant activities; the success of mitigation measures; and, the project's contribution to achieving South Australia and Australia's greenhouse gas commitments.
  - ongoing training and capacity building around decarbonisation options, technology and reporting.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy 5: Climate Change](#)
- Relevant Regional Plans
- *Climate Change and Greenhouse Gas Emissions Reduction Act 2007*
- *National Greenhouse and Energy Reporting Act 2007*
- [South Australian Government Climate Change Action Plan 2021-2025](#)
- [Greenhouse gases and energy - scope 1, 2 and 3 emissions](#)
- [Greenhouse Gas Protocol Corporate Value Chain \(Scope 3\) Standard](#)

## CCRE3: Sustainable Use of Resources

### Objective

To ensure opportunities to procure and use resources efficiently and sustainably are maximised, supporting South Australia's transition to the circular economy.

### Context

It is a sustainability principle of the PDI Act that policies and practices should promote sustainable resource use, reuse and renewal and minimise the impact of human activities on natural systems that support life and biodiversity.

Sustainable procurement and use of resources requires consideration of inputs of natural resources, energy and water and the pollution produced from the manufacture, use and disposal of goods (such as the toxicity of the materials used and greenhouse gas emissions), and biodiversity loss resulting from removal or alteration of natural resources.

The concept of the 'circular economy' is set out in the *Green Industries SA Act 2004* and *South Australia's Waste Strategy 2020-2025*. The circular economy is a self-sustaining system which aims to keep materials in use, or 'circulating', for as long as possible. It extracts the maximum value from materials while in use, then recovers and reuses them in other forms.

A sustainable approach to the use of resources will reduce the demand on raw materials with a higher environmental footprint, contributing to lowering greenhouse gas emissions, water and energy use, fewer impacts to biodiversity and a reduction in waste production.

*[The Assessment Requirements for Greenhouse Gas Emissions addresses emissions reduction targets, estimates of greenhouse gas emissions and National Greenhouse gas reporting]*

### Considerations for sustainable use of resources

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the sustainable use of resources should consider:

- An overview of the development activities where sustainable use of resources is being considered including:
  - embodied energy in construction materials and consumables during operation (e.g. quarry products, concrete, asphalt, metals, fuels)
  - extraction, production, transportation of fuels
  - transportation of purchased materials and waste
  - disposal of waste
  - electricity use
  - use of renewable or alternative technologies
  - materials and resources minimisation
  - energy and water efficiency

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of sustainable resource use should be prepared to assist proponents]*

1. Describe the sustainability objectives of the development and the approach and methodology used to achieve these objectives.
2. Describe design guidelines for aspects of the development (including transport options) that would be adopted to ensure sustainability.
3. Describe how sustainability of the development will be audited.
4. Identify ways in which power use can be minimised or supplemented, especially using alternative energy sources, energy efficient measures and energy conservation.
5. Describe the proposed approach to matters such as design, construction methods, materials and equipment to reduce energy use (including vehicle emissions), disposal of waste, water use efficiency during construction and operation over the life of the project.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of greenhouse gas emissions may be required]:*

- The preliminary assessment indicates that there is a high probability that the development will generate significant greenhouse gas emissions
- There is a public perception that the development has the potential to result in significant greenhouse gas emissions and /or these potential impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Undertake a high-level estimate of whole of life greenhouse gas emissions associated with the construction and operation of the development and outline measures to minimise emissions through material selection including recycled products, operating methods and offsets. Estimates should cover Scope 1, 2 and 3 emissions and include:
  - embodied emissions of construction materials used in construction of the facility and consumables during operation (e.g. quarry products, concrete, asphalt, metals, fuels)
  - extraction, production, transportation of fuels
  - transportation of purchased materials and waste
  - disposal of waste;
  - use of natural gas, and
  - electricity use.

2. Prepare a sustainability assessment prepared by a suitably qualified environmental expert. The assessment should measure the ecological footprint of the development and address sources of greenhouse gas emissions, the use of renewable or alternative technologies, materials and resources minimisation, energy and water efficiency measures, greenhouse gas reductions and other sustainability initiatives during construction and operational phases.
3. Where relevant, provide details of Environmentally Sustainable Design (ESD) techniques proposed for the development including holistic solutions to building performance and services. Demonstrate if and how the development achieves the following:
  - incorporates integrated passive design principles and climate-responsive techniques and features such as building and window orientation, use of eaves, verandahs and shading structures, water harvesting, at ground landscaping, green walls, green roofs and photovoltaic cells
  - is sited and designed to maximise passive environmental performance and minimise energy consumption and reliance on mechanical systems, such as heating and cooling
  - is sited, oriented and designed to maximise natural sunlight access and ventilation to main activity areas, habitable rooms, common areas and open space.

*Suggested guidance documents – indicative only, others may apply.*

- [State Planning Policy: SPP3 Adaptive Reuse, SPP2 Design Quality](#)
- Relevant Regional Plans
- *Green Industries SA Act 2001*
- *Climate Change and Greenhouse Gas Emissions Reduction Act 2007*
- Regulator guidelines, policies
- Other standards

## CCRE4: Waste Management

### Objective

To ensure that waste generated, transported or received as part of the development is managed in accordance with the waste hierarchy and in a manner that protects all environmental values.

### Context

Management of waste is regulated by the EPA through implementation of the waste management hierarchy set out in the *Environment Protection Act 1993* (EP Act) and the *Environment Protection (Waste to Resources) Policy 2010*.

The waste management hierarchy prioritises various waste management approaches where avoiding the waste generation is most preferable and disposal of waste is the least preferable and should only occur where other waste management options, such as recycling, are not possible.

An EPA licence is required for most activities involving the transport, storage, recovery, processing, disposal or treatment of solid waste and most hazardous wastes are banned from disposal to landfill under the Waste to Resources EPP. Many activities producing listed waste (which are defined in 'Schedule 1 of the EP Act) are also required to be licensed by the EPA.

*[The Assessment Requirements for Sustainable Use of Resources addresses the circular economy and the sustainable procurement and use of resources.]*

### Radioactive Waste

This waste stream is not dealt with under the *Environment Protection (Waste to Resources) Policy 2010*, instead the Commonwealth's *Radiation Protection and Control Act 1982* or other Commonwealth laws have jurisdiction on these matters.

### Considerations for waste management

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Preliminary assessment in the proponent's scoping application of the potential impacts of waste from a development should consider:

- An overview of the activities likely to generate waste during construction and operation
- Overview of types of waste likely to be generated during construction and operation
- Whether the development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993* (e.g. an activity involving a listed waste).

### Assessment Requirements

#### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for waste management should be prepared to assist proponents]*

1. Identify, quantify and classify all the expected waste streams to be generated from the proposed project activities during the construction, operation, rehabilitation and decommissioning phases of the development.

2. Assess and describe the proposed management measures against the waste management hierarchy, namely: avoid and reduce waste generation, recycle, reuse, recover, treatment and disposal. This includes the generation, storage and transport of waste.
3. Prepare a waste management and minimisation plan (for demolition, construction and operation where relevant), detailing the sources of waste, the location of waste storage (including separation of waste streams, such as recyclables, hard waste and e-waste) and disposal facilities on the site or development -related sites (e.g. laydowns) and provide details of how these facilities will be serviced.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of waste management may be required]:*

- The preliminary assessment indicates that there is a high probability that the development will generate a significant or hazardous waste stream.
- The development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993* (e.g. an activity involving a listed waste)
- The issue is considered by the Commission to warrant detailed assessment

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe the quantity, and physical and chemical characteristics of each hazardous waste, any attributes that may affect its dispersal in the environment, and its associated risk of causing environmental harm.
2. Describe the location (including temporary and final locations), design, construction and operation of proposed waste management storage, stockpiling, treatment (including the separation of waste streams, such as recyclables, hard waste, hazardous waste) and disposal facilities and areas and provide details of how these facilities will be serviced and managed to avoid causing any unacceptable environmental harm. Include reference to which type of wastes (including hazardous and radioactive wastes) will be located in which facilities. Include details of design and management measures that will be used to minimise the risk of leakages/spills and prevent site contamination.
3. Describe contingency and monitoring measures in the event of incidents or equipment or operational failures (including loss of containment) from proposed waste storage or disposal facilities.
4. If there is no available licenced waste management pathway, identify contingency measures for dealing with or disposing of all types of hazardous or listed wastes generated in the course of operations (including but not limited to wastes containing asbestos, cyanides, hydrocarbons and organic compounds and per- and poly-fluoroalkyl substances).

#### Radioactive waste

5. Quantify the volume and radiological characteristics (including radionuclide activity concentrations) of the solid and liquid radioactive waste from all relevant components of the proposal.

6. Describe the method of storage of the solid and liquid radioactive waste from all relevant components of the proposal during ongoing operations.
7. Describe the method of disposal of the solid and liquid radioactive waste from all relevant components of the proposal after operations are completed.

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy: Adaptive Reuse](#)
- Relevant Regional Plans
- *Environment Protection Act 1993*
- *Green Industries SA Act 2004*
- *Environment Protection (Waste to Resources) Policy 2010*
- *Environment Protection (Movement of Controlled Waste) Policy 2014*
- *South Australia's Waste Strategy 2020-2025.*

## Environmental Attribute 4: Local, Regional and State Economies

### LRSE1: Economic Impact Assessment

#### *Objective*

To ensure adverse economic impacts arising from construction and operation of the development are avoided or mitigated, and net economic benefits to the region and state are created.

#### *Context*

Major projects and developments have the potential for significant job creation and an economic stimulus for the local area, the region and the state. Impacts, both positive and negative may be experienced in the local and State economies during construction and operations with the potential for immediate and long terms effects on residents, businesses and surrounding uses.

*[The Assessment Requirements for Community Wellbeing / Social Impact Assessment address the social impacts of a development; the Assessment Requirements for Land addresses land use, land tenure and protected areas]*

#### *Considerations for economic impact assessment*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The preliminary assessment provided in the scoping application should consider a high-level baseline description of the local and regional economic environment (i.e. without the development), against which further assessment of the positive and negative impacts of the development are to be measured. Information would include a **brief overview** of:

- key economic stakeholders and communities
- key local, regional, state and national industries and businesses
- other resource and infrastructure projects in the area, both planned and currently operating, based on publicly accessible information
- relevant local and state government economic plans and strategies
- potential economic impacts and benefits.

#### *Assessment Requirements*

##### **Detailed Assessment Requirements**

*[The following provides guidance for possible Detailed Assessment Requirements to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.]*

*[A general EIS guideline on the requirements of an economic impact assessment should be prepared to assist proponents]*

1. Provide a full economic analysis of the development including the long-term economic viability and efficiency of the operational aspects of the development, incorporating a regional impact analysis (RIA) and cost-benefit (risk return) analysis (CBA).

2. The RIA should focus on the direct impact of the project on the local, regional and state economies. The identification of economic impacts should include the prediction of spending on goods, services, taxes etc. during construction and operation of the project and the distribution of income generated by the project.
3. The CBA should assess the impact of the project on the economic welfare of the economies of interest by estimating a dollar value for as many economic, social and environmental benefits and costs as can reasonably be predicted.
4. Consideration of regional economic impacts should include:
  - An outline of the skill level requirements of any new workforce, the component of the workforce that is expected to be hired locally, and the type of employment this would entail (e.g. full time, permanent, sub-contractors, casual, skilled labour, truck drivers etc) and identify if this employment would be continuous/year round.
  - Description of the existing significant economic activities and facilities in the areas (e.g. industrial, commercial, primary production (e.g. mining, agriculture, horticulture, viticulture, aquaculture, fishery), tourism) in the project area.
  - Identification of the impacts of the development will have on existing users of distribution networks for gas, electricity, waste, potable water, sewerage, and communication systems.
5. Describe any potential economic effects locally and regionally and the potential to attract value add development and commercial ventures including:
  - potential employment opportunities and the expected impacts on the local workforce during construction and operational stages and flow-on impacts on local business
  - information on local and indigenous employment and training opportunities associated with the proposal
  - the economic effect of the construction and on-going workforce regionally. Include consideration of impact of development on existing industries and local businesses if workers change employment e.g. mining taking skilled workers from trades and agriculture due to higher wages.
  - effects on accommodation supply and demand
  - an analysis of existing supply chain and prospective suppliers, as well as any gaps in the supply chain
  - secondary economic effects, including property and land values, potential to attract new industries and commercial ventures. Describe the positive and negative effects on existing businesses / industries (e.g. displacement, competition or opportunities)
  - the proposal's anticipated effect on State and local investment, research and development, educational effects, employment generation and flow-on impacts on business.
  - the proposal's anticipated effect on State and local investment and the region as a whole identifying employment and investment opportunities, including the 'multiplier effect' for the local area, the broader regional economy and community and South Australia.
  - any economic implications for the State and the region if the development does not proceed.

6. Describe any blue carbon storage values at the site and or surrounds, and any associated impacts or benefits either direct or indirect as a result of the development. [Coastal ecosystems are important for mitigating the impacts of climate change. The carbon captured and stored in coastal ecosystems such as seagrass meadows, saltmarshes and mangroves is known as 'Blue Carbon'].

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy: SPP1 Integrated Planning; SPP8 Primary Industry; SPP9 Employment Lands; SPP10 Key Resources; SPP11 Strategic Transport Infrastructure; SPP12 Energy](#)
- Relevant Regional Plans
- Relevant Landscape Board Landscape Plans
- [20 Year State Infrastructure Strategy](#)
- [Regional Development Strategy](#)

## Environmental Attribute 5: Hazards and Risks

### HR1: Bushfire

### HR2: Flooding

### HR3: Site and Groundwater Contamination

### HR4: Dangerous Substances

#### *Objective*

To ensure the risk of, and adverse impacts from natural and man-made hazards from the development are avoided, minimised or mitigated to protect people, property and the environment.

#### *Context*

Developments can present a range of hazards and risks derived from infrastructure or activities associated with the site (e.g. transmission lines, gas pipelines, storage and transport of dangerous substances).

Hazards can also include the development's vulnerability to or enhancement of existing risks such as bushfire or flooding, site and groundwater contamination.

Risk assessments are undertaken to describe the potential risks to people and property associated with all components of the development, and evaluate the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to people and the environment, within and adjacent to the development.

Major bushfire risks are addressed in the *South Australia State Bushfire Management Plan 2020-2025* prepared under the *Fire and Emergency Services Act 2005*, which sets out the governance arrangements for bushfire management in South Australia including requirements for preparation and implementation of Bushfire Management Area Plans.

Management of the risks of contaminated sites under the *Environment Protection Act 1993* requires known or suspected groundwater contamination to be reported to the EPA for assessment, and if necessary remediation to treat, contain, remove or manage the contamination.

Dangerous goods are substances and articles which, because of their chemical or physical properties, pose hazards requiring special controls and licensing under the *Dangerous Substances Act 1979* for their safe transport and storage.

State requirements in respect to site contamination investigations, existing site conditions and remediation requirements for intended (future) land uses are outlined in *Practice Direction 14 Site Contamination Assessment 2021*, Plan SA

*[The Assessment Requirements for Climate Adaptation address climate change adaption and risk assessment]*

#### *Considerations for assessment of hazards*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The South Australian Property and Planning Atlas (SAPPA) maps the Code overlays for bushfire and flooding hazards. Other publicly available spatial datasets include bushfire management areas, fire history, flood mapping, groundwater prohibition areas (GPAs) and section 83A notifications for contamination of underground water.

Preliminary assessment in the proponent's scoping application of the potential impacts from hazard(s) on the proposed development should consider the following:

- Identification of relevant bushfire and flooding hazard Code Overlays applicable to the development.
- Identification of the relevant Bushfire Management Area.
- An overview of any previous or existing land uses that might have affected or contaminated the land or groundwater
- Identification of any groundwater prohibition areas or any notifications under section 83A of the EP Act
- Whether the development involves a change in land use to a more sensitive use (in the context of site contamination) for the purposes of the Planning and Design Code.
- Overview of the development activities likely to involve transport and storage of dangerous substances and the likely nature of those substances.
- Identification of any other potential hazards associated with the development which are likely to require further risk assessment (e.g. the development is likely to be classed as a major hazard facility)

## *Assessment Requirements*

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of hazards and risks should be prepared to assist proponents]*

#### Hazard assessment

1. Undertake a risk assessment which describes the potential risks to people and property that may be associated with the proposed project for all components of the development. The assessment must address the following matters (where relevant):
  - Potential hazards (e.g. those associated with transmission lines, petroleum and gas pipelines, storage and use of dangerous substances and explosives), accidents, fire, occurrence of contaminated land and abnormal events that may occur during all stages of the proposed project, including estimated probabilities of occurrence. Describe measures that would be taken to minimise the risks of these events.
  - Assess the vulnerability of the area to natural and induced hazards, including floods, bushfires and storm events. Consider the relative frequency and magnitude of these events together with the risk they pose to the construction, operation and decommissioning of the proposed project, as well as the rehabilitation of the site. Describe measures that would be taken to minimise the risks of these events.

- Evaluate the risk of fire, explosion, containment facility failure or other high consequence events at the site and any potential impacts on human health and to the environment. This should include a description of the critical controls (and how they will be maintained) that will be used to minimise the risks and mitigate the impacts from these catastrophic risks.
  - Assess how siting, layout and operation of the development will avoid or mitigate risks, particularly with regard to the release of hazardous materials during natural hazard events (e.g. bushfire or flooding).
2. Hazard analysis and risk assessment in accordance with *AS/NZS ISO 31000:2018 Risk management guidelines* and with *HB203:2006 Environmental risk management principles and processes*
3. The hazard assessment should address the following (where relevant):
- Bushfire
    - o Evaluate and identify any bushfire risks on the site, in particular how risks from bushfire will be minimised with regards to the potential for uncontrolled bushfire events, high levels and exposure to ember attack, impact from burning debris, radiant heat, likelihood and direct exposure to flames from a fire front.
    - o Explain how the buildings and structures will be designed, configured, sited and the use of materials in order to reduce the impact of bushfire (i.e. buildings should reduce the potential for trapping burning debris against or underneath the building or structure, or between the ground and building floor level in the case of buildings on stilts and located on flatter sites and away from vegetated areas that pose an unacceptable bushfire risk).
  - Flooding
    - o Describe the history of flooding onsite and in proximity to the development site. Describe current flood risk for a range of annual exceedance probabilities up to the probable maximum flood for the proposed project site. Use flood modelling to assess how the proposed project may potentially change flooding and run-off characteristics on-site and both upstream and downstream of the site. The assessment must consider all infrastructure associated with the proposed project including levees, roads, and linear infrastructure, and all proposed measures to avoid or minimise impacts.
    - o Identify the potential impacts on people, property, infrastructure and the environment from potential flood risk (where relevant).
    - o Evidence must be provided to demonstrate that the securing of storage containers of hazardous contaminants during flood events meets relevant requirements of the *Environment Protection Act 1993*.
  - Site and Groundwater Contamination
    - o Describe the historical land use and potential for contamination of soils and sediments and describe any known or suspected soil contamination that could be re-suspended, released or otherwise disturbed as a result of the development
    - o Detail any known or potential sources of contaminated groundwater that could be impacted by the development.

- Detail procedures to be adopted to confirm whether site contamination exists (such as site history, site audit, and site contamination reporting) and any remedial measures proposed.
- Detail management measures that will be required during construction and operation to prevent site contamination.
- Demonstrate compliance with the assessment methodology and site acceptability requirements for the intended use(s) of the development sought by *Practice Direction 14 Site Contamination Assessment 2021*, Plan SA
- Dangerous substances and hazardous materials
  - Identify all dangerous and hazardous substances and any explosives to be used, transported, stored, processed or produced and the rate of usage.
  - Describe the use, handling and disposal of these materials during construction and operation, with reference to storage (including any associated fire protection facilities).
  - Describe how hazardous contaminants and waste substances produced by the development will be treated or contained until their disposal at an approved facility.
  - Evaluate the potential effects of any accidents involving dangerous substances on the environment and public health in the vicinity of the site.
  - Evaluate the risks associated with the secure storage, use and transportation of explosives in accordance with the *Explosives Act 1936* and codes and standards including Australian Standard AS2187.1 Explosives - Storage, transport and use - storage.
- Electromagnetic fields
  - Provide an assessment of potential hazards and risks associated with electric and magnetic fields (EMF) having regard to the latest advice of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA);
- Emergency Management
  - Describe the emergency response plan in the event of an emergency, including evacuation measures and arrangements for coordination with the responsible response organisations, including exercise and training plans for emergency response.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of hazards and risk may be required]:*

- The preliminary assessment indicates a high to medium probability that there are significant hazards or risks associated with the development.
- There is a high / medium probability of impacts on the development from external environmental factors such as those associated with climate change (sea-level rise, increased frequency of bushfire, floods etc).
- There is a public perception that the development has the potential to present a significant hazard or risk to the surrounding environment / community and / or potential for significant hazard or risk has been the subject of extensive media coverage.

- The issue is considered by the Commission to warrant detailed assessment
- The proposed development includes an activity that would require a major hazard facility licence.
- The change of land use is to a more sensitive use and the preliminary assessment indicates high or medium probability of site contamination being present on the site as a result of a class 1 potential contamination activity having occurred on the site (refer Practice Direction 14)
- The preliminary assessment indicates that the development is located within a High or Medium bushfire or flooding Overlay.
- The preliminary assessment indicates that the development is located within a groundwater prohibition area or area subject to section 83A notification.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

#### Risk Assessment and Hazard Management

1. Undertake an assessment of the risks to public safety, paying particular attention to bushfire and flooding risks, emergency egress and evacuation, the handling and use of any dangerous substances and potential impacts to high pressure gas pipelines.
2. Prepare a Hazard Management Plan that considers the risks and hazards associated with all components of, and activities associated with, the proposed development. The plan should address public and workplace safety, emergency response strategies and identify third party restricted and exclusion zones.
3. Prepare a Fire Hazard Management Plan that considers requirements both during the construction and operations phases, including measures to minimise fire risk at and to/from the site, resources and training required, sources of water to fight fires (and how this water will be accessed), options to utilise and coordinate with other operations in the region/area, and cost recovery.
4. Describe the application of the major hazard facility provisions of the *Work Health and Safety Regulations 2012* to the development.
5. Undertake a Quantitative Risk Assessment of the major hazard facility to identify the hazards associated with the facility, determine the potential frequencies and consequences of the identified hazards, determine the systems availability of the protection systems and quantify the risks associated with a facility

#### Site / groundwater contamination (where relevant)

6. Describe the approach for obtaining a statement of site suitability statement as it applies to the development (if required). Identify additional investigations proposed or likely to be required.

#### Radiation (where relevant)

7. Describe the measures to control and minimise releases and subsequent exposure of radionuclides to the environment, members of the public and non-human biota from relevant components of the development during ongoing operations and after rehabilitation of the site.

8. Describe the measures to control and minimise radiation exposures to workers from relevant components of the development during ongoing operations.
9. Describe and assess the radiation exposure pathways to workers, the public and non-human biota from relevant components of the development during ongoing operations and after rehabilitation of the site.
10. Outline how the radiation exposure pathways to workers, the public and the environment from relevant components of the development would be monitored during construction, operation and closure/rehabilitation of the site.

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy: SPP15 Natural Hazards; SPP5 Climate Change; SPP16 Emissions and Hazardous Activities; SPP14 Water Security and Quality](#)
- Relevant Regional Plans
- *Fire and Emergency Services Act 2005*
- *Emergency Management act 2004*
- *Environment Protection Act 1993*
- *Dangerous Substances Act 1979*
- [Practice Direction 14 – Site Contamination Assessment 2021](#)
- [South Australia State Bushfire Management Plan 2020-2025](#)
- [Guidelines for the assessment and remediation of site contamination](#)
- [Australian Code for the Transport of Dangerous Goods by Road and Rail](#)

## Environmental Attribute 6: Land Use and Site Conditions

### LUSC1: Land Use, Land Tenure, and Protected Areas

#### Objective

To ensure that the impacts of development on environmental, social and economic values of adjoining land uses, land tenures and protected areas are avoided or minimised.

#### Context

The potential impact of development is considered in the context of the existing land uses, land tenure and protected areas which surround them. Once the general land use context is defined, the broader social and economic impacts of development on adjoining land uses, and the local impacts such as traffic access, noise and visual impacts can be assessed.

Consideration should also be given to protection of state significant, viable and established developments (such as large-scale mining, manufacturing, chemical handling, waste management and energy generation) from encroachment by incompatible adjoining development.

Land tenure is the legal relationship which identifies rights to use and occupy an area of land. Land tenures can be overlapping and developments may require consideration of impacts on a range of different tenures. Land tenures relevant to a development in South Australia include freehold title, Crown land, pastoral leases, mining and petroleum tenements, Native Title and agreements with traditional owners, native vegetation heritage agreements, and a range of other leases or licences. A fundamental consideration when assessing activities on Crown land is whether native title has been extinguished.

Protected areas to be considered include nationally protected areas such as Ramsar wetlands, wilderness protection areas, national parks, conservation parks, regional reserves, game reserves and recreation parks established under the *National Parks and Wildlife Act 1972* and *Wilderness Protection Act 1992* to protect environmentally and culturally significant areas. Similarly, ocean-based parks established under the *Marine Parks Act 2007* protect a variety of marine habitats and species, and conserve places with strong cultural heritage associations. The *Forestry Act 1950* provides for management of areas reserved for native and plantation forestry.

Special Legislative Schemes are set out under the State Planning Policies for areas protected under legislation as being of significant environmental importance to the state. These include the *River Murray Act 2003*, the *Adelaide Dolphin Sanctuary Act 2005*, the *Marine Parks Act 2007*, *Arkaroola Protection Act 2012*, *Character Preservation (Barossa Valley) Act 2012*, *Character Preservation (McLaren Vale) Act 2012*.

*[The Assessment Requirements for Economic Impacts address economic impacts on land use e.g. property and land values; the Assessment Requirements for Community Wellbeing / Social Impact Assessment address the social impacts of development on adjoining land uses; the Assessment Requirements for Air Quality address air quality impacts to adjoining land uses (e.g. dust and fuel emissions); the Assessment Requirements for Noise and Vibration address noise and vibration impacts to adjoining land uses; the Assessment Requirements for Visual Impact address impacts to visual amenity, landscape and open space; the Assessment Requirements for Transport and Traffic address impacts to safety and efficiency of transport and traffic systems and infrastructure; the Assessment Requirements for Terrestrial and Aquatic Flora and Fauna address impacts to the ecosystems, habitats, and species in protected areas].*

## Considerations for land tenure, land use and Protected Areas

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The South Australian Property and Planning Atlas (SAPPA) and other government databases provide publicly available spatial data relevant to land use, land tenure and protected areas. Preliminary assessment in the proponent's scoping application of the potential impacts of the development should consider identification of key land uses and land tenures in the region surrounding and at the interface with the development including but not limited to:

- location / footprint of the proposed development
- location of population centres
- significant existing industrial or other facilities
- existing major infrastructure and utilities (e.g. roads, rail, transmission lines, electricity transmission lines, power stations, oil, gas and water transmission pipelines, storage reservoirs, desalination plants, airstrips)
- generalised land uses in the region
- land uses adjoining the development
- land tenure (e.g. freehold title, Crown land, pastoral leases, mining and petroleum tenements, native title and agreements with traditional owners, native vegetation heritage agreements)
- relevant Planning and Design Code Overlays and Zones
- areas subject to Special Legislative Schemes under the State Planning Policies
- areas reserved for conservation purposes and other protected areas (State and Commonwealth) including marine parks, state forests and Indigenous Protected Areas

The preliminary assessment should also identify key potential impacts to existing / adjoining land use and activities including property access, privacy and enjoyment and conduct of regular or seasonal activities.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for impact assessment for land use, land tenure and protected areas should be prepared to assist proponents]*

1. Provide details of the existing land uses (including relevant Planning Code Overlays and Zones), land tenures and protected areas at, overlapping or adjoining the development site. *[Note this information will form the basis of the 'existing environment' description for other environmental attributes addressed in the EIS].*
2. Provide details of site services and infrastructure including utility services (water, gas, electricity, sewerage disposal, wastewater, drainage, trenches or conduits); location of ground and roof plant and equipment (electricity transformers; air conditioning; solar panels etc). *[Note this information will form the basis of the 'existing environment' description for other environmental attributes addressed in the EIS].*

3. Provide details of the development (activities or structures) with the potential to impact on existing land uses, land tenures and protected areas that overlap, adjoin or are in the region of the development. *[Note this information will form the basis of the existing environment description for other environmental attributes addressed in the EIS].*
4. Describe existing or potential native title rights, claims and interests which may be impacted by the development (including with the use of maps) the following native title considerations:
  - land or waters where native title has been determined to exist by the Federal Court
  - land or waters that are covered by a native title determination application
  - land or waters that are covered by a registered Indigenous Land Use Agreement.
5. Describe in general terms the potential impacts of the development on existing or adjoining land use. *[Note that many impacts and mitigation measures will be addressed under Assessment Requirements for other environmental attributes and should be cross-referenced accordingly in the EIS].*
6. Describe (where relevant) potential impacts of the development for Crown land, pastoral leases, petroleum and mining tenements and Native Vegetation Heritage Agreements or any other relevant land tenures (including leases and licences). *[Note that many impacts and mitigation measures will be addressed under Assessment Requirements for other environmental attributes and should be cross-referenced accordingly in the EIS].*
7. Describe (where relevant) potential impacts of the development or areas protected under legislation or Special Legislative Schemes. *[Note that many impacts and mitigation measures will be addressed under Assessment Requirements for other environmental attributes and should be cross-referenced accordingly in the EIS].*
8. Provide an assessment of local impacts to adjoining land uses identified in the scoping application (e.g. property access (fencing, gates), privacy and enjoyment, conduct of regular or seasonal activities (e.g. grape vintage, sowing, harvesting, mustering, spraying, lambing) and describe any measures to mitigate these impacts.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to land tenure, land use and protected areas may be required]:*

- The preliminary assessment indicates that a high probability of significant impacts to an area protected under the *National Parks and Wildlife Act 1972*, the *Wilderness Protection Act 1992* or by a Special Legislative Scheme.
- Native Title has not been extinguished at the site of the development.
- There is a public perception that the development has the potential to cause significant impacts to a protected area and / or potential impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment.

## Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. Describe the potential impact on the relevant Native Title Claimants and ongoing enjoyment of native title rights (if any) by native titleholders, and the proposed management of potential impacts through an Indigenous Land Use Agreement, or other measure in accordance with the *Native Title Act 1994*
3. Provide a summary assessment of the potential impacts to the protected area or land tenure and how these would be addressed, with cross reference to the outcomes of the detailed assessment undertaken for the relevant key environmental attributes under other Assessment Requirements.

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policies for South Australia Special Legislative Schemes](#)
- [State Planning Policy: SPP9 Employment Lands, SPP10 Mineral and Energy Resources; SPP1 Integrated Planning](#)
- Relevant Regional Plans
- *Adelaide Dolphin Sanctuary Act 2005*
- *Arkaroola Protection Act 2012*
- *Character Preservation (Barossa Valley) Act 2012*
- *Character Preservation (McLaren Vale) Act 2012*
- *Coast Protection Act 1972*
- *Crown Land Management Act 2009*
- *Forestry Act 1950*
- *Landscape South Australia Act 2019*
- *Marine Parks Act 2007*
- *Mining Act 1971*
- *National Parks and Wildlife Act 1972*
- *Native Title Act 1993 (Cth)*
- *Native Title Act 1994 (SA)*
- *Pastoral Land Management and Conservation Act 1989*
- *Petroleum and Geothermal Energy Act 2000*
- *River Murray Act 2003*
- *Wilderness Protection Act 1992.*

## Environmental Attribute 7: Physical Environment

### PE1: Coastal and Marine

#### *Objective*

To ensure the natural features and processes of coastal systems are protected so that the environmental values of the coast are maintained.

To ensure the quality and productivity of marine waters, sediment and biota are protected so that environmental values are maintained.

#### *Context*

The South Australian coastal and marine environment has high intrinsic, aesthetic, social, environmental and economic values. It includes beaches, islands, oceans, dune systems, tidal waters, wetlands and cliffs. The natural features of the coastal environment provide vital habitat, contribute to biodiversity and play an important role in protecting development and human occupation from flooding and erosion. Substantial economic benefits are also derived from sustainable coast-dependent development such as aquaculture and ports.

The interface between sea and land is dynamic and subject to coastal hazards such as flooding, erosion, sand dune drift and acid sulfate soils. Climate change and ongoing sea level rise has increased risks for coastal developments and the viability of tide dependent ecosystems and aquaculture and fisheries industries. Onshore development can have significant land-based impacts to marine habitats (e.g. reefs and seagrasses) from nutrients and sediments, stormwater, wastewater and industrial discharges.

The Coast Protection Board is responsible for protecting and restoring the coast and development for aesthetic and other purposes under the *Coast Protection Act 1972*.

*[The Assessment Requirements for Native Flora and Native Fauna address the provision of information about coastal and marine flora, fauna and ecosystems; the Assessment Requirements for Biosecurity address marine pests and biofouling; the Assessment Requirements for Historic Heritage address historic shipwrecks; the Assessment Requirements for Soil, Landform and Geology address acid sulfate soils]*

#### *Considerations for coastal and marine*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The South Australian Property and Planning Atlas (SAPPA) provides spatial data for coastal and marine waters related matters including Code overlays for Coastal Areas, Coastal Flooding, Marine Parks and the Coastal Waters and Offshore Islands Zone.

Other publicly available coastal and marine related spatial datasets include mapping of aquatic reserves, the Adelaide Dolphin Sanctuary, rock lobster sanctuaries, the State marine park network and zones and associated data (e.g. special purpose areas).

Preliminary assessment in the proponent's scoping application of the potential impacts to the coastal and marine environment should consider:

- Description of known uses of the coastal area and marine waters in the development environs
- Description of the coastal and marine water features and environmental values and any nearby sensitive places and receivers (including MNES).

- Identification of relevant coastal and marine Code Overlays applicable to the development.
- Whether the development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993* (e.g. dredging)
- Description of the development activities with potential to impact on coastal systems and marine water quality
- Overview of potential impacts to the coastal and marine water environment during construction and operation.
- Preliminary assessment of the potential for significant impacts to Matters of National Environmental Significance (MNES) protected under the EPBC Act.
- Where relevant, outline the potential effects of, and identify strategies to protect against, extreme weather events, including a 1% AEP event and sea level rise as per Coast Protection Board policy and allowances from a risk management perspective, including adaptive management strategies. Include mitigation strategies should the structure not withstand such an event.
- Investigate coastal erosion hazard risks and identify a suitable erosion buffer distance (in addition to a public reserve) that allows for at least 100 years of coastal retreat for single buildings or small-scale developments, or 200 years of coastal retreat for large scale developments (unless for operational reasons the development requires a coastal location, e.g. a port facility).
- If there is not a suitable coastal erosion hazard buffer, describe what coastal protection measures will be implemented to protect the development or identify what formal commitments exist to protect the public reserve and the development from erosion.
- Describe measures to be adopted for the prevention or remediation of sand drift.

## **Assessment Requirements**

### **Standard Impact Assessment Requirements**

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of impacts to the coastal and marine environment should be prepared to assist proponents]*

#### **Coastal systems**

1. Describe existing coastal environmental values including estuarine, littoral and marine environmental values (e.g. water quality, benthos, aquatic flora and fauna, mangrove areas, salt marsh, and amenity) that could be impacted by construction or operation of the development.
2. Describe current processes and recently historical estuarine, littoral and marine morphology with a description of the processes shaping the coastal system (e.g. tides, rivers, floods, coastal currents, sediment transport, major storms, rocky headlands, or islands)
3. If MNES have been identified, undertake an assessment of potential impacts relevant to the MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*

4. Describe the legislative, regulatory and planning contexts for coastal systems that apply to the development including marine parks.
5. Describe existing residential, commercial or recreational uses of the coastal system that could be impacted by construction or operation of the development.
6. Provide details of proposed works with potential to affect coastal processes including buildings and infrastructure to be built on the shore or on land close to the shore and excavations on or near the shore.
7. Identify the flooding and erosion risks to the site (including flooding and erosion exacerbated by sea level rise and extreme weather events) and measures to reduce the risks.
8. Provide details of how natural processes and the protective function of landforms and vegetation will be maintained in sea erosion and storm tide inundation areas.
9. Identify any potential for Coastal Acid Sulfate Soils (CASS) to be encountered on the site and how this might be mitigated (refer to the Coast Protection Board policy on CASS).
10. Assess the potential impacts to the coastal system and existing uses from the development and propose mitigation measures to avoid or minimise those impacts during construction and operation.

#### Coastal Environment

11. Describe the effect of the proposed development on coastal features and associated vegetation communities and outline management and rehabilitation measures for these areas, including reference to long-term strategies to protect vegetation on coastal dunes.
12. Describe measures to be adopted for the remediation of sand drift, should it occur within the dune system as a direct result of the development.
13. Identify the impact of coastal erosion due to expected sea level rise of 0.3 metre to 2050 and 1.0 metre to 2100.
14. Detail the impacts of the construction and operation of the supply and discharge pipes for the abalone farm, especially any effect on coastal processes.
15. Describe the effect on the coastal wetlands on the site, including from the introduction of primary production or similar activities (where relevant).
16. Describe the effect on the conservation values of the nearby conservation areas (including conservation parks, national parks, land with heritage agreements etc)
17. Describe the effect on the habitat value of on-site native vegetation that provides a wildlife corridor along the coast (including coastal Crown land).

#### Marine waters

18. Provide a description of the physical oceanography within the study area including surface and subsurface current patterns, current velocities, waves, storm surges, longshore drift processes, tidal patterns, and tide levels for the site, in proximity to the site, and along marine shipping routes.
19. Provide bathymetric information for the study area and along marine shipping routes.
20. Describe seasonal marine water quality including water temperature, turbidity, total suspended solids, salinity and pH.

21. Describe historical marine uses and the potential for contamination of sediments and describe any known or suspected sediment contamination within the study area that could be re-suspended released or otherwise disturbed as a result of the project.
22. Provide details of proposed works with potential to affect marine waters and current uses. The description should include the following matters (where relevant):
  - potential impacts of shipping and offshore transshipping operations on the marine environment
  - any jetties, bunds, harbour walls, groynes, channel markers, or other infrastructure, to be built in waters
  - any proposals to undertake transshipping of material in state waters or the Commonwealth marine area
23. If the development requires the construction of structures on or adjacent to coastal geological formations:
  - describe the underlying geology and the nature of the soils with special reference to coastal landforms
  - identify geological, seabed and substrate impacts that may occur as a result of any dredging activity that will be undertaken during the construction phase. Detail measures for managing these impacts.
  - identify the total 'in water' footprint of the proposed development (including all areas to be dredged and/or altered)
  - Describe the potential for pollution (e.g. sediment plumes, spills to land and water, discharge of stormwater and wastewater) of marine waters during construction and operation. Identify locations where discharge to marine waters or land may occur during construction, operation or decommissioning of the development.
24. Assess the potential impacts of the proposed project's activities in marine waters including any potential impacts on marine parks, commercial or recreational fisheries effects of the development on nursery habitat (e.g. seagrass beds, reefs, or, mangroves) of target species (such as prawns and fish). Include spills of fuels and chemicals from water and land-based activities, run-off / discharge from land-based activities and propose mitigation measures to avoid or minimise those impacts during construction and operation.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to coastal and marine may be required]:*

- The preliminary assessment indicates that a high or medium probability of significant impacts to the coastal and/or marine environment from the development.
- There is a high or medium probability of impacts on the development from external environmental factors such as those associated with climate change (.e.g. sea-level rise,)
- A proposed activity is likely to be classed as a prescribed activity of environmental significance under the Environment Protection Act.

- There is a public perception that the development has the potential to cause significant impacts to coastal systems and / or marine waters (including marine parks) and those impacts have or are likely to be the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment
- Potential impacts to a MNES (e.g. Ramsar Wetland, Commonwealth marine area) are likely to require referral and approval under the *Environment Protection Biodiversity and Conservation Act 1999*.

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. Describe coastal engineering requirements for the location, orientation and type of infrastructure (e.g. causeway and/or jetty and wharf structures).
3. Describe materials that will be used to construct the infrastructure (e.g. causeway, jetty), including any treatment that the materials may have been subject to, prior to immersion in water.
4. Describe the impacts of infrastructure construction (port, wharf, jetty, berthing pocket, rock wall, retaining structures and mooring dolphins) on foreshore, intertidal, seabed and benthic communities (especially any nursery/spawning areas). Describe measures that will be undertaken to mitigate these impacts.
5. Describe, and provide baseline information on, the existing seabed profile, bathymetry, sedimentary profiles (including particle sizes), sand movement, water flow and tidal movement patterns through and around the proposed infrastructure.
6. Identify any possible changes to the seabed, bathymetry, sedimentary profiles (including particle sizes), and sand movement water flow and tidal movement patterns as a result of the development during both the construction and operational phases. Identify the impacts this may have on sensitive marine flora and fauna and commercial aquaculture activities in the region, and outline mitigation strategies.
7. Describe the contaminants and toxicants that may accumulate on the site and the risks during stormwater events (where not managed) to the adjacent aquatic environments and commercial industries (e.g. fisheries and aquaculture) that rely on those environments.
8. Identify the risks from the exposure of fine sediments or clays that would impact adversely on water quality (turbidity and light penetration) and contribute to the production of sediment plumes in the region during both construction and operation phases. Outline the impacts this may have on commercial aquaculture activities in the region.
9. Detail measures to protect foreshore areas during and after construction, including potential marine and terrestrial protection areas and associated buffers.

### Dredging

10. Describe any capital dredging for navigation channels, berths, swing basins or harbours, maintenance dredging for navigation channels, berths, swing basins or harbours.
11. Describe the volume, chemical and physical characteristics of the dredged or excavated material, with particular regard to acid sulfate soils
12. Describe the proposed disposal or placement options for dredged or excavated material, including an assessment of whether disposal in waters or for land reclamation would be likely to receive approval.
13. Consider how spoil disposal may impact on recreation, flora and fauna, public access and amenity. For example, dredging spoil on coastal land can lead to significant sand drift nuisance, or interrupt nesting shorebirds.
14. Describe any dredging activity that will be undertaken during the construction phase. Outline impacts that dredging may have on sediment loads and the neighbouring commercial aquaculture operation. Detail measures for managing these impacts, including management of dredge spoil in accordance with EPA guidelines.
15. Identify potential impacts of dredging, bed levelling, and/or the potential impacts of shipping and offshore transshipping operations on the marine environment. The impact assessment must also address changes in water quality, including increased water turbidity or other contaminants, due to the disturbance of benthic sediments or the disposal and/or relocation of material. Consider potential ecological impacts due to changes in water quality or the disturbance of the benthos. Provide strategies to avoid, mitigate and manage potential impacts.
16. Identify geological, seabed and substrate impacts that may occur as a result of any dredging activity that will be undertaken during the construction phase. Detail measures for managing these impacts.
17. Detail a monitoring program that would audit the success of mitigation measures, measure whether objectives have been met, and describe corrective actions to be used if monitoring shows that objectives are not being met.

Note – the SA EPA has produced a *Dredge Guideline 2020* that outlines information requirements for the assessment of proposed dredging at the development application stage (as well as guidance regarding the licensing process).

### Shipping

18. Describe the potential impacts on marine parks (State) from the construction and operation of the development, including the passageway of ships to and from any port / wharf development and determine appropriate measures to manage, offset or mitigate these impacts.
19. Outline measures to protect water quality and the marine environment from shipping activities, especially turbulence during docking and manoeuvring.
20. Detail measures for managing solid waste, black water and grey water from ships.

## MNES

21. If potential impacts of noise and vibration on MNES require approval under the EPBC Act, an assessment of impacts on the affected MNES must be prepared by a suitably experienced, specialist consultant. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy: SPP13 Coastal Environment, SPP4 Biodiversity](#)
- Relevant Regional Plans
- *Coast Protection Act 1972*
- *Environment Protection Biodiversity and Conservation Act 1999*
- *Aquaculture Act 2001*
- *Adelaide Dolphin Sanctuary Act 2005*
- *Fisheries Management Act 2007*
- *Marine Parks Act 2007*
- [A Strategy for Implementing CPB Policies on Coastal Acid Sulfate Soils in South Australia](#)
- *Dredge Guideline 2020 SA EPA*
- [www.epa.sa.gov.au/environmental\\_info/water\\_quality/programs/dredge-guideline](http://www.epa.sa.gov.au/environmental_info/water_quality/programs/dredge-guideline)

## PE2: Soil, Landform and Geology

### Objective

To ensure development is undertaken in a manner that protects the productivity and quality land including, soil, subsoil and landform and avoids impact to other environmental values.

### Context

Challenges to the sustainable use and management of soil and land resources include wind and water erosion, soil acidification, soil salinisation and soil structure decline.

The topographical position of a soil in the landscape influences different rates of erosion and deposition, drainage, and leaching. Removal of vegetation, disturbance of soil and changes to landform from development can result in soil erosion, exposure of subsoil and loss of the ability to of soil to store water and nutrients.

Downstream effects of soil erosion include siltation of watercourses and water storages and reduction on water quality in creeks, rivers and coastal areas.

Acid sulfate soils have elevated concentrations of metal sulfides and generate acidic conditions when exposed to oxygen. If incorrectly handled, these soils may potentially impact on human health and the environment, and may also result in damage to infrastructure constructed on acid sulfate soil material.

The *Landscape South Australia Act 2019* provides for the protection and management of the State's natural resources, including provisions relating to land and water resource management. Regional landscape plans and control policies are in force under the Act to guide management of water and soil by Landscape Boards. Soils are one of the seven priorities in the State Landscape Strategy.

*[The Assessment Requirements for Surface water and Groundwater address surface and groundwater quality; the Assessment Requirements for Coastal and Marine address marine water quality.]*

### Considerations for soil, landform and geology

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Publicly available soil and landform spatial datasets include landscape mapping of bioregions, land systems, soils classes, soil attributes (e.g. erosion, potential salinity, acid sulfate soils), geology and earthquake data. Preliminary assessment in the proponent's scoping application of the potential impacts soil, landform and geology from a development should consider:

- Description of the development activities with potential to impact on soils, landform or geology
- Description of the nature and condition of the existing physical environment in the proposal's study area, including reference to soil characteristics, landform, land systems and geology.
- Identification of the application of the acid sulfate soil Code Overlay to the development.
- Identification of potential acid sulfate soils applicable to the development
- Identification of relevant Landscape Board plans and strategies for soil and landform applicable to the development

- Overview of potential impacts to soil and landform from the development during construction and operation.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of impacts to the coastal and marine environment should be prepared to assist proponents]*

1. Provide a detailed description of the soils, landform and geology in the area of the development including the potential for water and wind erosion, soil salinity, acid sulfate soils and soil contamination. The description should:
  - Characterise soil types and structures in the development area and identify the potential location and disturbance of dispersive, acid sulfate, saline or potentially contaminated soils, or soils of other special characteristics that could affect or be affected by the development.
  - Identify hydrological, geomorphic or meteorological conditions that may contribute to susceptibility to erosion (e.g., channels, steep slopes, wind).
  - Identify any areas of ground instability and any ground conditions that may be susceptible to subsidence from development activities (e.g. tunnelling, deep excavation, dewatering) and direct and indirect changes to vegetative cover. Identify properties, structures and infrastructure that may be susceptible to subsidence.
2. Describe the development activities with potential to impact on soils and ground stability.
3. Address the implications of seismicity in the area in relation to both the construction and operation of the development.
4. Identify the risks of contamination of land from spills of fuel (or other toxic substances). Describe measures for the prevention and containment of spills, describe the contingency plans to be implemented in the event of spills, and comment on their expected effectiveness.
5. If acid sulfate soils would be disturbed or unexpectedly encountered during construction, describe measures to avoid oxidation of the sulfides, treat and neutralise the acid if it forms and manage any excavated material.
6. Ensure that appropriate soil contamination investigations have been undertaken and that soil generated from earthworks is managed in accordance with EPA guidelines, including for re-use on site or removal of material off-site for re-use, treatment or disposal.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to soils, landform and geology may be required]:*

- The preliminary assessment indicates that a high or medium probability of significant erosion and / or land subsidence may occur as a result of the development including during construction.
- There is a public perception that the development has the potential to cause significant impacts to soils or landform and / or potential impacts have been the subject of extensive media coverage.

- The issue is considered by the Commission to warrant detailed assessment

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. Describe how all potential high-impact elements of the development (e.g. spoil dumps, water management dams, creek and watercourse diversions and crossings, right of ways and easements, subsidence areas and borrow pits) are capable of being managed and rehabilitated to achieve the agreed final land use and topography. The proposed final landform should be
  - safe and structurally stable, with no environmental harm being caused by anything on or in the land and able to sustain a post development land use.
  - a functional hydrologic system that prevents erosion, maximises connectivity and prevents upstream and downstream surface and groundwater contamination in the long term should be re-established
  - be consistent with the surrounding natural topography and landscape.
3. For developments likely to cause land subsidence, assess and provide comprehensive surface subsidence predictions using tools or techniques that enable the location, extent and scale of subsidence, and its effect over time on surface landforms and hydrology to be understood. Propose detailed mitigation measures for any significant impacts that would result from subsidence including impacts on infrastructure, land, hydrology, flora and fauna.

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy: SPP10 Mineral and Energy Resources, SPP4 Biodiversity](#)
- Relevant Regional Plans
- *Landscape South Australia Act 2019*
- *Environment Protection Act 1993*
- [Site Contamination - acid sulfate soil materials](#)
- [State Landscape Strategy](#)
- [Stormwater pollution prevention - Code of Practice for the building and construction industry](#) (EPA)
- [Environmental management of dewatering during construction activities](#) (EPA)
- [Construction environmental management plan](#) (EPA)

## PE3: Surface Water and Groundwater

### Objective

To ensure the quality of groundwater and surface water is protected so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.

### Context

South Australia's low rainfall limits the state's ability to capture water meaning the state is heavily reliant on the River Murray system for much of our water supply. Reservoirs in the Mount Lofty Ranges catchment area are also an important source of water for metropolitan Adelaide, while regional areas rely on water supplied via one of the large pipelines from the River Murray, small rural reservoirs or from local dams and groundwater bores.

Groundwater is critical to the health of ecological communities and the viability of many agricultural, pastoral, mining and tourism industries. Groundwater is also used for domestic water supply, irrigated horticulture, industrial applications and irrigation of recreational and sports fields throughout the metropolitan area.

Some surface and groundwater resources across South Australia are prescribed and managed through the water licensing system under the *Landscape South Australia Act 2019* to ensure water use remains sustainable. Protection of natural waters and the stormwater system from pollution is managed through the *Environment Protection Act 1993* and the *Environment Protection (Water Quality) Policy 2015* (Water Quality EPP).

The quality and volume of surface and ground water resources (affected by a development) has the potential to impact matters of national environmental significance (MNES) such as Ramsar Wetlands may have implications under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

*[The Assessment Requirements for Coastal and Marine address marine water quality; the Assessment Requirements for Soil, Landform and Geology address soil erosion and acid sulfate soils; the Assessment Requirements for Hazards and Risks address flooding hazard; the Assessment Requirements for Native Flora and Native Fauna address groundwater dependent flora, fauna and ecosystems].*

### Considerations for surface water and groundwater

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The South Australian Property and Planning Atlas (SAPPA) provides spatial data for water resource related matters including Code overlays for the Mount Lofty Ranges water supply catchments, the Murray Darling Basin, prescribed surface water areas, prescribed water resources areas, prescribed watercourses and prescribed wells areas.

Other publicly available water related spatial datasets include mapping of surface water catchment, watercourse and water bodies, groundwater basins and aquifers, shallow standing water levels and groundwater prohibition areas. Preliminary assessment of surface and groundwater in the proponent's scoping application should consider where relevant:

- Description of the development activities with potential to impact on the quality of surface and groundwater (including disposal of wastewater).
- Whether the development involves a prescribed activity of environmental significance under the *Environment Protection Act 1993*

- Description of known users of surface water and groundwater resources.
- Overview of the existing surface water and groundwater features and environmental values of the receiving environment and any nearby sensitive places and receivers (including MNES).
- Identification of relevant water-related Code Overlays applicable to the development.
- Identification of relevant Landscape Board Water Allocation Plans and Water Affecting Activity Policies applicable to the development.
- Overview of potential impacts to surface and groundwater from the development during construction and operation.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of impacts to the coastal and marine environment should be prepared to assist proponents]*

#### Surface water

1. Describe existing surface water environmental conditions upstream and downstream of the site (including seasonal variations and variations with flow) of waterbodies, watercourses, drainage channels, wetlands and floodplains. Water quality, any existing site contamination and potential sources of surface water pollution should be addressed.
2. Describe present and potential users and uses of water in areas which may be affected by the development, including residential, municipal, agricultural, industrial, recreational and environmental uses of water.
3. If MNES have been identified, undertake an assessment of potential impacts to surface and groundwater relevant to the MNES. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*
4. Describe the legislative, regulatory and planning contexts for surface water that apply to the development.
5. Describe the potential for pollution (e.g. sediment plumes, spills to land and water, discharge of stormwater and wastewater, dewatering) of water bodies, watercourses, drainage channels, wetlands and floodplains during construction and operation. Identify locations where discharge to surface waters or land may occur during construction, operation or decommissioning of the development.
6. Describe potential alteration to surface water flows as a result of the development (including to waterbodies, watercourses, wetlands, floodplains, beds and banks) and include details of the nature of the works. Discuss the implications of these changes for downstream water uses and describe how these impacts will be minimised.
7. Describe the options for supplying water to the development including potable water (if relevant) and temporary demands during the construction period. Describe on-site storage and treatment requirements for wastewater from accommodation and/or offices and workshops.

8. Identify the risks of contamination of land from spills of fuel (or other toxic substances). Describe measures for the prevention and containment of spills, describe the contingency plans to be implemented in the event of spills, and comment on their expected effectiveness.
9. Describe the proposed mitigation measures to protect the environmental values for surface water quality, how the relevant standards and indicators may be achieved, to protect surface water during construction and operation. Provide details of proposed wastewater and stormwater management, as well as any water sensitive design features as part of the development. If required, revisit project design and construction methodologies to reduce impacts surface water quality to demonstrate that the Water Quality EPP will be met.
10. Prepare a Soil Erosion and Drainage Management Plan which describes the site characteristics, including the existing topography and runoff characteristics. The plan should describe the measures proposed to prevent soil erosion and contaminated runoff from leaving the site during construction, operations and closure / decommissioning (including any opportunities for water sensitive design). Include inspection, maintenance and monitoring of effectiveness of soil erosion measures.
11. Describe measures for storage and management of stockpiled topsoil and subsoils to minimise potential adverse effects on local hydrology and water quality, restoring soil profiles, drainage and productivity, as well as landscape rehabilitation in the context of decommissioning of earth structures. Include sediment and erosion controls where required (e.g. temporary berms, controlling water movement into and around the site, stockpile management and stabilisation of non-paved operational areas).

#### Groundwater

12. Describe the known groundwater related environmental conditions including quality and significance of groundwater in the area of the development and any surrounding area potentially affected by the proposed development's activities. Include the following (where relevant):
  - describe the nature, type, geology / stratigraphy and depth to and thickness of the aquifers, hydraulic properties and value as water supply sources
  - any existing site contamination, and any identified potential sources of groundwater pollution
  - characterise the quality and volume of the groundwater including seasonal variations of groundwater levels
  - describe existing groundwater supply infrastructure (e.g. bores, wells, or excavations).
13. Describe the legislative, regulatory and planning contexts for groundwater that apply to the development.
14. Describe present and potential users and uses of groundwater water in areas potentially affected by the development, including residential, municipal, agricultural, industrial, recreational and environmental uses of water including groundwater dependent ecosystems (GDE).
15. Describe the potential changes to hydrology (including water quality), as a result of the proposal, and the implications of these changes. Water quality impacts should consider any parameters (e.g. metals, non-metal inorganics) considered important for existing groundwater users / uses in the vicinity of the projected area of impact.

16. Where groundwater would be taken by the development, quantify the volume of water that would be taken, the timeframe over which the take would occur and the potential impact on groundwater users.
17. Describe stormwater and wastewater management and the potential impact on groundwater resources in particular with regard to fuel and chemicals used in construction and / or operation of the development. Describe measures proposed for management of stormwater and wastewater during construction and operation to avoid impacts to groundwater.

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to surface and groundwater may be required]:*

- The preliminary assessment indicates that there is high or medium probability that water quality impacts from the proposed development will result in a breach of the Water Quality EPP mandatory provisions or related Code of Practice.
- The preliminary assessment indicates that there is high or medium probability the development has the potential to cause significant impacts to current or future water uses.
- There is a public perception that the development has the potential to cause significant impacts to water quality or to current or future water uses and these potential impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment
- The development is located in the area subject to the *Special Legislative Schemes River Murray Act 2003*.
- A proposed activity is likely to be classed as a prescribed activity of environmental significance under the Environment Protection Act.
- A proposed activity will require a licence or permit under relevant Landscape Board Water Allocation Plans and Water Affecting Activity Policies
- Potential impacts to a MNES (e.g. Ramsar Wetland) are likely to require referral and approval under the *Environment Protection Biodiversity and Conservation Act 1999*.

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

##### Surface water

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. *Surface and Integrated Water Management Plan*: may be required to ensure activities meet requirements set out in the relevant Landscape Board water affecting activity / water allocation plan. The plan must:
  - describe activities such as construction, modification or removal of dams or basins on activities on watercourses, lakes, floodplains, springs, wetlands, waterholes and surface water storage structures

- detail how these activities will be carried out, materials to be used (including specifications) and machinery/tools required to carry out the works and
- detail the anticipated impacts of the activities and the measures and actions proposed to reduce or mitigate the impact on the stability and integrity of the water resources are to be addressed

This plan must also incorporate measures and actions to address (but not be limited to) the following issues may be required:

- Site plan identifying all water related features and infrastructure for the storage, treatment and/or reuse of potable water, stormwater, wastewater and irrigation water.
- Water balance information, including the total water needs of all components of the development.
- Total wastewater generation from the development (based on projected wastewater volumes per day).
- A description of how all wastewater is collected, managed and relayed/discharged (including computations to demonstrate acceptable control discharge to effluent treatment facilities and details of any upgrades to the system that may be required).
- Predicted stormwater generation volumes and details of stormwater quality improvements, including the location and sizing of bio-retention swales and basins, anticipated quality improvements and details of any other proposed stormwater quality treatment features.
- Contingencies to address any detrimental effects, especially on local hydrology.

#### Discharge of Wastewater (where relevant)

3. Identify the quantity, quality and location of all potential discharges of water and contaminants by the proposed project, including treated wastewater and sewage. Describe whether the discharges would be from point sources (whether uncontrolled and controlled discharges) or diffuse sources (such as irrigation to land of treated wastewater/sewage effluent), and describe the receiving environment (such as land or surface waters).
4. Provide a risk assessment of the potential impacts on waters, in the near-field or far-field, resulting from controlled or uncontrolled discharges from the site. Address the following matters with regard to every potential discharge of contaminated water:
  - Describe the circumstances in which controlled and uncontrolled discharges might occur.
  - Provide stream flow data and information on discharge water quality, including any potential variation in discharge water quality that will be used in combination with proposed discharge rates to estimate in-stream dilution and water quality. Chemical and physical properties of any wastewater, including concentrations of constituents, at the point of entering natural surface waters must be discussed along with toxicity of effluent constituents to human health, flora and fauna.
  - Provide an assessment of the available assimilative capacity of the receiving waters given existing water quality and other potential point source discharges in the catchment. Options for controlled discharge at times of natural stream flow must be investigated to ensure that adequate flushing of wastewater is achieved.
  - Provide water quality limits that are appropriate to maintain background water quality and protect other water uses.

- Describe the necessary streamflow conditions in receiving waters under which controlled discharges will be allowed.

### Groundwater

5. Provide an assessment and groundwater model that demonstrates the impact on the relevant groundwater resource (e.g. Great Artesian Basin), including other uses. The assessment and groundwater model should incorporate current information from government agencies, the relevant Water Allocation Plan and strategic or regional plan. The model should identify (where relevant):
  - the impact of the proposed extraction of the additional water on the groundwater resource including:
    - o a description in the context of the existing monitoring information, presented as groundwater contour maps, hydrographs, concentration plots and in tabulated form.
    - o impact of the extraction on each aquifer described in terms of water pressure and water quality at the local and regional level.
    - o groundwater contour maps of source aquifers should be provided overlain with GDEs (including EPBC-listed springs) and bores.
  - the impact of the proposed extraction of the additional water on the other aquifers, described in terms of water pressure and water quality at the local and regional level.

### MNES

6. If potential impacts to a MNES require approval under the EPBC Act, an assessment of impacts on the affected MNES must be prepared by a suitably experienced, professional acoustic engineering consultant. *[Note this would be modified depending on referral status and interaction with the EPBC Act bilateral and the Commonwealth]*

### *Suggested guidance documents – indicative only, others may apply*

- [State Planning Policies: Special Legislative Schemes. SPP 17 Special Legislative Scheme River Murray Act 2003](#)
- [State Planning Policy: SPP14 Water Security and Quality](#) : includes planning principles, objectives and policy to protect South Australia's water supply catchments and water dependent ecosystems
- *Environment Protection Act 1993*
- *Environment Protection (Water Quality) Policy*
- *Stormwater Code of Practice*
- Landscape Board Water Allocation Plans and Water Affecting Activity Policies
- [State Landscape Strategy](#)

## Environmental Attribute 8: Design

### D1: Design Quality

#### *Objective*

To ensure good design outcomes that improve our quality of life and create sustainable developments and built form environments that bring lasting benefits to communities.

#### *Context*

Design quality of the built environment relates to how successful buildings, places and spaces meet the needs of the people who use and experience them.

South Australia's planning system has identified high-quality design as one of the seven principles of good planning. State Planning Policy Two, *Design Quality*, encourages good design solutions to complex social, economic and environmental challenges.

PLUS State Assessment and the Office for Design and Architecture SA (ODASA) provide a free and confidential pre-lodgement service. It is a collaborative process in which proponents, the assessment authority and referral agencies work closely to achieve the best possible design, planning and development outcomes.

State Design Review is an integral part of the pre-lodgement service that supports high-quality design outcomes, improves access to independent design expertise and assists with informed decision-making during the assessment of impact assessed projects. It is an independent evaluation process in which a panel of built environment experts reviews the design quality of development proposals

Design Review is most effective when undertaken early in the planning and design process—prior to lodgement of an Environmental Impact Statement—where the opportunities to effect positive change are greatest.

This process can run in parallel to the EIS scoping and preparation process for projects with an architecture, urban design, public realm and/or open space focus.

*[The Assessment Requirements for Amenity and Environmental Quality, Social and Community and Climate Change and Resource Efficiency are also relevant].*

#### *Considerations for design excellence*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

Design Review in South Australia is guided by the Principles of Good Design. These Principles help us recognise, discuss and support the role that design plays in making our buildings and places better for people, the environment and economy.

South Australia's six Principles of Good Design are:

- Context: Good design is contextual because it responds to the surrounding environment and contributes to the existing quality and future character of a place.
- Inclusive: Good design is inclusive because it creates places for everyone to use and enjoy, by optimising social opportunity and equitable access.

- Durable: Good design is durable because it creates buildings and places that are fit-for-purpose, adaptable and long-lasting.
- Value: Good design adds value by creating desirable places that promote community and local investment, as well as enhancing social and cultural value.
- Performance: Good design performs well because it realises the project potential for the benefit of all users and the broader community.
- Sustainable: Good design is sustainable because it is environmentally responsible and supports long-term economic productivity, health and wellbeing.

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of impacts to the coastal and marine environment should be prepared to assist proponents]*

1. Provide a contextual analysis and identify site-specific issues including
  - existing site conditions
  - existing built form, heritage context (if applicable), setbacks and land uses within the locality
  - existing transportation networks and movement patterns (public transport, bicycle paths, pedestrian paths)
  - existing landscape (Significant and Regulated trees, street trees, Park Lands)
  - environmental conditions (orientation, outlook and views, noise sources).
2. Describe the design principles that are informing the design outcome and public realm contribution.
3. Demonstrate the proposal's precinct/site-wide movement strategy with consideration given to the following:
  - arrival experience
  - access and parking for vehicles, buses, emergency vehicles, waste collection, service delivery vehicles and bicycles
  - pedestrian movement including for People with Restricted Mobility.
4. Demonstrate the proposal's site configuration and built form massing strategy informed by the contextual analysis, design principles, movement strategy, planning policy parameters and 3D massing studies.
5. Describe the concept for the built form composition and architectural expression (including materiality) informed by the design principles and contextual analysis.
6. Describe the proposal's landscape design response with consideration given to Water Sensitive Urban Design (WSUD) principles, management of site levels, planting palette, wayfinding and signage, lighting and any fixtures.
7. Demonstrate the proposal's servicing strategy including the location of any required services infrastructure and the proposed material/screening treatment of any visible services.

8. Describe the proposal's Environmentally Sustainable Design (ESD) strategy and targets.
9. Describe how the proposal considers Crime Prevention Through Environmental Design (CPTED) principles.
10. Provide a detailed schedule of external materials, finishes and colours, supported by a physical materials sample board.
11. Provide visualisations (including long view perspectives) to demonstrate the proposal in context.
12. Demonstrate the impact of the proposal on adjacent land uses and the public realm, for example building bulk and scale, overshadowing, overlooking and view retention.
13. Provide a full set of documentation including site plan, plans, elevations (including streetscape elevations where relevant), sections/site sections and shadow diagrams

#### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to historic heritage may be required]:*

- The preliminary assessment indicates an exemplary design response is required due to the nature, scale, location and/or sensitivity of the project on its environment.
- The issue is considered by the Commission to warrant detailed assessment.

#### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Undertake PLUS State Assessment and ODASA's pre-lodgement and State Design Review process (overseen by the Government Architect) and incorporate recommendations (where appropriate) and provide reasons where such advice cannot be fully implemented.
2. Provide a response to the DQ1: Design Quality Standard Impact Assessment Requirements.
3. Provide a 3D model (file format to be advised) of the proposal including the site context and key neighbouring sites and built form elements.

#### *Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy: SPP1 Integrated Planning, SPP2 Design Quality, SPP3 Adaptive Re-use, SPP6 Housing Supply and Diversity](#)
- [30-Year Plan for Greater Adelaide – 2017 Update](#)
- [Principles of Good Design - ODASA](#)
- [State Design Review in South Australia - ODASA](#)
- [Preparing for State Design Review - ODASA](#)
- [Design Review Presentation Checklist - ODASA](#)
- [Good Design for Great Neighbourhoods and Places - ODASA](#)
- [Water Sensitive Urban Design - Department of Environment and Water](#)
- [Creating Greener Places for Healthy and Sustainable Communities - Healthy Parks Healthy People South Australia](#)

## Environmental Attribute 9: Social and Community

### SC1: Aboriginal Cultural Heritage

#### *Objective*

Avoid damage, disturbance or interreference (together, impacts) to Aboriginal sites, objects and remains (together, Aboriginal heritage) and maximise opportunities to appropriately complement and preserve these values.

#### *Context*

South Australia is home to over 30 Aboriginal groups, with distinct beliefs, cultural practices and languages. Many places across the state have great cultural and spiritual significance to Aboriginal people.

Aboriginal heritage comprises both the physical evidence of Aboriginal occupation and use of the land (campsites, stone tools etc.) as well as their spiritual and traditional connection to the land (songlines, ceremony sites etc.). Many areas of the state have never been the subject of comprehensive Aboriginal heritage survey. Unknown Aboriginal heritage may also be uncovered or discovered during ground disturbing works, even where there is no indication of its presence on the surface.

Aboriginal heritage is protected under the Aboriginal Heritage Act 1988 (SA). Development works have the potential to impact Aboriginal heritage, particularly in areas with known Aboriginal heritage significance. There are penalties under the Aboriginal Heritage Act 1988 (SA) for unauthorised impacts to Aboriginal heritage,

To ensure that the appropriate level of engagement with Aboriginal groups is carried out, proponents should prepare an Aboriginal Engagement Plan (AEP) early in the process.

The AEP should identify the Recognised Aboriginal Representative Body (RARB) for the area (where appointed), or relevant Traditional Owner representatives where a RARB is not appointed. For the purposes of this document, Traditional Owner representatives may include individual Traditional Owners, and relevant Aboriginal groups/organisations, including native title bodies. The AEP should also include the steps that will be taken to facilitate meaningful and effective consultation with these Aboriginal stakeholders.

See Aboriginal Affairs and Reconciliation's (AAR's) [Managing Aboriginal Heritage in South Australia Factsheet](#) for further information on engaging with Aboriginal groups.

*[The Assessment Requirements for Land address matters relating to Native Title.]*

#### *Considerations for Aboriginal cultural heritage*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

In many cases, impacts to Aboriginal heritage can be avoided through early consultation with relevant Aboriginal parties, and by engaging qualified heritage experts to undertake appropriate assessments. Preliminary assessment of Aboriginal heritage in the proponent's scoping application must include:

- identification of known Aboriginal heritage relevant to the search area, provided through AAR's central archives search request process

- identification of the RARB or, where no RARB is appointed, Traditional Owner representatives relevant to the search area, provided through AAR's central archives search request process
- assessment of the potential for unrecorded Aboriginal heritage to exist within the project area, made by an appropriately qualified heritage expert (archaeologist and/or anthropologist).
- early consultation with the RARB (where relevant) or, where there is no RARB appointed, relevant Traditional Owner representatives for the area. It is possible that multiple groups should be consulted.

AAR maintains a non-exhaustive list of heritage consultants operating in South Australia:

[www.agd.sa.gov.au/aboriginal-affairs-and-reconciliation/aboriginal-heritage/commercial-aboriginal-heritage-consultants-working-in-south-australia](http://www.agd.sa.gov.au/aboriginal-affairs-and-reconciliation/aboriginal-heritage/commercial-aboriginal-heritage-consultants-working-in-south-australia)

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of impacts to the coastal and marine environment should be prepared to assist proponents]*

1. Describe any consultation with the RARB or any relevant Traditional Owner representatives relevant to the project area. Details of Aboriginal heritage provided by Traditional Owners during consultation or discussed in the EIS must remain confidential and are not to be disclosed or published by the proponent.
2. Describe the outcomes of AAR's central archives search for the project area, including consideration of any restricted Aboriginal sites and instances where approval from Traditional Owners may be required to access further information about the nature and/or location of the heritage.
3. Describe any Aboriginal heritage surveys or assessments relevant to the project area, including historic reports where relevant and accessible. These may include desktop-based heritage assessments, heritage survey/inspection reports, Work Area Clearance reports or other risk assessments. Where an Aboriginal heritage assessment is undertaken, it must be done by an appropriately qualified heritage expert.
4. Where there is a high risk of discovery of Aboriginal heritage within the project area, it is recommended that the proponent engage Traditional Owners and a qualified heritage expert (archaeologist and/or anthropologist) to carry out an on-ground heritage survey/inspection of the project area.
5. Identify any potential impacts to recorded or unrecorded Aboriginal heritage in the project area (noting that the specific location of any heritage must not be identified in the EIS).
6. Outline measures to avoid or minimise impacts to recorded and unrecorded Aboriginal sites, objects and remains in the project area during construction and operations phases. Where impacts to Aboriginal heritage are proposed, the proponent must hold valid authorisations under the Aboriginal Heritage Act 1988 (SA).
7. Preparation of a Aboriginal heritage discovery plan or Cultural Heritage Management Plan (if required) to protect and appropriately manage Aboriginal heritage during all phases of the project.

## Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to noise and vibration may be required]:*

- The preliminary assessment indicates that there is high or medium probability of causing a impacting known Aboriginal heritage.
- The preliminary assessment indicates that there is high or medium probability of impacting unknown or unrecorded Aboriginal heritage.
- There is a public perception that the development has the potential to cause significant impact to Aboriginal cultural heritage and / or potential impacts to Aboriginal heritage have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment

## Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.]*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to known and unknown Aboriginal heritage. Where impacts to Aboriginal heritage cannot be avoided, provide detailed justification for this.
2. An on-ground cultural heritage survey undertaken by qualified heritage experts (ideally an anthropologist and an archaeologist) in consultation with the RARB/Traditional Owner representatives. Where practical, this survey should cover the entirety of the project area.
3. The subsequent Aboriginal heritage report should:
  - be prepared by a suitably qualified heritage expert
  - clearly outline the results of the heritage survey, including the location of Aboriginal heritage within the project area, as well as any areas where unrecorded sub-surface Aboriginal heritage is likely to occur
  - consider the results of the AAR central archives search results, as well as any other searches of local archives or other relevant databases
  - consider the views of the RARB, or where no RARB is appointed, Traditional Owner representatives. Note that any sensitive or restricted information relating to Aboriginal heritage must remain confidential, and should not be publicly disclosed
  - consider both the archaeological and anthropological/ethnographic values of the area, based on relevant literature, previous heritage assessments etc.
  - consider the project's potential impacts to known and unknown Aboriginal heritage
  - provide recommendations for the management of Aboriginal heritage during project works, in light of the above
4. A Cultural Heritage Management Plan (CHMP) must be prepared by an appropriately qualified heritage expert in consultation with the RARB/Traditional Owner representatives that:

- addresses the potential for the project to impact known and unknown Aboriginal heritage
- outlines measures agreed with the RARB/Traditional Owner representatives to be taken in order to manage and protect Aboriginal cultural heritage wherever possible
- establishes processes for the management and protection of Aboriginal heritage before, during and after the proposed development, which may include:
  - o establishment of avoidance or 'no-go' zones to avoid known heritage or areas of identified high risk
  - o establishment of bunting or fencing around known Aboriginal heritage
  - o conditional access areas (e.g. limits on heavy machinery in particular areas)
  - o the engagement of Aboriginal heritage monitors to observe ground disturbing works in high risk areas - noting that the location and details about the heritage must not be made public.
- includes an Aboriginal heritage discovery protocol, outlining the steps that will be taken in the event of an Aboriginal heritage discovery

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy 7: Cultural Heritage](#)
- Relevant Regional Plans
- *Aboriginal Heritage Act 1988* (SA)
- *Native Title Act 1993* (Cth)
- *Native Title Act 1994* (SA)
- Guideline 1- Recognised Aboriginal Representative Bodies (AGD-AAR)
- Guideline 2- Division A2 Agreements (AGD-AAR)
- Guideline 3 - Local Heritage Agreements (AGD-AAR)
- Guideline 4 - Aboriginal heritage registers (AGD-AAR)
- Guideline 5 – Negotiating in Good Faith (AGD- AAR)
- Discovery of Aboriginal Sites and Objects Fact Sheet (AGD-AAR)
- Managing Aboriginal Heritage in South Australia – Factsheet (AGD-AAR)
- Aboriginal Heritage Discovery Protocol (DPC-AAR)

## SC2: Community Wellbeing / Social Impact Assessment

### Objective

To ensure adverse effects on the community near the development are avoided or minimised including with regard to community cohesion, access to services and facilities and health impacts and capitalise on opportunities to enhance benefits for communities.

### Context

Major projects and developments have the potential to significantly change the way a community functions and how people live, work, play and interact with one another on a day-to-day basis. This can include impacts to physical and mental health, social, cultural and economic well-being, access to and quality of infrastructure, services and facilities, access to and control over resources, impacts on peoples' jobs, properties or businesses and impacts to physical safety, exposure to hazards or risks.

There is significant value in collaboration of proponents with stakeholders to achieve integrated development and informed decision making and identification of relevant stakeholders is a key part of the scoping phase of social impact assessment (SIA).

Effective engagement with relevant stakeholders enables them to have ownership in the decision making process and incorporating stakeholder ownership of the SIA process, through their "buy-in" to the process, is key to effective stakeholder engagement.

To ensure that the appropriate level of engagement is carried out, it is beneficial to prepare a Stakeholder Engagement Plan very early in the SIA process that identifies the appropriate stakeholders, the issues they are likely to be interested in (many of which can be taken from the key risks and impacts identified in the EIS assessments) and describes the proposed timing and mechanisms for engagement.

SIA is particularly important in areas of Aboriginal cultural heritage or historic heritage, native title, pastoral leases or any land use and ownership with direct linkages between community livelihoods, primary industry, natural resource conditions and sustainable development. It is essential to engage in a meaningful, culturally appropriate, way with the different groups to promote social accountability and reduce the potential for future conflicts.

*[The Assessment Requirements for Economic Impacts address the economic impacts; the Assessment Requirements for Land address land use, land tenure and protected areas; the Assessment Requirements for Air Quality address air quality impacts to amenity and liveability (e.g. dust and fuel emissions); the Assessment Requirements for Noise and Vibration address noise and vibration impacts to amenity and liveability; the Assessment Requirements for Visual Impact address impacts to visual amenity, landscape and open space; the Assessment Requirements for Transport and Traffic address impacts to safety and efficiency of transport and traffic systems and infrastructure; the Assessment Requirements for Aboriginal Cultural Heritage address matters relating to protection Aboriginal sites, objects and remains; the Assessment Requirements for Hazards and Risk address matters relating to public safety and risk management.]*

### Considerations for social impact assessment

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The preliminary assessment in the proponent's scoping application of the impacts to community wellbeing from a development should consider a high-level baseline description of the existing social conditions within an indicative social impact study area. Information would include a **brief overview** of:

- the proposed study area which identifies the social and geographic boundaries of the social impact assessment
- the location, character and basic demography of potentially affected communities (including nearby regional communities)
- existing industries and land uses, infrastructure, facilities and services, including education, health and emergency services
- nature of existing housing and accommodation
- key potential social impacts and benefits.

### *Assessment Requirements*

#### Categorisation of Impacts Requiring Detailed Assessment

*[Detailed Assessment Requirements for social impact would generally be required for impact assessed projects due to the nature and scale of the potential social impacts, the unique set of social factors and the complexity and uncertainties inherent in social impact assessment. Consequently standard assessment requirements have not been developed.]*

#### **Detailed Assessment Requirements**

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.]*

1. Provide a social impact assessment (SIA) of the development which addresses:
  - the existing social environment of communities potentially impacted by the project
  - the potential social impacts (both positive and negative) of the project, and how they will be managed and monitored
2. The SIA should include social baseline information which includes but is not limited to:
  - a demographic profile of potentially affected communities
  - an analysis of community characteristics (e.g. community history and culture, land / property ownership)
  - an overview of land use, key industries in the region, and relevant local and state government plans
  - an overview of the capacity and accessibility of infrastructure, facilities and services, including education, health and emergency services
  - an analysis of the existing housing and accommodation market, including availability, capacity and affordability
  - a profile of the local and regional labour market, including likely availability of personnel with skills relevant to the project
  - details of other resource, infrastructure and major projects in the area (planned and currently operating).

- Key matters to be addressed by the SIA (for both construction and operation) are:

Workforce Management incorporating (where relevant)-

- a summary workforce profile, including the estimated proportion of FIFO workers
- an analysis of the local and regional labour market, and an assessment of potential social impacts, including employment opportunities, training and development opportunities and possible labour shortages within local communities due to project demand. Include analysis of impact on labour market of skilled workers changing employment.
- an assessment of opportunities for local workers to commute to and from work
- workforce management measures which *[may]* include:
  - o measures to enhance potential employment opportunities for local and regional communities, and to mitigate potential negative social impacts
  - o provisions to prioritise recruitment of workers from local and regional communities, then workers who will live in regional communities
  - o proposed training and development initiatives to improve local and regional skills and capacity including, where relevant, initiatives for traditionally under-represented groups.

Housing and Accommodation incorporating (where relevant):

- proposed workforce accommodation arrangements including details of any proposed project workforce accommodation facilities or purpose-built housing developments
- an analysis of the local and regional housing and accommodation market, and an assessment of potential social impacts, including:
  - o potential impacts to availability and affordability of housing (open market and rental) and other forms of accommodation
  - o consequences of project induced housing market changes for local residents
  - o potential opportunities for local accommodation providers
- workforce housing and accommodation management measures which *[may]* include:
  - o measures to enhance potential benefits for project workers and the community, and to mitigate potential negative social impacts
  - o policies regarding housing and accommodation support to be provided to project workers and their families who wish to live locally.

Local Business and Industry Procurement incorporating (where relevant):

- a profile of the skills, services and materials required by the project
- an analysis of local and regional supplier capability and capacity relevant to the project, and an assessment of potential social impacts, including opportunities to enhance the capacity of local businesses and supply chains and risks associated with monopolisation of goods and services by the project
- local business and industry procurement plan for construction and operation which *[may]* include:
  - o procurement strategies and initiatives for local and nearby regional suppliers, including Aboriginal and Torres Strait Islander owned businesses, and actions to facilitate participation

- proposed policies and programs to build local and regional capacity and capability, and reduce barriers to entry
- processes that embed the local business and industry procurement strategies into the contracting model for the project
- measures to mitigate any potential negative social impacts on local industries
- details of any established industry guidelines or codes of practice which the proponent has committed to complying with.

Health and Community Well-being incorporating (where relevant):

- an analysis of the availability, accessibility and capacity of, and an assessment of potential project impacts on, existing social services, facilities and infrastructure such as healthcare and emergency response, transport and utilities, education and childcare, and community support services
- an analysis of the health and well-being of potentially impacted communities (in particular relevant disadvantaged groups e.g. Aboriginal people, disability, elderly), and an assessment of potential social impacts, including:
  - community health, safety and security
  - livelihoods, economic well-being and access to resources
  - community lifestyles and cultural practices, amenity value, social character, and community cohesion
  - potential temporary or permanent effects on community recreational facilities, affecting the use of open space and the enjoyment of passive and active recreational opportunities.
- health and community wellbeing management measures which *[may]* include:
  - measures to ensure that the level of service provided to the local community by existing social services, facilities and infrastructure is not reduced
  - measures to mitigate potential health and well-being impacts on local communities, and enhance potential benefits
  - the level of on-site health services to be provided for workers
  - details of any workforce code of conduct to govern worker interactions with local communities
  - emergency response arrangements and management measures agreed with emergency service providers, for incidents both on and off the project site
  - details of any community development programs to be implemented, and the outcomes to be achieved.

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policies; SPP1 Integrated Planning; SPP6 Housing Supply and Diversity; SPP2 Design Quality; SPP3 Adaptive Reuse](#)
- Relevant Regional Plans
- Landscape Board Landscape Plans

### SC3: Heritage Places and Areas

#### *Objective*

To ensure that the nature and scale of the development does not compromise the recognised heritage significance of a heritage place or heritage area.

#### *Context*

Cultural heritage significance may be recognised at the national, state-wide or local government level and can be associated with aesthetic, archaeological, architectural, cultural, scientific or social attributes of a place.

South Australian State Heritage areas, places and objects are listed and protected under the *Heritage Places Act 1993* and the Planning and Design Code (the Code). Local heritage places are also protected under the Code.

South Australia's historic shipwrecks and relics in marine and inland waters are protected either under the *Historic Shipwrecks Act 1981* (SA waters) or the *Underwater Cultural Heritage Act 2018* (Cth waters).

Commonwealth Heritage Places are natural, Indigenous and historic heritage places on Commonwealth land and waters or under Australian Government control. National Heritage Places are natural, historic or indigenous places with outstanding value to the Australian nation, outside of Commonwealth land. Commonwealth Heritage, National Heritage and World Heritage, are protected under the *Environment Protection Biodiversity and Conservation Act 1999*.

*[The Assessment Requirements for Visual Impact address impacts to visual amenity, landscape and open space, the Assessment Requirements for Land addresses land use, land tenure and protected areas]*

#### *Considerations for historic heritage*

*[This is the baseline/ minimum information that would be expected in the scoping application submitted by the proponent to allow Assessment Requirements to be developed. Guidance along these lines could be provided to proponents prior to submission of the scoping application.]*

The South Australian Property and Planning Atlas (SAPPA) provides spatial data for heritage-related matters including locations of State heritage places and areas and indicative footprints, National and Commonwealth heritage places, and historic shipwrecks in South Australian and Commonwealth waters. Code Overlays for State Heritage Places, State Heritage Areas, Local Heritage Places, Heritage Adjacency, Historic Areas and Character Areas are also mapped.

Preliminary assessment in the proponent's scoping application of the potential impacts to historic heritage from a development should consider:

- Identification of listed or nominated State, National, Commonwealth or World heritage places and areas in the development area
- Identification of relevant Code heritage Overlays and Zones applicable to the development
- Identification of historic shipwreck sites (marine and inland waters) (State and Commonwealth)
- Identification of key potential impacts by an appropriately qualified heritage consultant (depending on the location and nature of the heritage sites identified).

## Assessment Requirements

### Standard Impact Assessment Requirements

*[The following is guidance for possible Standard Assessment Requirements, to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive.] [A general EIS guideline on the requirements for assessment of impacts to the coastal and marine environment should be prepared to assist proponents]*

1. Provide details of the location, nature and known potential heritage values of all historic heritage potentially affected by the development particularly State and Commonwealth-listed places and areas (including shipwrecks).
2. Provide an assessment of potential impacts from the development on all State heritage and other listed historic heritage places and areas (including shipwrecks). If applicable, this study should be undertaken.
3. If Commonwealth, National and World Heritage places have been identified, undertake an assessment of potential impacts to heritage values.
4. Provide design, management and site protection strategies (prepared by an appropriately qualified heritage consultant in accordance with the PDI Code if relevant) to avoid, mitigate or manage negative impacts on heritage values and enhance any positive impacts.

### Categorisation of Impacts Requiring Detailed Assessment

*[Considering the key factors for the level of assessment (refer Section 5 of this document), the following are examples where detailed assessment of potential impacts to historic heritage may be required]:*

- The preliminary assessment indicates a high or medium probability of significant impacts to the heritage significance of a heritage place, heritage area or historic shipwreck from the development.
- The potential impacts to a Commonwealth, National or World heritage place are likely to require referral and approval under the Environment Protection Biodiversity and Conservation Act 1999.
- There is a public perception that the development has the potential to cause significant impacts to the heritage significance of a place and / or potential heritage impacts have been the subject of extensive media coverage.
- The issue is considered by the Commission to warrant detailed assessment

### Detailed Assessment Requirements

*[The following is guidance for possible Detailed Assessment Requirements (to supplement the Standard Assessment Requirements), to be adapted as required for specific projects, and should not be regarded as definitive or exhaustive].*

1. Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.
2. Provide a heritage impact assessment undertaken by an appropriately qualified heritage expert of the potential impacts of the development against relevant Code provisions including any relevant Statement of Significance, Heritage Guidelines, Heritage Standards, Historic Area Statement or Character Area Statement.

3. If potential impacts on heritage values of a Commonwealth, National and World heritage place require approval under the EPBC Act, a heritage impact assessment must be undertaken by an appropriately qualified heritage consultant.

*Suggested guidance documents – indicative only, others may apply*

- [State Planning Policy 7: Cultural Heritage](#)
- Relevant Regional Plans
- *Heritage Places Act 1993* (SA)
- *Historic Shipwrecks Act 1981* (SA)
- *Underwater Cultural Heritage Act 2018* (Cth)
- *Environment Protection and Biodiversity Act 1999* (Cth)
- Heritage Impact Statement Guidelines for State Heritage Places
- Relevant Statements of Significance, Heritage Guidelines, Heritage Standards, Historic Area Statements or Character Area Statements under the PDI Code.





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