

Environment and Heritage Impact Assessment Guideline

EHTM Attachment 1A

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Glossary and acronyms

Term / Acronym	Meaning
AH Act	<i>Aboriginal Heritage Act 1988</i>
Aspects	Aspects relevant to this Guideline include: noise, vegetation, air quality, water quality, Aboriginal heritage, contamination etc.
CEMP	Contractor's Environmental Management Plan
Contract Documentation	Contract Scope and Technical Requirements; Functional and Operational Requirements; Contract or Project Scope; Master Specification
EHIA	Environment and Heritage Impact Assessment
EHTM	Environment and Heritage Technical Manual
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act</i>
Guideline	Environment and Heritage Impact Assessment Guideline
Impact	The effect of an action on an aspect.
PAR	Project Assessment Report
PDI Act	<i>Planning, Development and Infrastructure Act</i>
PPMF	Program and Project Management Framework
Preferred design	Can be concept, reference or detailed design (refer Engineering and Design Management Framework)
Project area	Area in which a project can have an effect on environmental and heritage aspects. Includes both the construction and operational footprints and surrounding receptors.
Receiving environment/ community	The environment or community affected by a potential impact.
The Department	Department for Infrastructure and Transport
VIA	Vegetation Impact Assessment
WQRA	Water Quality Risk Assessment

1 Introduction

The purpose of this Environment and Heritage Impact Assessment Guideline (Guideline) is to outline the process for identifying environment and heritage issues to be assessed and documented as part of the Environment and Heritage Impact Assessment (EHIA) process. It also provides guidance on technical assessments to be undertaken during the project lifecycle.

The EHIA process allows for the orderly and systematic evaluation of a project or program, together with its alternatives and objectives, and its impacts on environment and heritage aspects– including the mitigation hierarchy of avoidance, minimisation, rehabilitation/restoration and offset of those impacts.

This Guideline applies to a range of Department programs and project types including road, rail, buildings and marine infrastructure as required. It aims to assist Contractors delivering the EHIA process on behalf of the Department and inform the Department's Project Managers of the EHIA processes that support decision-making.

The EHIA Process is incorporated into the Department for Infrastructure and Transport (the Department) - Transport Planning Investigations Framework and the Program and Project Management Framework (PPMF) (refer Environment and Heritage Technical Manual (EHTM) Introduction). This Guideline outlines the minimum requirements in each of the project lifecycle stages. In general, the EHIA process is most applicable from the Proving through to the Delivery phase, however there may be environment and heritage considerations required through all lifecycle phases.

The EHIA process and requirements for technical investigations and environmental management are included throughout the Master Specification. The Department's Master Specification can be found at: https://www.DIT.sa.gov.au/contractor_documents/masterspecifications

It is expected that, unless otherwise approved by the Department, Contractors undertaking the EHIA process are suitably qualified professionals, listed on or that can demonstrate their eligibility to be listed on the Department's Professional and Technical Services Prequalification for relevant services (i.e. Environmental Services supported by Contamination Services, Heritage Services and/ or Vegetation Services).

This Guideline forms Attachment 1A of the Environment and Heritage Technical Manual – Part 1: Environment and Heritage Impact Assessment.

1.1 Structure of the Guideline

This Guideline consists of the following two parts:

- Introduction
- Part A – Environment and heritage impact assessment
- Part B – Environment and heritage aspects assessments

1.2 Supporting Documentation

This Guideline is supported by the following (available at <https://www.dit.sa.gov.au/standards/home>):

- EHIA Documentation Scale Tool
- Preliminary EHIA Assessment (& EHIA Report Level 1 Template)
- EHIA Report Level 2 Template
- EHIA Report Level 3 Template

1.3 Performance outcomes

To meet the performance requirements under this Guideline the following shall be achieved:

- Environment and heritage impacts and mitigation measures assessed and used, where applicable, to inform the selection of the preferred design and used to support the design development process;
- Identification of risks to the environment (including the local community), heritage and project program early in the project lifecycle to inform decision making;

- Incorporation of environment and heritage assessments into the design development and delivery/maintenance processes; and
- Completion of EHIA documentation and obtaining necessary approvals, permits or authorisations for the preferred design, subject to project phase.

1.4 Legislative framework

This Guideline provides environment and heritage impact assessment mechanisms that follow a similar pathway to the statutory processes. However, the EHIA process described in this Guideline is not a statutory process and is not intended to replace statutory assessment and approval processes that may be applicable to a project, such as the:

- Crown development assessment process under the *Planning, Development and Infrastructure Act 2016* (PDI Act);
- Native vegetation clearance application process under the *Native Vegetation Act 1991*; or
- Environmental assessments and approvals process under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Assessments and reporting undertaken in the EHIA process can be used to supplement those statutory processes (where required).

All projects shall be assessed against the requirements of the above Acts as part of the EHIA process, and their associated regulations, to determine if statutory impact assessment and approval processes are applicable.

Requirements for approvals, permits, or authorisations under other Federal or State legislation may apply and all Departmental projects will need assessment against legislative requirements and other non-statutory requirements such as policy documents. A list of more common environment and heritage legislative approvals, permits, and authorisations associated with Departmental infrastructure and maintenance activities is provided in Appendix A.

1.5 Terminology used to describe the EHIA process

The following impact assessment terminology for describing the EHIA process applies to this document (Table 1.1).

Table 1.1 - EHIA Process Terminology

EHIA Process Terminology	
Aspects	Aspects relevant to this Guideline include: noise, vegetation, air quality, water quality, Aboriginal heritage, contamination etc.
Impact	The effect of an action on an aspect.
Receiving environment/ community	The environment or community affected by a potential impact.

PART A - Environment and Heritage Impact Assessment

2 Environment and Heritage Impact Assessment Process

A structured environmental and heritage impact assessment process is essential to ensure potential environment and heritage impacts, mitigation and opportunities associated with a Departmental project are identified. Only then can negative impacts be avoided, or appropriate mitigation or management measures incorporated into relevant phases of the project. A structured environmental and heritage impact assessment process should reflect the process outlined in this Guideline.

Section 2.7 identifies the considerations of an EHIA process that determines the public release of EHIA documentation. This shall be assessed as early as possible in the EHIA process as there may be additional requirements to deliver the required engagement outcome.

2.1 Objectives of the EHIA process

The key objectives of the EHIA process are:

- ensure that environment and heritage considerations are integrated into decision making processes and all project phases;
- adequately assess the potential environment and heritage impacts of a project or maintenance activity;
- identify opportunities to avoid, minimise, mitigate, and where appropriate offset impacts;
- identify necessary Departmental or legislative environment and heritage approvals, permits and authorisations to progress a project to the delivery phase;
- ensure that constraints, mitigation measures, and offset opportunities identified in the development of a project are carried through to the Procurement, Delivery, and Realisation phases;
- contribute to ecologically sustainable development; and
- demonstrate general environmental duty and due diligence in relation to environment and heritage matters.

2.2 EHIA process overview

The EHIA process generally begins during the Proving Phase of a project, however, it may also be undertaken in other project lifecycle phases dependent on funding commitments, time pressures, design stage or previous works undertaken. For maintenance projects, an EHIA process beginning in the Pre-delivery or Delivery phases should be adopted.

Where the Department's Master Specification - Project Controls - Transport Planning parts (PC-PL1 to 5) have been used to procure a Planning Study, the EHIA requirements will be included in that scope of works. However, there may be circumstances where environment and heritage assessments are procured separately through a standalone EHIA Contract.

The commencement of the EHIA process for a project is dependent on a number of factors including the PPMF phase, extent of design development, investigations completed, approvals obtained, and the project's procurement model. Figure 2.1 details a decision-making pathway for progressing the EHIA process, with consideration of the PPMF lifecycle phases.

Once the status of the EHIA process is determined (Figure 2.1), Figures 2.2-2.4 outline the general EHIA process for each of the program/project lifecycle phases. The subsequent sections provide further detail on the EHIA process for each lifecycle phase.

Unless identified in Contract Documentation, Contractor's shall use information provided in this Guideline and professional judgement to determine the appropriate EHIA pathway for a project or maintenance activity.

An overview of the various levels of environment and heritage impact assessment documentation is provided in Section 2.3.

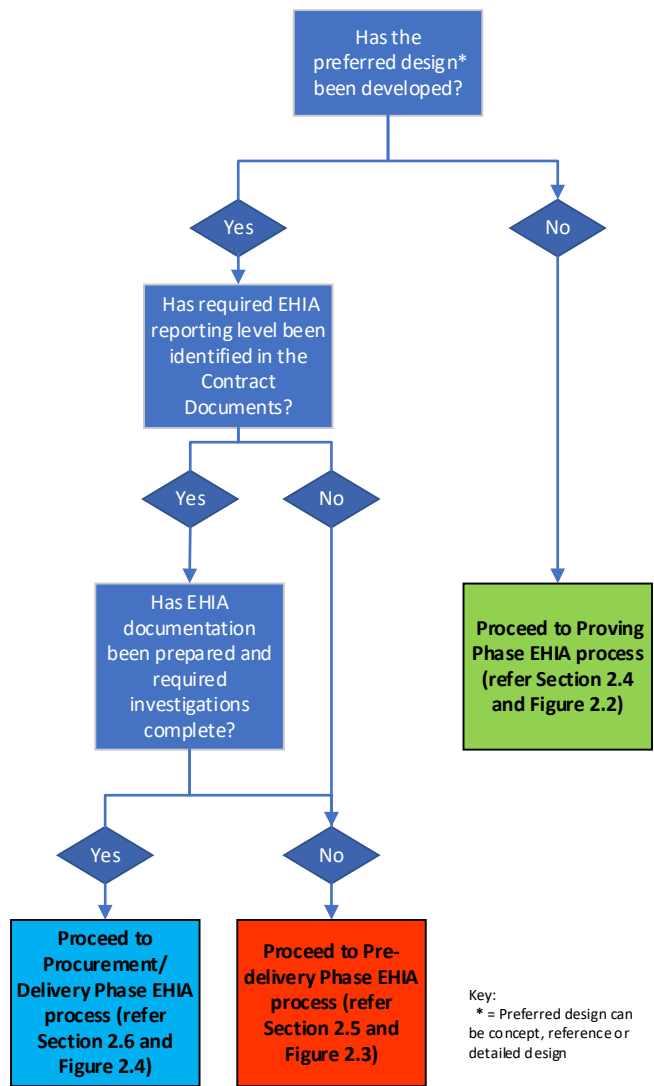


Figure 2.1 – EHIA Process progression per PPMF phase

2.3 EHIA documentation overview

Subject to the project lifecycle phase, the EHIA process will result in the preparation of EHIA documentation, incorporating the results of either a preliminary or detailed assessment.

Any EHIA documentation needs to be commensurate with the scale and complexity of the project, the nature of the impacts, and their associated risks. Table 2.1 provides an overview of the required documentation and level of reporting during each PPMF Phase and the associated EHIA stage. With the exception of moving from the Preliminary EHIA stage (during a project’s Proving Phase) into the Detailed EHIA Stage (during a project’s Pre-delivery Phase) the EHIA level of reporting is not sequential or progressive.

Determination of EHIA reporting level (or scale) should be done alongside the selection of the preferred design but could be determined earlier in either the Proving or Pre-delivery phase. Where not provided in the Contract Documentation, the Contractor will be responsible for determining the above and, if clarity is required, liaising with the Department’s Project Manager.

Irrespective of the level of EHIA documentation required, investigations will need to be undertaken, approvals obtained and specifications (beyond the requirements of the Master Specification) will need to be developed to enable procurement and delivery of a project.

Note:
The EHIA Documentation Scale Tool is included as supporting document to the EHIA Guideline. Its use is not mandatory. It helps defines the scale of EHIA documentation required based on the risks of the preferred design, and the likely approvals and investigations required.

Table 2.1 – Overview of EHIA Reporting per PPMF Stage

PPMF Phase	EHIA Stage	EHIA Reporting ¹	Environment and Heritage Risk	Application	Comments
Proving	Preliminary (refer Section 2.4)	Preliminary EHIA	Low to High	<ul style="list-style-type: none"> Desktop assessment that may, as required, be supported by site investigations to assist in options refinement and selection. 	<ul style="list-style-type: none"> Preliminary EHIA usually provided in Planning Study documentation.
Pre-delivery	Detailed (refer Section 2.5)	EHIA Report Level 1	Low	<ul style="list-style-type: none"> In consultation with the Department’s Project Manager, the Principal Environmental Advisor may decide that a project warrants Level 1 documentation, where this varies to the EHIA Documentation Scale Tool outcome; or No additional assessments or investigations are required to determine potential impacts and mitigation; and Mitigation measures are straightforward/ standard industry practice and can be easily accommodated into the project design and construction methodology. 	<ul style="list-style-type: none"> Where a Preliminary EHIA has been undertaken, the same information can be used for an EHIA Report Level 1 (utilising the Preliminary EHIA Template if desired) provided it is based on the preferred design. Documentation to provide a summary of key assessment outcomes and lists investigations undertaken and approvals required. Not appropriate for any project with potential Aboriginal heritage risks or the potential for EPBC Act referral.
Pre-delivery	Detailed (refer Section 2.5)	EHIA Report Level 2	Medium	<ul style="list-style-type: none"> In consultation with the Department’s Project Manager, the Principal Environmental Advisor may decide that a project warrants Level 2 documentation, where this varies to the EHIA Documentation Scale Tool outcome; or No more than two environment/heritage investigations have been, or are required to be, undertaken; or No more than two potential impacts are assigned high or above risk rating. 	<ul style="list-style-type: none"> Supported by stand-alone Technical Investigations (e.g. vegetation survey; noise assessment; heritage assessments, etc.) that are summarised into an EHIA Report Level 2. Likely used for projects such as shoulder sealing, guard barrier installation, bus indentation bays or intersection slip lane where no widening is to occur.
Pre-delivery	Detailed (refer Section 2.5)	EHIA Report Level 3	High	<ul style="list-style-type: none"> The Department’s Project Manager or Director, Technical Services may decide a project warrants Level 3 documentation, where this varies to the EHIA Documentation Scale Tool outcome and/ or where a public engagement document is required; or More than two environment/heritage investigations have been, or are required to be, undertaken; and No more than two potential impacts are assigned high or above risk rating. 	<ul style="list-style-type: none"> Supported by stand-alone Technical Investigations (e.g. vegetation survey; noise assessment; heritage assessments, etc.) that are summarised into an EHIA Report Level 2. Where there is potential for significant community interest in the environment and heritage aspects of a project, a project originally identified for Level 1 or 2 documentation may be escalated to Level 3 documentation.
Pre-delivery to Delivery	Detailed (refer Section 2.5 and 2.7)	Public EHIA documentation	High	<ul style="list-style-type: none"> Refer to Section 2.7 	<ul style="list-style-type: none"> Where the need for a Public EHIA process has been determined, documentation may include factsheets, a Project Report or Project Assessment Report and Supplement Report. Stand-alone Technical Investigations may also be required or otherwise summarised into public EHIA documentation

Note: ¹ With the exception of Preliminary to Detailed EHIA stage, EHIA reporting is not progressive.

2.4 EHIA process in the Proving Phase

The PPMF Proving Phase of a project incorporates a Planning Study. The Planning Study will include the development of preliminary concept designs for a long list of options and provide a shortlist of those options (refer Master Specification PC-PL1). Environment and heritage considerations shall be investigated and used in generating the options list, and to inform the decision-making process for shortlisting these options. An overview of the EHIA process for this phase and the expected outcomes is provided in Figure 2.2.

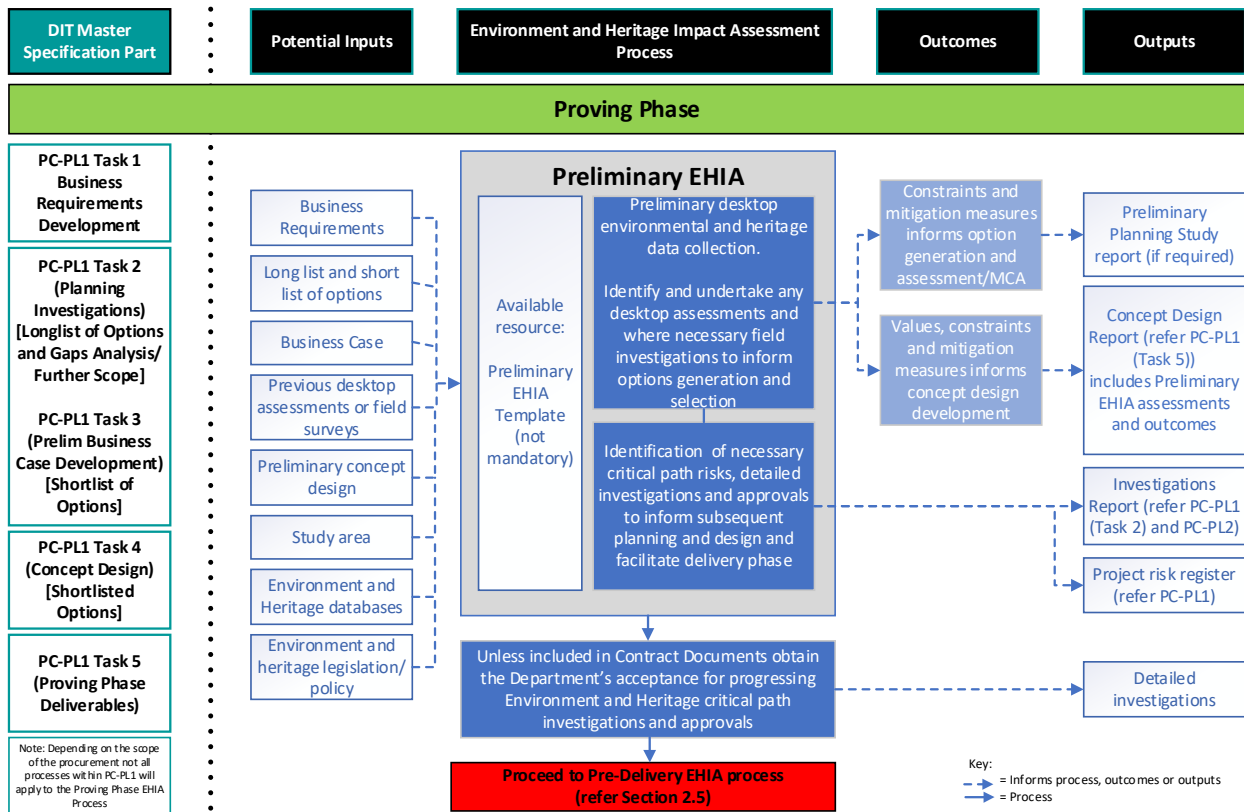


Figure 2.2 - EHIA Process during the Proving Phase

2.4.1 Preliminary EHIA

Collecting necessary data for a Preliminary EHIA is usually undertaken early in the project's Proving Phase, prior to options assessments in the planning phase, to assist in avoiding or reducing a project's environment and heritage impacts and to inform the options generation and selection. However, the timing can be flexible to meet individual project requirements.

In undertaking a Preliminary EHIA, the minimum requirements are:

1. *Baseline assessment - gathering desktop data on the proposed project area including the existing character of the receiving environment*

Professional judgement will be required to identify appropriate sources of data and investigations required for the Proving Phase. Where the Department has existing environment and heritage information this will be referred to in, or provided with, the Contract Documentation; or provided as it becomes available through the course of the project. If no information is provided with the Contract Documentation, the contractor should assume that it is not available and will need to be collected as part of the EHIA process.

Note:

There are numerous registers and datasets available to identify existing environment and heritage aspects, including (but not limited to):

- Nature Maps, Location SA and/or South Australian Property and Planning Atlas
- Roadside/Railside Significant Sites Database
- Biological Database of South Australia
- SA Heritage Places Database Search
- EPBC Protected Matters Search Tool
- Central archive for Aboriginal sites and objects
- Native Title Vision (National Native Title Tribunal).

Where a database search has been undertaken, the “search area” will vary considerably depending on the extent of likely impact, database and search criteria (including a search ‘buffer’).

Where a field investigation is planned, the “survey area” will vary considerably depending on the environment or heritage aspect being assessed.

2. *Identifying and undertaking preliminary investigations to define the potential impacts of the options developed, and to distinguish between those options.*

In general, most investigations in this phase will be qualitative/comparative assessments, however it may be necessary to undertake field surveys, monitoring and/or modelling to the extent that they will assist in distinguishing between evaluated options.

3. *Identifying environmental and heritage constraints or values relevant to options generation and development of a Constraints and Values Drawing.*

The process shall identify constraints:

- that are sites to be avoided in the design development process. This may be driven by environmental or community value, legislative protection, or consideration of approval timeframes in the context of project delivery; and
- where preference should be given to avoiding the site but there may be opportunity to minimise, mitigate and/or offsets impacts, subject to any required approval.

Note:**Constraints and Values Drawing**

The Constraints and Values Drawing, will form part of a project’s drawing package and be included in Planning Study documentation and EHIA Reports. It shall include all constraints and values relevant to environment and heritage and be used to identify measures to minimise impacts. It will be used to inform the project’s options selection and the concept design development process, including the identification of any necessary mitigation measures.

Where the plan contains specific information or locations of Aboriginal heritage sites/objects or it will be treated as confidential in accordance with the requirements of the *Aboriginal Heritage Act 1988* (AH Act).

In the Proving Phase the drawing may be in GIS or CAD format, however as detailed design progresses it will be used as part of the drawing suite.

As a minimum, the drawing will contain:

- known Aboriginal sites, objects or remains (noting AH Act requirements);
- existence of Native Title;
- non-Aboriginal heritage places / sites;
- contaminated soils and / or contaminated groundwater;
- actual or potential acid sulphate soils;
- operational or disused irrigation / production wells;
- Roadside/Railside Significant Sites;

- areas of native vegetation and Regulated/and Regulated Significant Trees (including structural root zones and tree protection zones (if known));
- high value vegetation areas
- waterways; and
- air quality and noise sensitive receivers.

4. *Development of environment and heritage criteria (e.g. Multi Criteria Analysis) in the options shortlisting and selection process of the Planning Study in order to drive avoidance or minimisation of impacts whilst balancing other social, stakeholder, functionality, engineering, and cost factors.*

Environment and heritage criteria do not need to be developed for the options shortlisting process where there are insignificant differences in environment and heritage impacts between the identified options. Instead, the assessment used to determine this outcome will be included in the Proving Phase Planning Study documentation.

5. *Identifying opportunities to avoid, minimise, or mitigate impacts and incorporating these into the design development process.*

Planning Study documentation will demonstrate how the process has applied the mitigation hierarchy of avoidance, minimisation, rehabilitation/restoration and offset. This may be covered on a project-wide basis or at a sub-level. The focus at this stage should be on measures that can be managed through the design development process, with construction or maintenance management measures being stipulated in the Detailed EHIA documentation.

6. *Identify key stakeholder engagement requirements as per PC-PL2 'Planning Investigations' within the stakeholder Engagement Plan (e.g. approval authorities).*

Additionally, the Preliminary EHIA shall identify:

- **Investigations** such as field surveys or additional modelling that are needed to further define options generation or selection.
- **Critical path investigations and approvals** needed to ensure minimal delays in subsequent project phases (e.g. progressing a significant impact assessment under the EPBC Act or submitting a Referral).
- **Key risks** to be included in the Project Risk Register (e.g. program risks, political risks). Site-specific environmental and heritage risks are to be included in the risk register in subsequent project phases.

Planning study documentation, or separate correspondence as appropriate, is to be provided to the Department identifying the need for and appropriate timing of environment and heritage investigations and approvals. Where undertaken in the Proving Phase these shall be used to inform options generation and assessment.

2.5 EHIA process in the Pre-delivery Phase

The PPMF Pre-delivery Phase may involve the continuation of the Planning Study including selection of a preferred design and further development of the preferred design.

Building on information gathered during the Proving Phase (if undertaken), EHIA in the Pre-delivery Phase will involve the assessment of the environment and heritage impacts associated with the preferred design. The required level of EHIA documentation will also be identified and completed. Detailed environment and heritage technical investigations of the preferred design will be undertaken, and applications for necessary environment and heritage approvals for the project to proceed to the Procurement and Pre-delivery phases will be made. An overview of the EHIA process for this phase and the expected outcomes is provided in Figure 2.3.

Determining the level of EHIA documentation required for a project is outlined in Section 2.3.

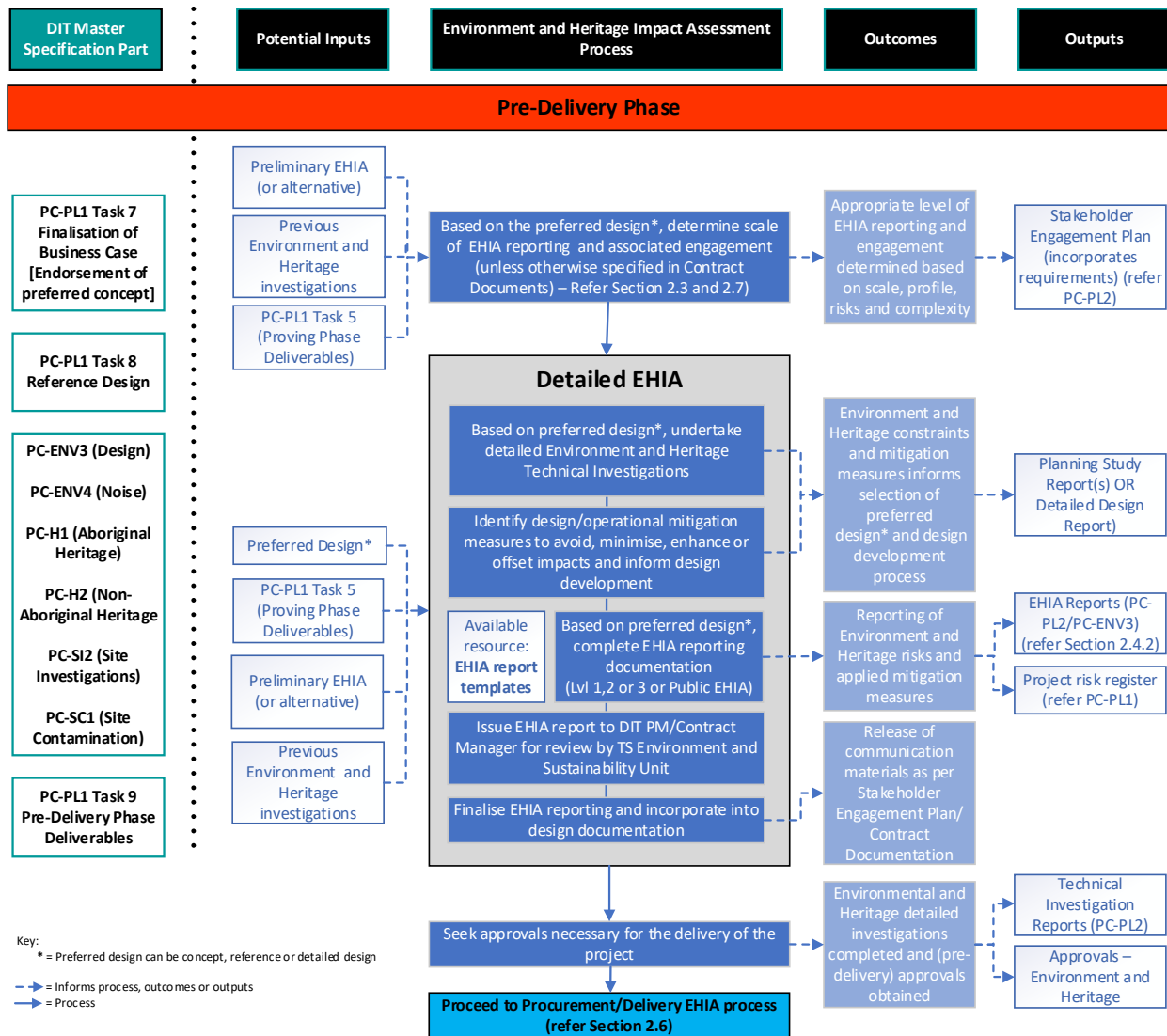


Figure 2.3 - EHIA Process during the Pre-delivery Phase

2.5.1 Detailed EHIA

The Pre-delivery Phase requires a Detailed EHIA to assess the impacts of a preferred design, as well as identification of measures to avoid, minimise and/or mitigate impacts.

Key outcomes of this phase will include confirming that environment and heritage constraints and mitigation measures that informed the selection of the preferred design are continually considered throughout the design development phase.

Any Preliminary EHIA or technical investigations undertaken in the Proving Phase will be used as inputs to the Detailed EHIA. However, if alignment or scope changes occur, or new information is received, supplementary investigations may be required.

The minimum process for a Detailed EHIA is:

1. *Identifying the preferred design to be assessed in the Detailed EHIA.*

The preferred design may be a concept, reference, or detailed design (e.g. 20%, 30%, 70% etc.). Selection of the preferred design is necessary to progress the required technical investigations and/or approvals.

2. *Determining the scale of EHIA documentation required (e.g. EHIA Report Level 1, Level 2 or Level 3 documentation; refer Section 2.3 and 2.7).*
3. *Review of environment and heritage data and investigations from previous project phases, identifying any supplementary investigations required.*

Projects that have not had a Preliminary EHIA assessment will require gathering of data and baseline information (refer Section 2.4.1).

4. *Determining if EHIA documentation is required for stakeholder and community engagement purposes (refer Section 2.7).*
5. *Identifying key stakeholder engagement requirements as per PC-PL2 'Planning Investigations' within the stakeholder Engagement Plan (e.g. approval authorities, community).*
6. *Identifying and undertaking all necessary technical investigations to ascertain the impacts of the preferred design (refer Part B of this Guideline).*

This may require a site visit and/or familiarisation of the project area, if not undertaken previously.

7. *Identifying opportunities to refine the preferred design to avoid, minimise, rehabilitate or offset impacts and incorporating this into the design development, procurement, and delivery processes.*

Where an anticipated impact is identified, an accompanying reasonable and practicable mitigation measure will be determined.

8. *Preparing a Detailed EHIA Report.*

A template for EHIA Reports Level 1, Level 2 and Level 3 is available for use and is available at <https://www.dit.sa.gov.au/standards/home>. They provide guidance on the minimum expected reporting requirements.

The EHIA Report will provide as a minimum:

- Scope of works and preferred design being assessed.
- Details of environment and heritage investigations undertaken for the project.
- Environment and heritage impacts, alternatives, and mitigation measures considered.
- A Constraints and Values Drawing to inform the design development (refer Section 2.4.1).
- Further investigations and assessments required.
- Approvals, permits, and authorisations required to enable the project to progress.
- Actions required for further design development.
- Actions required for delivery.

The EHIA Reports Level 1, Level 2 and Level 3 are not intended to be progressive. Either one or the other report shall be developed based on the scale of the project and documentation requirements (refer Section 2.3). Where a Preliminary EHIA has been undertaken the same information can be used for an EHIA Report Level 1 (utilising the Preliminary EHIA Template if desired) provided it is based on the preferred design.

Liaise with the Department's Project Manager (who should then liaise with the Department's Public Affairs Division and the Environment and Sustainability Unit in Technical Services) to determine if an EHIA Report Level 3 is also required where a public engagement document is required.

9. *Submission of the EHIA documentation to the Department's Project Manager for review and acceptance.*

The Department's Project Manager will engage with the Environment and Sustainability Section of Technical Services for review and advice as required.

Where an Independent Design Certifier has been engaged for a project and includes the review of EHIA documentation it shall be provided to them prior to submission to the Department.

Supporting technical investigations will also be submitted for review and acceptance where this has not occurred in any previous stage.

10. *Finalising EHIA documentation and technical investigations*
11. *Preparing and obtaining legislative approvals, permits and authorisations required to progress the project to the Procurement and Delivery Phases (where required by Contract Documents).*

2.6 EHIA process and the Procurement/Delivery Phase

The constraints, minimisation and mitigation outcomes of the Proving and Pre-delivery Phase EHIA processes shall be integrated into Contract Documentation during the PPMF Procurement Phase and implemented during the Delivery Phase.

Depending on the procurement model, Detailed Design may have been undertaken in the Pre-delivery Phase or may form part of the Delivery Phase. The outcomes of detailed investigations and the environment and heritage mitigation and management measures are to be documented in the appropriate Design Reports and updated within the Detailed EHIA Report (or in supplement to the report). Figure 2.4 outlines the progression of the EHIA process to environment and heritage management in the Delivery Phase.

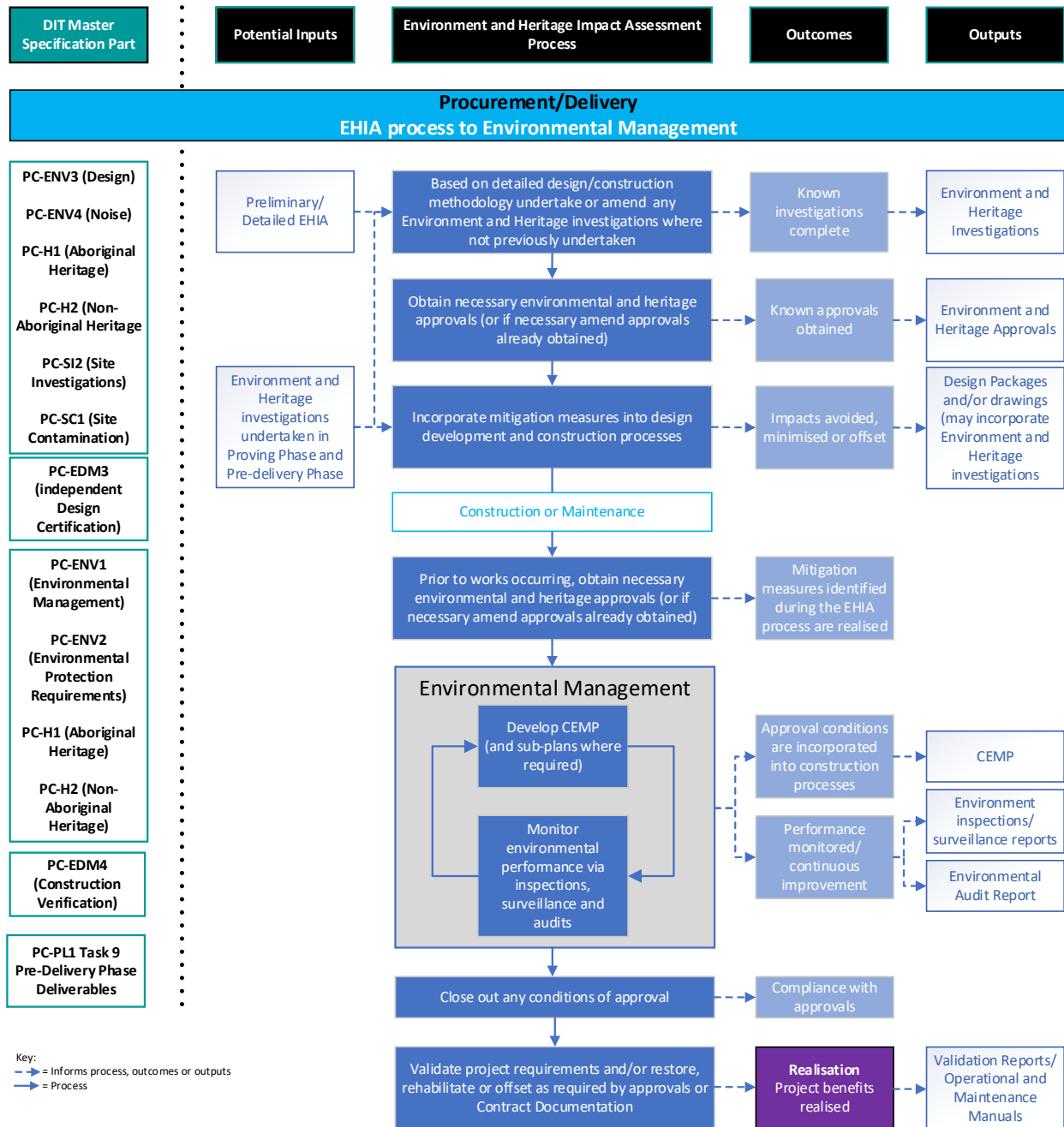


Figure 2.4 - EHIA Process to Environmental and Heritage management during the Procurement to Delivery phases

During the Procurement and Delivery Phases environment and heritage investigations will be reviewed to identify any gaps and reassessments required. Requirements for any approvals, permits, or authorisations, or any amendments to existing approvals, will be identified. Any approvals, permits or authorisations required for the ongoing operation and maintenance of the infrastructure will also be identified and obtained.

Prior to the Delivery Phase (construction or maintenance) the Delivery Contractor will prepare a Contractor's Environmental Management Plan (CEMP) which will:

- address the requirements of the Department's Master Specification (PC-ENV1; PC-ENV2; PC-H1, PC-H2, etc.);
- address the outcomes of the EHIA process; and
- demonstrate the implementation of measures to manage environmental and heritage risks.

The CEMP will be monitored to determine environmental performance via Contractor or third-party inspections, surveillance, and audits.

It is a requirement of the Delivery Phase that any conditions on approvals, permits and authorisations are addressed and implemented, and are finalised prior to project completion and handover. Those responsible for the operation and management of the infrastructure in the PPMF Realisation Phase must be made aware of ongoing environmental management requirements through inclusion in handover documentation.

2.7 Stakeholder and community engagement on environment and heritage matters

The level of stakeholder and community engagement on environment and heritage aspects should be determined on a project by project basis and defined as early as possible after project initiation. The engagement level will be determined in consultation with the Department's Project Manager and incorporated into the project's Community and Stakeholder Engagement Strategy (or similar).

For complex or high-profile projects the Department's Project Manager will liaise with the Department's Public Affairs Division and the Environment and Sustainability Unit in Technical Services. A Contractor may also provide recommendations on the suggested level of engagement to the Department's Project Manager for consideration.

As a guide, the level of community engagement for environment and heritage aspects on various scales of projects could involve:

- Minor scale projects - specific environment and heritage-based community engagement activities are not required unless specific issues need to be addressed.
- Medium scale projects - specific environment and heritage-based community engagement may only be required where there are higher risk issues. Information provided in communication materials, such as factsheets, could be used to demonstrate how the aspects are being managed.
- Large to major scale or complex projects - environment and heritage-based community engagement may be the same as for a medium scale project, or may require a Public EHIA process where endorsed by the Department's Senior Responsible Officer, Executive Director or Planning Projects Steering Committee. Refer Section 2.7.1 for EHIA documentation options under a Public EHIA process.

2.7.1 Public EHIA process

Where there is potential for a Public EHIA process to apply to a project or program, the recommendation for the required level of reporting may be made by the Department's Project Manager on the advice of Contractors, the Department's Public Affairs Division and the Environment and Sustainability Unit in Technical Services, as outline in the decision-making framework identified in Figure 2.5. Potential triggers for this process may include community concerns around impacts on the environment, heritage and community or the need for stakeholder involvement in project considerations.

A Public EHIA process is not usually required when the project is being assessed under other statutory processes such as Crown Development under the PDI Act, or under the EPBC Act. However, a Public EHIA process may occur in parallel to these statutory processes with documentation being used as supporting information. Preparation of Public EHIA documentation involves the input of multi-discipline project teams.

High risk or high-profile projects may be identified for a release of additional project-specific environmental and heritage documentation to inform or consult with stakeholders (e.g. Project Report or Project Assessment Report). Where this is the case, the Contractor will liaise with the Department’s Project Manager to determine if an EHIA Report Level 3 is also required. Approval of documentation for public release will be in accordance with the Department’s community and stakeholder engagement protocols.

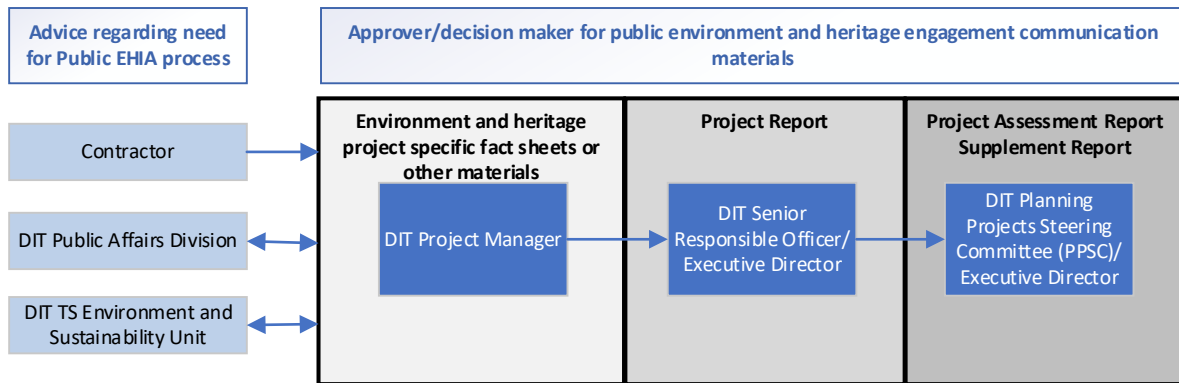


Figure 2.5 – Decision making framework for Public EHIA Process.

Projects requiring a Public EHIA process can utilise the EHIA documentation options described in the following subsections.

2.7.1.1 *Environment and heritage project specific factsheets*

Factsheets (or online materials) covering specific environment or heritage aspects could be developed to demonstrate, for example, the basis of the assessment process (e.g. noise investigations) or how specific issues may be managed (e.g. dust control in construction).

2.7.1.2 *Project Report*

Where alternative stakeholder and community engagement activities have or are being undertaken for a project and the proposal is to inform stakeholders and the community, a Project Report can be developed for public information.

A Project Report is generally a short document and includes details of a project such as the preferred design, benefits, impacts and management measures. The Project Report also summarises key environment, heritage and social information on the project from technical investigations in language that is easily understood by the public (with appropriate figures) without replicating or attaching the investigation reports.

The Project Report is not usually released for public comment, with that opportunity being addressed through other community engagement mechanisms. The Department’s Senior Responsible Officer/Executive Director with advice from the Project Manager are the decision makers on this public process.

2.7.1.3 *Project Assessment Report and Supplement Report*

Statutory environmental impact assessment processes are not always applicable to Departmental projects. For high profile and more complex projects, a process similar to a legislative environmental impact assessment process may be followed. The purpose is to inform and involve the community and stakeholders, and seek feedback on key issues of a project.

The Department’s Planning Project Steering Committee or Executive Director are the decision makers on whether a project is subject to this public process.

The Project Assessment Report and Supplement Report process is based on standard industry practice for an environment impact assessment process, but is not a legislative process. Key steps include:

1. Undertaking detailed environment, heritage, social, economic and engineering technical investigations on the preferred option (and alternative option if necessary).

The scope of technical investigations is to be undertaken in accordance with Contract Documentation; the Department's Master Specification (including Transport Planning Framework and investigations (PC-PL1-5) and standards and guidelines included in the Environment and Heritage Technical Manual/Sustainability Manual.

2. Preparation of a Project Assessment Report for public consultation.

The Project Assessment Report is a key mechanism for gaining formal community comment on the project and its environmental, social and economic effects. Its main objectives are to:

- inform the community about the project and its development;
- identify the negotiable and non-negotiable issues of the project on which feedback is being sought;
- describe the existing environment in the project area and identify environmental, social and economic effects associated with the project; and
- outline the benefits of the project and means of avoiding, minimising and managing adverse impacts.

The Project Assessment Report will be supported by a standalone Executive Summary that takes the form of a non-technical Project Report as described above.

3. Public release of the Project Assessment Report.

The Project Assessment Report is usually released online and invites submissions from the general community and key stakeholders such as local councils and other Government agencies. It may also be supported by other project-based community engagement activities such as information sessions, open days, etc.

4. Preparation and release of a Supplement Report

Following receipt of submissions, a Supplement Report will be developed to respond to the submissions received and, where relevant, describe amendments to the project arising from this feedback and further design development. It is not expected that further feedback from the public will be invited on the content of this document.

3 Reporting and Deliverables

Subject to the project lifecycle phase, the following deliverables would be provided to the Department's Project Manager for review and acceptance. The Department's Project Manager will engage with the Independent Design Certifier or the Technical Services Environment and Sustainability Unit to assist with the review where necessary.

3.1 Proving Phase – Preliminary EHIA

The Preliminary EHIA outcomes and outputs for the generated options are incorporated into Planning Study documentation (e.g. Options Development Report or Concept Design Report, or similar). This would include a Constraints and Values Drawing, environment and heritage assessments and criteria used in a multi criteria assessment process (or similar) and any preliminary investigations.

No specific additional environment and heritage documentation will be required, provided that all necessary information has been provided within the Planning Study documentation. Contractors undertaking the works can use their own document templates for reporting purposes. The EHIA supporting documentation contains a Preliminary EHIA template which provides a minimum approach and can be used either as a checklist for gathering relevant information and/or as a template for reporting of environment and heritage impacts for the Proving Phase Planning Study documentation.

Deliverable:

- Preliminary EHIA assessments and documentation incorporated into Planning Study documentation.
- Preliminary Technical Investigations where undertaken in this phase.

3.2 Pre-delivery Phase – Detailed EHIA

During the Pre-delivery phase of the project, the following documentation will be required Templates available at <https://www.dit.sa.gov.au/standards/home>

Deliverable:

Environment and Heritage Impact Assessment (EHIA) Report

EHIA Report Level 1

A 1-2 page summary report or using the Preliminary EHIA template.

OR

EHIA Report Level 2

A report usually no more than eight to ten pages in length outlining the assessment of the identified environmental risks. To be completed in accordance with this Guideline and the EHIA Report Level 2 template. Technical Investigations will be attached as an Appendix.

OR

EHIA Report Level 3

A comprehensive report that analyses and synthesises the data and incorporates recommended mitigation and management measures. To be completed in accordance with this Guideline and the EHIA Report Level 3 template.

AND

Deliverable:

Technical investigation reports

Detailed reports describing investigation methodology, existing environment, impacts and mitigation undertaken in accordance with Part B of this Guideline, Master Specification and the relevant guidelines within the Environment and Heritage Technical Manual. Technical investigations from the Proving Phase may require amendment in the Pre-delivery phase to reflect the preferred design.

If being undertaken during the detailed design stage, the technical investigations may be incorporated into Detailed Design Reports.

Technical investigations may include:

- Aboriginal heritage risk assessment and survey
- Vegetation assessment and survey
- Preliminary noise assessment; Noise Modelling and Mitigation Design Report
- Air Quality assessment
- Non-Aboriginal heritage assessment; Heritage Impact Assessment
- Site Contamination assessment

Where the detailed design stage is included in the Pre-delivery Phase, design reports would also be required as per the Master Specification.

Where a Public EHIA process is to be followed, (refer Section 2.7) the following deliverables may be required.

Deliverable:

Project Report

A Project Report provides a high-level summary (usually 20 to 40 pages long) of the project to be provided to the community to communicate (amongst other things) the project scope, background, benefits and a summary of environmental, social and economic effects and mitigation measures.

OR

Deliverable:*Project Assessment Report*

A Project Assessment Report (PAR) is more detailed than a Project Report that:

- describes the project, background, and benefits; and
- summarises the environmental, social, economic, and engineering assessments undertaken on the preferred design and outlines the measures proposed to avoid or minimise the effects of the project.

AND

Deliverable:*Supplement Report*

A Supplement Report, to be prepared following public exhibition of a Project Assessment Report, will summarise the public submissions received during the exhibition period and respond to all relevant issues raised.

It will also display the final concept or detailed design of the project, highlighting any changes or refinements made as a result of the consultation process and provide updates to any amendments to technical investigations.

3.3 Delivery/Realisation Phase

During the Delivery and Realisation Phase, environment and heritage deliverables will be provided in accordance with the Master Specification of the Contract Documentation. Where the detailed design stage is included in the Delivery Phase, design reports will also be required.

PART B - Environment and Heritage Aspect Assessments

4 Environment and heritage aspect investigations and assessments

Environment and heritage assessments or technical investigations will likely be required at various stages of a project's lifecycle to support the EHIA process, the Transport Planning process, or to obtain appropriate approvals.

Technical assessments or investigations required will be determined by project environmental/heritage professionals or in accordance with the Contract Documentation. These may include:

- desktop assessments such as database searches;
- site surveys such as vegetation or heritage surveys;
- modelling of an aspect such as impacts on air quality; and
- monitoring / recording of an aspect such as noise and vibration baseline data.

Professional judgement will determine the scale of the investigation dependent on the stage of the project, size and complexity of the project, and the nature of the likely risks and impacts.

Refer to the EHTM Introduction and Part A of this Guideline for an understanding of the Program and Project Management Framework (PPMF) phases (e.g. Proving, Pre-delivery, Delivery). Where there is no Proving Phase undertaken, appropriate preliminary or background information must be collected and assessed to inform decision making and need for further investigations and approvals in the Pre-delivery and Delivery stages.

It is expected that, unless otherwise approved by the Department, Contractors undertaking the following assessments/ investigations are suitably qualified professionals, listed on, or that can demonstrate their ability to be listed on the Department's Professional and Technical Services Prequalification for the relevant services (i.e. Environmental Services supported by Contamination Services, Heritage Services and/ or Vegetation Services).

Departmental standard and guidelines referred to in this section can be found at:
<https://www.dit.sa.gov.au/standards/home>

The Department's Master Specification referred to in this section can be found at:
https://www.DIT.sa.gov.au/contractor_documents/masterspecifications

4.1 Aboriginal heritage

Requirements relating to Aboriginal heritage are outlined below and can also be found in the EHTM Part 2 and the Master Specification.

Restrictions around disclosure of confidential or sensitive information under the *Aboriginal Heritage Act 1988* will be observed.

4.1.1 Proving Phase

During the Proving Phase, options should be developed and assessed to avoid impacts to Aboriginal Heritage values of the region. This will include a mandatory search of the Register of Aboriginal Sites and Objects maintained by the Department of the Premier and Cabinet, Aboriginal Affairs and Reconciliation (DPC-ARR). The locations of Aboriginal Site and Objects will be identified and the location recorded within a Constraints and Values Drawing to inform the design development.

4.1.2 Pre-delivery/Delivery Phase

Aboriginal heritage assessments will be undertaken in accordance with Master Specification PC-PL2 Planning Investigations and any additional requirements also included in PC-H1 "Aboriginal Heritage and Native Title".

4.2 Native Title

Requirements relating to Native Title are outlined below and can also be found in the EHTM Part 2 and the Master Specification.

4.2.1 Proving Phase

During the Proving Phase, an investigation will be undertaken to identify if there are native title claims covering the land and whether an Indigenous Land Use Agreement exists over that land.

4.2.2 Pre-delivery/Delivery Phase

A Native title assessment will be undertaken in accordance with Master Specification PC-PL2 Planning Investigations and any additional requirements also included in PC-H1 "Aboriginal Heritage and Native Title".

Provision of information by the Contractor will also include the property details (e.g. Certificate of Title reference, folio numbers and property address) for all land parcels impacted by the project.

4.3 Air quality

Requirements relating to air quality assessments are outlined below and can also be found the EHTM Part 3 and the Department's Master Specification.

4.3.1 Proving Phase

During the Proving Phase, options should be developed and assessed to minimise potential air quality impacts on the local community. Sensitive receivers will be identified and included in a Constraints and Values Drawing.

A preliminary assessment using the Department's Air Quality Screening Tool may be required during the options selection process to identify the need for further detailed assessments. Should further air quality assessments be required for each option, this would usually be undertaken in subsequent phases.

Dust impact assessment is only appropriate during this phase if there are likely to be significant differences in the construction methodology and the extent of impact on the local community or environment.

4.3.2 Pre-Delivery/Delivery Phase

Where a preliminary assessment has not been undertaken, the Department's Air Quality Screening Tool will be used to determine the likely impacts and the need for a more detailed investigations. Should a detailed technical investigation be required, an assessment and modelling of the current and predicted local air quality will be undertaken based on the Department's Air Quality Assessment Guideline.

Where the project moves into detailed design and there is a change in the scope, traffic volumes or design modification (e.g. geometry realignment), further assessment will be required in accordance with Master Specification Parts PC-ENV3, based on the design at each of the nominal design stages.

During the Delivery Phase, environmental management processes will be undertaken in accordance with Master Specification Parts PC-ENV1 and PC-ENV2.

4.4 Vegetation

Requirements relating to vegetation assessment, management and offset are outlined below and can also be found in the EHTM Part 4 and Master Specification.

4.4.1 Proving Phase

During the Proving Phase, a preliminary vegetation impact assessment (VIA) is to be undertaken in accordance with the detail provided in the Department's Vegetation Impact Assessment Guideline. The overarching objectives of the preliminary VIA are to identify potential impact minimisation options to

influence planning and design decisions, to determine the need for further investigation and to determine approvals required for potential impacts (and associated pathway and timing implications).

It may be possible or necessary to undertake a vegetation survey at this stage to gather baseline information or if the scope of the project is well defined/ relatively stable. Vegetation surveys will be undertaken in accordance with Department's Vegetation Survey Guideline and/ or any guidance provided by a relevant regulating body.

The information gathered in this phase will be included on a Constraints and Values Drawing and documented as part of the Preliminary EHIA in the Planning Study documentation.

4.4.2 Pre-Delivery/Delivery Phase

During the Pre-delivery or Delivery phases, a detailed VIA is to be undertaken in accordance with the detail provided in the Department's Vegetation Impact Assessment Guideline. The overarching objectives of the detailed VIA are to demonstrate how the mitigation hierarchy has been applied, to determine approvals required for potential impacts (and associated timing implications) and to identify controls to be adopted during construction activities.

Once the detailed project scope and/or the preferred design is known, if there is a need for further assessment, the preliminary VIA should be reviewed and updated to become the detailed VIA. Where a vegetation survey was not conducted as part of the preliminary VIA, vegetation survey is required at this phase in accordance with Department's Vegetation Survey Guidelines.

Where the project is likely to affect native vegetation as defined under the *Native Vegetation Act 1991*, the survey and Significant Environmental Benefits will be required to be in accordance with Native Vegetation Council requirements and undertaken by a Native Vegetation Council Accredited Consultant.

The vegetation survey will be used to identify opportunities to avoid and minimise impacts to vegetation, and as a basis for undertaking a Vegetation Impact Assessment based on the preferred design. The impact assessment may require a multidisciplinary team, which may include an ecologist, environmental impact assessment specialist, project manager and/or designer.

Where the design of the project moves into detailed design, vegetation removal drawings will be developed as part of the standard drawing package and accompanied by a design report that identifies impacts and minimisation measures, including arborist assessments where applicable, as per Master Specification Part PC-ENV3.

During the Delivery Phase, environmental management processes will be undertaken in accordance with Master Specification Parts PC-ENV1 and PC-ENV2.

4.5 Fauna

Requirements relating to fauna assessment/survey are outlined below and can also be found in the EHTM Part 5 and Master Specification.

4.5.1 Proving Phase

During the Proving Phase, a preliminary fauna impact assessment is to be undertaken in accordance with the detail provided in the Department's Fauna Impact Assessment Guideline. The overarching objectives of the preliminary fauna impact assessment are to identify potential impact minimisation options to influence planning and design decisions, to determine the need for further investigation and to determine approvals required for potential impacts (and associated pathway and timing implications).

The need for further fauna survey to inform the proving phase will be governed by the outcome of the preliminary assessment in accordance with the Department's Fauna Impact Assessment Guideline. The fauna survey report will also identify a pathway where legislative approvals are required, particularly where habitats and conservation-listed species may potentially be impacted.

The information gathered in this phase will be included on a Constraints and Values Drawing and documented as part of the Preliminary EHIA in the Planning Study documentation.

4.5.2 Pre-Delivery/Delivery Phase

During the Pre-delivery or Delivery phases, a detailed fauna impact assessment is to be undertaken in accordance with the detail provided in the Department's Vegetation Impact Assessment Guideline. The overarching objectives of the detailed fauna impact assessment are determine design requirements to maintain fauna passage and habitat connection, demonstrate how potential impacts have been mitigated or minimised to the extent practicable, to determine approvals required for potential impacts (and associated timing implications) and to identify controls to be adopted during construction activities. Once the detailed project scope and/ or the preferred design is known, if there is a need for further investigation, the preliminary fauna impact assessment should be reviewed and updated to become the detailed fauna impact assessment.

Where a detailed fauna survey is required, it will be undertaken in accordance with the Department's Fauna Impact Assessment Guideline.

4.6 Water

Requirements relating to the protection of waterways and interaction with water are outlined below with additional information also provided in the EHTM Part 6 and the Master Specification.

4.6.1 Proving Phase

During the Proving Phase, a preliminary assessment of potential impacts to waterways as well as other interactions with water is to be undertaken in accordance with the detail provided in the Department's Protecting Waterways Guideline.

The location of any bodies of water (surface, ground, marine), receiving stormwater systems and groundwater monitoring wells that required protection/ investigation will be recorded in the Constraints and Values Drawing.

Options likely to have a greater impact on the water quality of the receiving environment may require further detailed assessment and more complex mitigation strategies. Some activities in relation to works within watercourses or the taking of water may require a permit which could have implications on project design or timing.

4.6.2 Pre-delivery/Delivery Phase

During the Pre-delivery or Delivery phases, a detailed impact assessment is to be undertaken in accordance with the detail provided in the Department's Protecting Waterways Guideline.

4.6.2.1 Operational water quality

As detailed in the Department's *Protecting Waterways Guidelines*, during the Pre-delivery Phase, where warranted, a Water Quality Risk Assessment (WQRA) will be undertaken on the preferred design in accordance with Master Specification Part PC-RD-DK-D1 and PC-ENV3 to identify relevant water quality criteria/targets and mitigation requirements as well as permit requirements, and where required by Contract Documents, incorporated into a Green Infrastructure Assessment.

Where the project moves into detailed design, the WQRA should be revised to be reflective of any changes in design or operation (or be undertaken if not previously completed).

An assessment identifying the need for a permit under the *Landscape South Australia Act 2019* (refer to the Department's Protecting Waterways Guideline, Water Affecting Activities Best Practice Operating Procedure and Master Specification PC-ENV3).

During the Delivery Phase, environmental management processes will be undertaken in accordance with Master Specification Parts PC-ENV1 and PC-ENV2.

4.7 Noise

Requirements relating to noise assessments/modelling, treatment design and implementation are outlined below and can also be found the EHTM Part 7 and Master Specification.

4.7.1 Proving Phase

During the Proving Phase, options should be developed and assessed to minimise the potential impact of operational noise on the local community. Sensitive receivers (e.g. residential dwellings, hospitals, schools, churches) will be identified and recorded within a Constraints and Values Drawing to ensure that specific noise requirements can be taken into consideration.

An assessment to determine the applicability, or otherwise, of the Department's Road Traffic Noise Guideline (RTNG), the SA EPA's Guideline for the Assessment of Noise from Rail Infrastructure (GARNI) or other relevant guidelines, based on the scope of the project and the principles of application of the above noise guideline/s, shall be undertaken. Any likely cost implications for noise mitigation should also be considered and fed into the Planning Study estimates.

Where noise impacts could be significant, the options selection process could require potential noise impacts to be assessed as part of a multi-criteria assessment (or similar). Subject to the assessment process, this may require a preliminary noise assessment to be completed for each option; however, this would usually be undertaken in subsequent phases.

Construction noise assessments are not usually undertaken during this phase unless there are likely to be significant differences in the construction methodology and the extent of impact on the local community.

4.7.2 Pre-Delivery/Delivery Phase

4.7.2.1 Construction noise

During the Pre-delivery Phase, an assessment for construction works and night works will be undertaken to identify any required mitigation. Where a project is a 'Major Project' under the Guideline for the Management of Construction Noise and Vibration Management a Construction Noise and Vibration Management Framework will be prepared as part of the EHIA process.

Where underwater works are needed to deliver the project, an assessment in accordance with the Underwater Piling and Dredging Noise Guideline will be undertaken, identifying whether the activity is likely to have a significant impact on a matter of national environmental significance as outlined under the *EPBC Act 1999*.

During the Delivery Phase, environmental management processes will be undertaken in accordance with Master Specification Parts PC-ENV1 and PC-ENV2.

4.7.2.2 Operational noise

During the Pre-delivery/Delivery phase, the applicability of noise guidelines will be assessed, or reassessed, against the preferred design (as per the requirements of the Master Specification Part PC-ENV4, Clause 4). Where there is a change in the scope of the project, traffic volumes or design modifications, the applicability of the noise guidelines will be reassessed as required.

During the Pre-delivery Phase, where the noise guidelines are deemed to apply, a Preliminary Noise Assessment will be undertaken in accordance with the requirements of the Master Specification Part PC-ENV4, Clause 4. The outcomes of this assessment will be included in the project's EHIA Report.

When the project moves into detailed design, a Design Basis Report and Noise Modelling and Mitigation Design Report and noise treatment design will be prepared in accordance with Master Specification Part PC-ENV4, Clauses 5-8, based on the design at each of the nominal design stages.

4.8 Vibration

Requirements relating to vibration assessments are outlined below and can also be found in the EHTM Part 7 and the Department's Master Specification parts: PC-ENV2 and PC-ENV3.

4.8.1 Proving Phase

During the Proving Phase, options should be developed and assessed to minimise the potential impact of operational vibration on the local community and structures (including heritage listed structures). Sensitive receivers (e.g. residential dwellings, hospitals, schools, churches) will be identified and the

location recorded within a Constraints and Values Drawing, to ensure that specific vibration requirements can be taken into consideration.

Construction vibration assessments would generally not be undertaken during this phase unless there are likely to be significant differences in the construction methodology and the extent of impact on the local community or environment.

4.8.2 Pre-Delivery/Delivery Phase

4.8.2.1 Construction vibration

Where a project is a 'Major Project' under the Guideline for the Management of Construction Noise and Vibration Management a Construction Noise and Vibration Management Framework will be prepared as part of the EHTM process.

Vibration management and monitoring measures in Delivery will be detailed in the Contractor's Environmental Management Plan.

4.8.2.2 Operational vibration

Operational vibration assessments will be undertaken in accordance with the requirements of Master Specification Part PC-ENV3 and relevant guidelines (e.g. Road Traffic Noise Guidelines and Guidelines for the Assessment of Noise from Rail Infrastructure which includes vibration assessment aspects).

4.9 Non-Aboriginal Heritage

Requirements relating to Non-Aboriginal heritage are outlined below and can also be found in the EHTM Part 8 and the Master Specification.

4.9.1 Proving Phase

During the Proving Phase, a preliminary impact assessment is to be undertaken in accordance with the detail provided in the Department's Non-Aboriginal Heritage Assessment Guideline.

A review of the project area will be undertaken to determine if any national, state or local heritage places, shipwrecks or Rail and Roadside Significant Sites may be affected by the project. An assessment will be undertaken of the project's potential to compromise or impact the heritage value of the place or site including identification of avoidance, reduction, mitigation and/or restoration measures. An assessment of the potential for heritage artefacts to be encountered during construction works as well as the recommendation of management actions is to be undertaken.

The preliminary assessment should identify to need to seek any approvals or permits to complete project works as well as the approvals pathway (including the need for further assessment).

The location of any national, state or local heritage places, shipwrecks or Rail and Roadside Significant Sites will be included within the Constraints and Values Drawing.

4.9.2 Pre-delivery/Delivery Phase

During the Pre-delivery or Delivery phases, a detailed impact assessment is to be undertaken in accordance with the detail provided in the Department's Non-Aboriginal Heritage Assessment Guideline. Once the detailed project scope and/ or the preferred design is known, if there is a need for further investigation, the preliminary non-aboriginal heritage impact assessment should be reviewed and updated to become the detailed non-aboriginal heritage impact assessment.

Any approvals or permits are to be obtained prior to the commencement of on ground works. These authorisations may be accompanied by conditions which are to be adopted during delivery.

4.10 Contamination

Requirements relating to contamination are outlined below with further detail also found in the EHTM Part 9 and the Master Specification.

4.10.1 Proving Phase

During the Proving Phase, options should be developed and assessed to minimise the need to manage, mitigate or remediate contaminated soil or groundwater.

A high-level desktop constraints assessment should be completed to identify key potential contaminating activities which may present a risk or impact the project. An assessment of the potential presence of acid sulfate soils should also be undertaken at this stage.

The location(s) of identified contaminated land issues are to be recorded within the Constraints and Values Drawing. An assessment for the need to manage surplus material (soil, sediment, groundwater, runoff) should be undertaken at this stage.

The need for further assessment, to be conducted in subsequent phases, should be identified. Further investigations may include a preliminary site investigation; detailed site investigation; testing of materials to determine suitability for beneficial reuse or waste classification; testing for the presence of acid sulfate soil material.

4.10.2 Pre-delivery/Delivery Phase

Where further assessment has been determined as necessary, (i.e. a desktop assessment does not provide the necessary level of detail), a preliminary site investigation (PSI) compliant with the requirements of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended in 2013) is required. The purpose of the PSI is to:

- identify key risks and constraints that could require alternative project options;
- consider the risk to personnel (during construction), the community and/or the environment;
- consider the potential impact upon project budget and timeframes;
- determine the likely presence of site contamination, risks to human health, the environment and waters;
- provide an understanding as to whether the presence of potential contaminating activities (PCAs) warrants further investigation or testing, especially in consideration of the cut/ fill balance for the project, potential beneficial reuse of material and disposal of surplus material;
- provide recommendation for changes in design and/ or future works; and
- consideration and assessment of potential implications must be given to the following:
 - Land acquisition risk & liability (including residual land post occupation);
 - construction management (materials handling and personal protection restrictions and requirements; on-site re-use of surplus material; disposal of surplus material; management requirements for dewatered contaminated groundwater/ surface water run-off);
 - required approvals/ the need to engage a site contamination auditor.

During the Delivery Phase or once a detailed design is available, further assessment may be required including a detailed site investigation, beneficial reuse options for material and waste classification for offsite management of material (refer to Part 10A for more detail) or an assessment and associated documentation of management requirements for acid sulfate soil (refer to Part 10B for more detail) and/or other contaminated material (i.e. Contamination Remediation Management Plan, Environmental Management Plan).

Contamination reporting and management processes in construction will be undertaken in accordance with Master Specification Parts PC-SC1.

4.11 Other aspects

The following aspect assessments follow separate processes under the Department's Master Specification or Standards/Guidelines, with separate reporting requirements. These form part of an EHIA process where they are required for the release of documentation as part of Public EHIA Process or community engagement process (Section 2.7), or where specified in Contract Documents.

In lieu of the above it is expected that the following assessments would be undertaken as part of a standard Transport Planning Study, design and/or delivery processes and included in associated documentation.

4.11.1 Sustainability Assessment

4.11.1.1 Proving Phase

The following to be undertaken, if required, in accordance with the Department's Sustainability Manual and Master Specification Parts PC-PL2:

- Greenhouse gas assessment
- Climate change risk assessment
- Green infrastructure assessment

4.11.1.2 Pre-delivery Phase

The following to be undertaken, if required, in accordance with the Department's Sustainability Manual and Master Specification Parts PC-PL1:

- Planning Phase Sustainability Plan

4.11.1.3 Delivery Phase

The following to be undertaken in accordance with the Department's Sustainability Manual and Master Specification Parts PC-ST1 and PC-ST2:

- Design Phase Sustainability Plan
- Construction Phase Sustainability Plan

Note that projects undergoing an Infrastructure Sustainability (IS) rating are not required to prepare a design and construction phase sustainability plan. The sustainability deliverables for projects undergoing IS ratings are determined by the IS rating requirements.

4.11.2 Land Use, Planning, and Zoning Assessment

The impact of the project on land ownership, business, and industry, as well as project alignment with planning policy will be assessed in accordance with the Department's Master Specification PC-PL2 Planning Investigations and documented within the relevant planning study documentation.

4.11.3 Social-economic Assessment

An assessment of the potential impacts of the project on the local community will be undertaken, including an evaluation of impacts on changes to access, severance, demographics in accordance with the Department's Master Specification PC-PL2 Planning Investigations.

4.11.4 Landscape, Visual Amenity and Urban Design Assessment

An assessment of the potential impacts of the project on view and visual amenity and other requirements in accordance with Master Specification PC-PL3 Concept Design Development.

Appendix A

Common Environment and Heritage Legislative Approvals, Permits and Authorisations

The following is a list of common environment and heritage legislative approvals that may apply to the Department's programs or projects. It should not be considered comprehensive and individual projects will be assessed against all legislative requirements that apply.

Legislation	Typical environment/heritage approval, permit or authorisation
FEDERAL	
<i>Environment Protection and Biodiversity Act 1999</i>	<ul style="list-style-type: none"> Approval for actions that impact on matters of national environmental significance
<i>Native Title Act 1993 (Commonwealth)</i>	<ul style="list-style-type: none"> Notices must be given or agreements reached where native title may exist. An assessment must be undertaken to determine whether native title may still exist over the area affected by the project and if so the correct processes to be followed under the <i>Native Title Act</i>.
STATE	
<i>Aboriginal Heritage Act 1988</i>	<ul style="list-style-type: none"> Determine whether site or object is an Aboriginal site or object Excavating sites, objects or remains Damage etc. to sites, objects or remains
<i>Planning, Development and Infrastructure Act 2016</i>	<ul style="list-style-type: none"> Crown Development – refer <i>Planning, Development and Infrastructure Regulations, 2016</i> for applicable exemptions: <ul style="list-style-type: none"> Tree damaging activities (Regulated/Significant Trees); The demolition, removal, conversion, alteration of painting of, or addition to, the place, or any other work that could materially affect the heritage value of a State heritage place; Railway activities; Borrow pit opening;
<i>Environment Protection Act 1993</i>	<ul style="list-style-type: none"> Undertake prescribed activity of environmental significance, including (Schedule 1): <ul style="list-style-type: none"> Earthworks drainage and dredging licence Concrete batching works Hot mix asphalt preparation Rail operations (for construction of rail infrastructure) Waste/recycling facility (e.g. stockpiling)
<i>Fisheries Management Act 2007</i>	<ul style="list-style-type: none"> Permit to undertake removal or interference activities with animals or plants inside an aquatic reserve
<i>Heritage Places Act 1993</i>	<ul style="list-style-type: none"> Places of archaeological significance Protection of archaeological artefacts

Legislation	Typical environment/heritage approval, permit or authorisation
<i>Landscape South Australia Act 2019</i>	<ul style="list-style-type: none"> • Licence to take water from a prescribed water resource • Water Affecting Activities Permits • Permit to move pest plants and animals
<i>Mines and Works Inspection Act 1920</i>	<ul style="list-style-type: none"> • Open, operate and decommission a borrow pit
<i>National Parks and Wildlife Act 1972</i>	<ul style="list-style-type: none"> • Collect or destroy native fauna and native seed
<i>Native Title (South Australia) Act 1994</i>	<ul style="list-style-type: none"> • Compliance with the <i>Native Title Act 1993</i> (Commonwealth) legislation addresses requirements under this Act
<i>Native Vegetation Act 1991</i>	<ul style="list-style-type: none"> • Clearance of Native Vegetation: also refer the Department's Vegetation Removal Policy: Standard Operating Procedure Under the <i>Native Vegetation Act 1991</i>