

## APPLICATION ON NOTIFICATION – CROWN DEVELOPMENT

|                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type of development:</b>                                                                                                                                                                                                                                                                                                                                                        | SECTION 49 - STATE AGENCY DEVELOPMENT                                                                                                                                                                                                                               |
| <b>Development Number:</b>                                                                                                                                                                                                                                                                                                                                                         | 711/V030/19                                                                                                                                                                                                                                                         |
| <b>Applicant:</b>                                                                                                                                                                                                                                                                                                                                                                  | SA Water                                                                                                                                                                                                                                                            |
| <b>Nature of Development:</b>                                                                                                                                                                                                                                                                                                                                                      | Installation of solar photo voltaic cells, single access tracking system, five inverter stations within all weather proof structure. Associated works comprising site clearance, earthworks, electrical cabling, access tracks, laydown areas and security fencing. |
| <b>Subject Land:</b>                                                                                                                                                                                                                                                                                                                                                               | 60 Rathjen Road, Palmer                                                                                                                                                                                                                                             |
| <b>Development Plan:</b>                                                                                                                                                                                                                                                                                                                                                           | Mid Murray Council Development Plan, consolidated on 23 August 2019.                                                                                                                                                                                                |
| <b>Zone / Policy Area:</b>                                                                                                                                                                                                                                                                                                                                                         | Rural Zone/ Murray Plains Policy Area 16                                                                                                                                                                                                                            |
| <b>Contact Officer:</b>                                                                                                                                                                                                                                                                                                                                                            | Janine Philbey                                                                                                                                                                                                                                                      |
| <b>Phone Number:</b>                                                                                                                                                                                                                                                                                                                                                               | 7109 7062                                                                                                                                                                                                                                                           |
| <b>Consultation Start Date:</b>                                                                                                                                                                                                                                                                                                                                                    | Tuesday 3 December 2019                                                                                                                                                                                                                                             |
| <b>Consultation Close Date:</b>                                                                                                                                                                                                                                                                                                                                                    | Friday 10 January 2020                                                                                                                                                                                                                                              |
| <p><b>During the notification period, hard copies of the application documentation can be viewed at the Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, Adelaide, during normal business hours. Application documentation may also be viewed during normal business hours at the local Council office (if identified on the public notice).</b></p> |                                                                                                                                                                                                                                                                     |

Written representations must be received by the close date (indicated above) and can either be posted, hand-delivered, faxed or emailed to the State Commission Assessment Panel (SCAP). A representation form is provided as part of this document.

### **Any representations received after the close date will not be considered.**

Postal Address:  
The Secretary  
State Commission Assessment Panel  
GPO Box 1815  
ADELAIDE SA 5001

Street Address:  
Planning and Land Use Services  
Department of Planning, Transport and Infrastructure  
Level 5, 50 Flinders Street  
ADELAIDE

Email Address: [scapreps@sa.gov.au](mailto:scapreps@sa.gov.au)

Fax Number: (08) 8303 0753

**DEVELOPMENT ACT, 1993  
S49/S49A – CROWN DEVELOPMENT  
REPRESENTATION ON APPLICATION**

**Applicant:** SA Water  
**Development Number:** 711/V030/19  
**Nature of Development:** Installation of solar photo voltaic cells, single access tracking, 5 inverter stations within all weather proof structures and associated works.  
**Zone / Policy Area:** Rural Zone/Murray Plains Policy Area 16  
**Subject Land:** 60 Rathjen Road, Palmer  
**Contact Officer:** Janine Philbey  
**Phone Number:** 7109 7062  
**Close Date:** Friday 10 January 2020

My Name: \_\_\_\_\_ My phone number: \_\_\_\_\_

Primary method(s) of contact: \_\_\_\_\_ Email: \_\_\_\_\_  
Postal Address: \_\_\_\_\_ Postcode: \_\_\_\_\_

**You may be contacted via your nominated PRIMARY METHOD(s) OF CONTACT if you indicate below that you wish to be heard by the State Commission Assessment Panel in support of your submission.**

My interests are:  
(please tick one)

☐ owner of local property

☐ occupier of local property

☐ a representative of a company/other organisation affected by the proposal

☐ a private citizen

**The address of the property affected is:**

\_\_\_\_\_  
Postcode \_\_\_\_\_

My interests are:  
(please tick one)

☐ I support the development

☐ I support the development with some concerns

☐ I oppose the development

**The specific aspects of the application to which I make comment on are:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I: ☐ wish to be heard in support of my submission  
(please tick one) ☐ do not wish to be heard in support of my submission  
(Please tick one)

By: ☐ appearing personally  
(please tick one) ☐ being represented by the following person  
(Please tick one)

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Return Address:** The Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide, SA 5001 /or  
**Email:** [scapreps@sa.gov.au](mailto:scapreps@sa.gov.au)



## Government of South Australia

Department of Planning,  
Transport and Infrastructure

### DEVELOPMENT ACT 1993

### SECTION 49 - STATE AGENCY DEVELOPMENT

### NOTICE OF APPLICATION FOR CONSENT TO DEVELOPMENT

Notice is hereby given that an application has been made by **SA Water Corporation** for consent to establish a solar farm for the purposes of electricity generation. The new works would comprise the installation of solar photovoltaic cells, with single access tracking system and five inverter stations within weather proof structures on 35 hectares of land. Associated works will comprise site clearance, earthworks, electrical cabling, access tracks, laydown areas and security fencing. Development Number: **711/V030/19**.

The subject land is situated at 60 Rathjen Road, Palmer (Allotment 108, FP169857: CT 5332/87).

The development site is located within the Rural Zone and Murray Plains Policy Area 16 of the Mid Murray Council Development Plan (Consolidated on 23 August 2019).

The application may be examined during normal office hours at the office of the State Commission Assessment Panel (SCAP), Level 5, 50 Flinders Street, Adelaide and at the office of Mid Murray Council, 49 Adelaide Road, Mannum. Application documentation may also be viewed on the SCAP website [https://www.saplanningportal.sa.gov.au/public\\_notices](https://www.saplanningportal.sa.gov.au/public_notices).

Any person or body who desires to do so may make representations concerning the application by notice in writing delivered to the Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide SA 5001 **NOT LATER THAN 10 January 2020**. Submissions may also be emailed to: [scapreps@sa.gov.au](mailto:scapreps@sa.gov.au)

Each person or body making a representation should state the reason for the representation and whether that person or body wishes to be given the opportunity to appear before the SCAP to further explain the representation.

Submissions may be made available for public inspection.

Should you wish to discuss the application and the public notification procedure please contact Janine Philbey on 7109 7062 or [Janine.Philbey@sa.gov.au](mailto:Janine.Philbey@sa.gov.au)

Jessie Surace

**A/SECRETARY**

**STATE COMMISSION ASSESSMENT PANEL**

[scapreps@sa.gov.au](mailto:scapreps@sa.gov.au)

**PUBLISHED IN : The Advertiser + Murray Valley Standard**

**PUBLICATION DATE : Tuesday 3 December 2019**

7<sup>th</sup> November 2019

Attention: Simon Neldner, DPTI  
Team Leader – Crown and Major Developments  
Planning and Land Use Services  
GPO Box 1815  
ADELAIDE SA 5000

Dear Simon

**Development Application – Section 49 (Crown Development) for Solar PV installation in connection to Mannum to Adelaide Pipeline Pumping Station No.3**

SA Water is seeking Development Approval for the installation of solar PV arrays and associated battery storage facilities along with ancillary equipment in connection to the Mannum to Adelaide Pipeline Pumping Station No.3 ('Mannum PPS.3') land. The proposed works at Mannum PPS.3 form part of the *Zero Cost Energy Future* project, where solar Photovoltaic (PV) cells and Battery Energy Storage Systems (BESSs) are planned for installation across SA Water's key sites.

Please find attached copies of the completed development application form and associated supporting documentation. Further details regarding elements of the overall design require confirmation and will be provided for consideration by SCAP as part of forthcoming Detailed Designs. Notwithstanding this, the attached supporting documentation has been prepared to the highest level of accuracy possible and reflects 'upper limit estimates' where appropriate.

SA Water has developed a Community and Stakeholder Engagement Strategy to identify key stakeholders and is committed to ensuring a high level of engagement in order to manage expectations, community concerns and any other issues associated with the project. SA Water has met with Mid Murray Council representatives earlier on in the ZCEF project and will maintain direct correspondence with Council to ensure the prompt resolution of any potential concerns. Neighbouring landholders to the proposed development will be provided with information on the broader ZCEF program and will be notified of important milestones in the Mannum PPS.3 project development. As Stakeholder Engagement efforts are ongoing, SA Water (via Aurecon) will provide SCAP with relevant updates for the feedback received where required.

SA Water have engaged the services of Aurecon Australia Pty Ltd in order to facilitate the process of obtaining Development Approval for each of the planned Solar PV installations. Should you have any queries in relation to the applications or proposed works please feel free to contact Lauren Nicholson (Aurecon – on behalf of SA Water) on 0478550440 or [lauren.nicholson@aurecongroup.com](mailto:lauren.nicholson@aurecongroup.com).

Yours Sincerely,



Lauren Nicholson (Aurecon)  
Senior Consultant, Environment and Planning

\*For billing purposes, please address all tax invoices (fee requests) as follows:

South Australian Water Corporation  
Attn: Jackie Griggs (Senior EIA Officer- *Zero Cost Energy Future*)  
[EIA@sawater.com.au](mailto:EIA@sawater.com.au)  
250 Victoria Square  
GPO Box 1751  
ADELAIDE SA 5001

# SECTION 49 & 49A – CROWN DEVELOPMENT DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

COUNCIL: Mid Murray Council

APPLICANT: SA Water Corporation

ADDRESS: 250 Victoria Square, Adelaide SA 5000

CROWN AGENCY: South Australian Water Corporation

FOR OFFICE USE

DEVELOPMENT No: \_\_\_\_\_

PREVIOUS DEVELOPMENT No: \_\_\_\_\_

DATE RECEIVED:        /        /

## CONTACT PERSON FOR FURTHER INFORMATION

Name: Lauren Nicholson (Aurecon - on behalf of SA Water)

Telephone: 0478550440 [work] \_\_\_\_\_ [Ah]

Fax: \_\_\_\_\_ [work] \_\_\_\_\_ [Ah]

Email: lauren.nicholson@aurecongroup.com

|                                                                                                                                                                        |                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <input type="checkbox"/> Complying<br><br><input type="checkbox"/> Merit<br><br><input type="checkbox"/> Public Notification<br><br><input type="checkbox"/> Referrals | Decision: _____<br><br>Type: _____<br><br>Finalised:        /        / |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|

## NOTE TO APPLICANTS:

(1) All sections of this form must be completed. The site of the development must be accurately identified and the nature of the proposal adequately described. If the expected development cost of this Section 49 or Section 49A application exceeds \$100,000 (excl. fit-out) or the development involves the division of land (with the creation of additional allotments) it will be subject to those fees as outlined in Item 1 of Schedule 6 of the *Development Regulations 2008*. Proposals over \$4 million (excl. fit-out) will be subject to public notification and advertising fees.  
 (2) Three copies of the application should also be provided.

|                            | Decision required | Fees  | Receipt No | Date  |
|----------------------------|-------------------|-------|------------|-------|
| Planning:                  | _____             | _____ | _____      | _____ |
| Land Division:             | _____             | _____ | _____      | _____ |
| Additional:                | _____             | _____ | _____      | _____ |
| <b>Minister's Approval</b> |                   |       |            |       |

EXISTING USE: Agriculture (Cropping)

DESCRIPTION OF PROPOSED DEVELOPMENT: The installation of solar Photovoltaic arrays and associated infrastructure within the land described below (in connection with SA Water's Mannum PPS.3) , along with 2.4m high chainmesh security fence and required earthworks for construction.

LOCATION OF PROPOSED DEVELOPMENT: see attached CT (Appendix A)

House No: \_\_\_\_\_ Lot No: 108 Street: Rathjen Road Town/Suburb: Palmer

Section No [full/part] \_\_\_\_\_ Filed Plan: 169857 Volume: 5332 Folio: 87

Section No [full/part] \_\_\_\_\_ Hundred: Tungkillo Volume: \_\_\_\_\_ Folio: \_\_\_\_\_

## LAND DIVISION:

Site Area [m<sup>2</sup>] \_\_\_\_\_ Reserve Area [m<sup>2</sup>] \_\_\_\_\_ No of existing allotments \_\_\_\_\_

Number of additional allotments [excluding road and reserve]: \_\_\_\_\_ Lease: YES ☐ NO ☐

DEVELOPMENT COST [do not include any fit-out costs]: \$ 28,000,000.00

**POWERLINE SETBACKS:** Pursuant to Schedule 5 (2a)(1) of the *Development Regulations 2008*, if this application is for a building it will be forwarded to the Office of the Technical Regulator for comment unless the applicant provides a declaration to confirm that the building meets the required setback distances from existing powerlines. The declaration form and further information on electricity infrastructure and clearance distances can be downloaded from the DPLG website ([www.dac.sa.gov.au](http://www.dac.sa.gov.au)).

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the *Development Act 1993*.

SIGNATURE: 

Dated: 07/11/2018

**DEVELOPMENT REGULATIONS 2008**  
**Form of Declaration (Schedule 5 clause 2A)**



**Government  
of South Australia**

**To:** State Commission Assessment Panel (SCAP)

**From:** South Australian Water Corporation (C/- Aurecon  
Australasia Pty Ltd )

**Date of Application:** 07/11/2019

**Location of Proposed Development:** \_\_\_\_\_

House No: \_\_\_\_\_ Lot No: 108 Street: Rathjen Road

Town/Suburb: Palmer

Section No (full/part): \_\_\_\_\_ Hundred: Tungkillo

Volume: 5332 Folio: 87

**Nature of Proposed Development:**

Installation of Solar PV arrays and associated equipment within the above allotment. Energy generation capabilities for the direct benefit of ongoing water treatment and pumping operations by SA Water.

I Lauren Nicholson (of Aurecon Australasia) being a person acting on behalf of the applicant (delete the inapplicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A(1) of Schedule 5 of the Development Regulations 2008.

Signed:  \_\_\_\_\_

Date: 07/11/2019



## Government of South Australia

### Note 1

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in section 4(1) of the Development Act 1993), other than where the development is limited to –

- a) an internal alteration of a building; or
- b) an alteration to the walls of a building but not so as to alter the shape of the building.

### Note 2

The requirements of section 86 of the Electricity Act 1996 do not apply in relation to:

- a) an aerial line and a fence, sign or notice that is less than 2.0 m in height and is not designed for a person to stand on; or
- b) a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

### Note 3

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

### Note 4

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually also comply.

Particular care needs to be taken where high voltage powerlines exist; or where the development:

- is on a major road;
- commercial/industrial in nature; or
- built to the property boundary.

### Note 5

An information brochure: 'Building Safely Near Powerlines' has been prepared by the Technical Regulator to assist applicants and other interested persons.

This brochure is available from council and the Office of the Technical Regulator. The brochure and other relevant information can also be found at [sa.gov.au/energy/powerlinesafety](http://sa.gov.au/energy/powerlinesafety)

### Note 6

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.

## **Development Application**

# **Mannum to Adelaide PPS.3 Zero Cost Energy Future Solar Photovoltaic Project**

**Version:** 1.4

**Date:** 07/11/2019

**Status:** ZCEF PM Review

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**Government of  
South Australia**

## Document Controls

### Version History

| Version | Date       | Author           | Comments                                                      |
|---------|------------|------------------|---------------------------------------------------------------|
| 1.0     | 07/08/2019 | Lauren Nicholson | Draft                                                         |
| 1.2     | 18/10/2019 | Jack Carbone     | Technical Review                                              |
| 1.3     | 23/10/2019 | Jackie Griggs    | SA Water Environment, Land and Heritage comments incorporated |
|         | 05/11/2019 | Ben Lewis        | SA Water Project Manager review                               |
| 1.4     | 07/11/2019 | John Hart        | ZCEF Project Manager sign off                                 |
| Final   |            | Lauren Nicholson | Submitted to DPTI for Approval                                |

Template: Report Version 4.0 31/07/17

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# 1 Introduction

## 1.1 Outline

SA Water Corporation is proposing an installation of solar photovoltaic (PV) equipment and associated works in connection to its Mannum to Adelaide Pipeline Pump Station No.3 (Mannum PPS.3). The works form part of the broader Zero Cost Energy Future project, which aims to reduce the operating costs of, and improve reliability of energy supplies to, SA Water's critical water infrastructure. Aurecon Australasia Pty Ltd has been engaged by SA Water to provide planning advice and to assist in obtaining a development approval for the proposed development in accordance with the *Development Act 1993*. SA Water is an agency for the Crown and the works proposed are for the purposes of public infrastructure; as such, the proposal is a Crown Development in accordance with section 49 of the Development Act.

This Planning Report has been prepared to support the Crown Development Application and provides:

- an overview of the Zero Cost Energy Future project;
- a description of the subject land and locality;
- details of the proposed development;
- an outline of procedural matters related to the assessment of the application; and
- our assessment of the development having regard to the provisions of the Mid Murray Council Development Plan.

## 1.2 Proponent

The proponent for the project is SA Water, which is a government enterprise, wholly-owned by the Government of South Australia, and established by the proclamation of the *South Australian Water Corporation Act 1994*. SA Water is an agency of the Crown for the purposes of Section 49 of the Development Act.

The primary point of contact for any and all correspondence relating to this development application is listed below:

Ms Lauren Nicholson  
Town Planner  
Aurecon (on behalf of SA Water)  
Ph: 0478550440  
Email: [Lauren.Nicholson@aurecongroup.com](mailto:Lauren.Nicholson@aurecongroup.com)

The primary point of contact for all applicable project finance matters, including the issuing of invoices, is listed below:

Dr Jackie Griggs  
Senior Environmental Impact Assessment Officer - Zero Cost Energy Future  
SA Water  
Ph: 0448 379 303  
Email: [Jackie.griggs@sawater.com.au](mailto:Jackie.griggs@sawater.com.au)

## 2 Zero Cost Energy Future Project Overview

Electricity costs comprise a significant operating cost across all SA Water assets. Recent increases in the cost of electricity present a risk for SA Water with impacts on SA Water's operating budget and the associated cost of service provision to SA Water customers. Currently SA Water is a wholesale (spot) market participant and as such is exposed to spot market price risk. The electricity price risk is mitigated through SA Water's own power generation, curtailment of consumption and other hedging strategies.

SA Water has developed an Energy Management Framework which includes a range of strategies for reducing operational energy costs. A key component of this overarching framework is the installation of solar PV cells and battery energy storage systems (BESSs) across a number of SA Water's sites with greatest energy needs to facilitate their operations.

The proposed installation of solar PV cells at key SA Water operating sites, such as the Mannum PPS.3 site, will immediately reduce the operating energy costs for the site and reduce exposure to increases in electricity costs.

The works and activities contributing to the proposed installation of solar PV cells across key SA Water sites is being completed under the project banner of *Zero Cost Energy Future*.

### 3 Subject Land and Locality

The subject land proposed to accommodate the development described herein, comprising the installation of solar PV arrays and associated infrastructure, is located within the open rural landscape to the east of the Palmer Township. The subject land is legally described as per below:

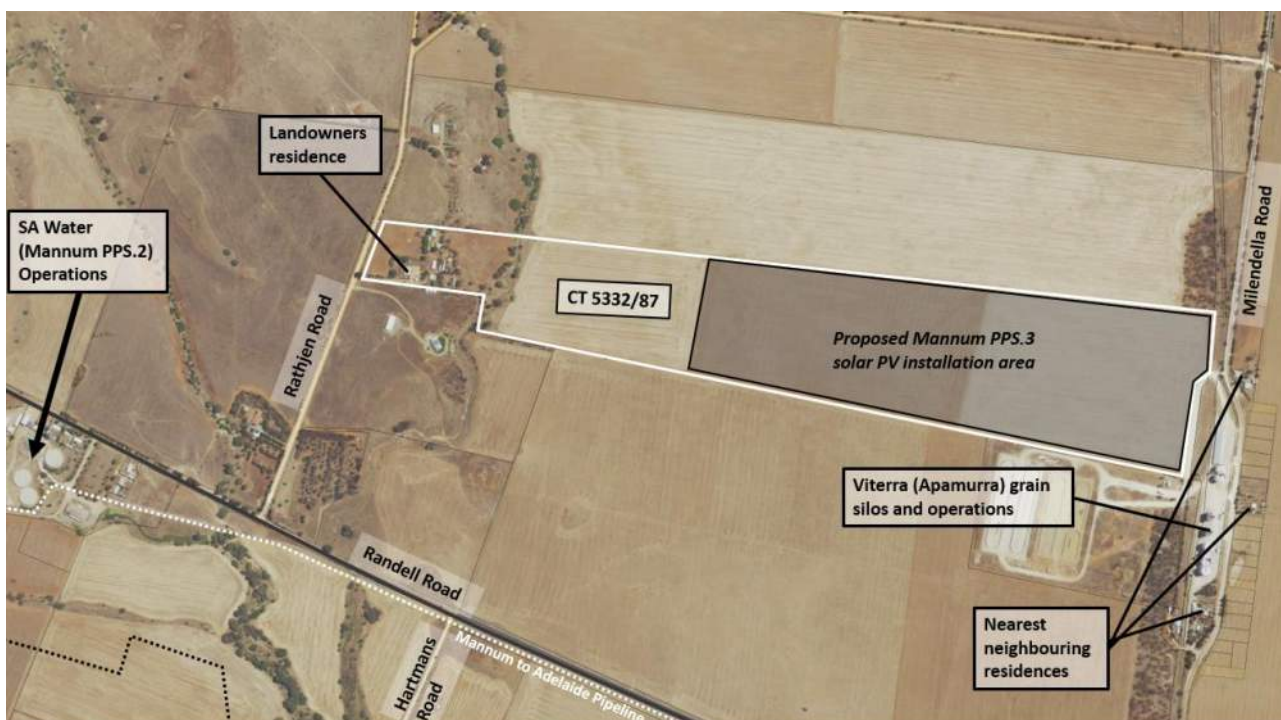
- Allotment 108, Filed Plan 169857, in the Area named Palmer within Certificate of Title Volume 5332, Folio 87, Hundred of Tungkillo.

A copy of the Certificate of Title has been included as Appendix A.

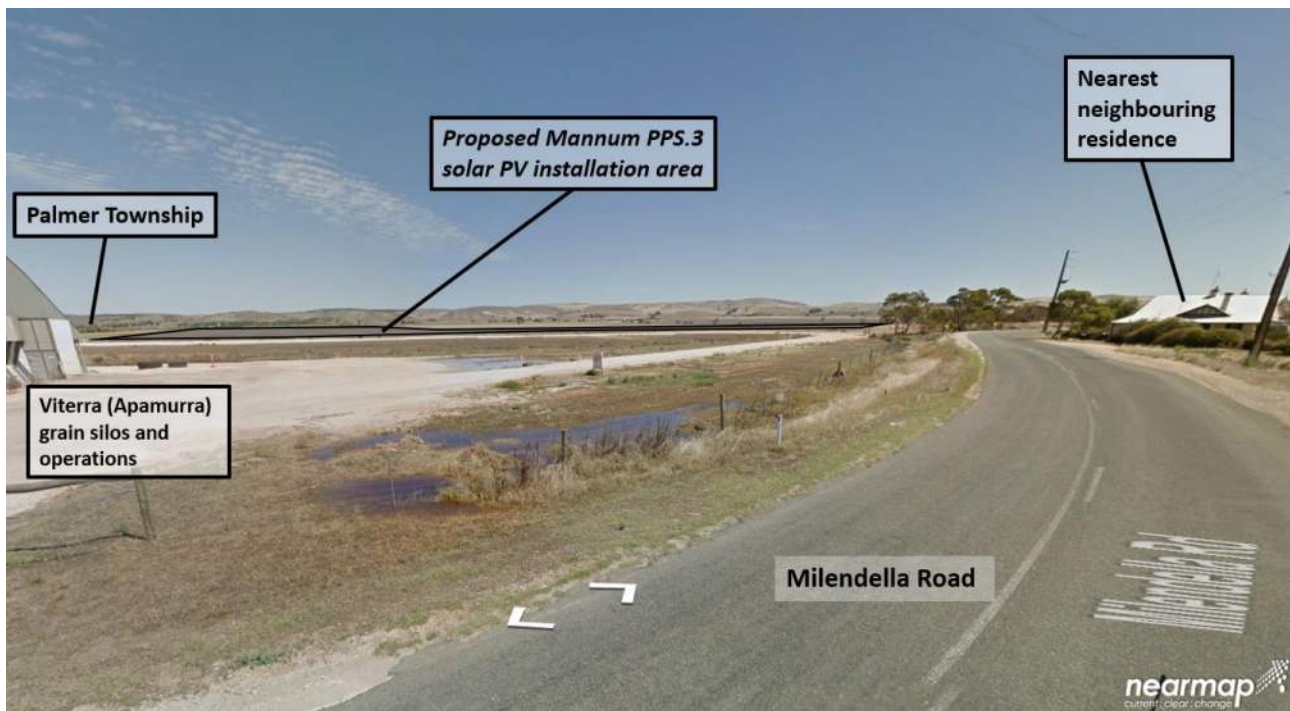
The subject land proposed to accommodate this development is presently under private ownership. SA Water's property services team have engaged directly with the current land owner and appropriate written agreements have been reached to allow for site investigation work (including land, geotechnical, and heritage surveys) to be undertaken. It is intended that, once confirmed viable in supporting the proposed development, the land will be formally acquired by SA Water.

The subject land presently supports agricultural (cropping) land uses as well as an associated residence, positioned towards the western property frontage to Rathjen Road and separated from the open, expansive terrain to the east by a vegetation lined watercourse. Landholdings to the north and south support similar cropping land uses, while the eastern extent of the subject land is bordered by the Viterra 'Apamurra' silos and grain storage operations which have frontage to Milendella Road. The nearest neighbouring residence to the proposed development is located along the eastern side of Milendella Road and is positioned with frontage to this local roadway. Randell Road (aka Adelaide Mannum Road), which forms the main entrance to Palmer Township and comprises a Secondary Arterial Road, is located approximately 850m south of the subject land. The landscape which surrounds the subject land has been almost entirely cleared of vegetation in support of cropping activities and there is little variation across terrain in all directions. An exception to this is found in the Eastern Mount Lofty Ranges hills face, to the west of the subject land, providing a prominent visual backdrop to the Palmer Township and expansive plains beyond.

The installation of solar PV arrays and associated equipment in connection to SA Water's Mannum PPS.3 site proposes to utilise approximately 34.5 hectares within the subject land, positioned within the eastern portion of the allotment. Figure 1 and 2, below, illustrate the location of the proposed development within the subject land and in relation to the immediate surrounds.



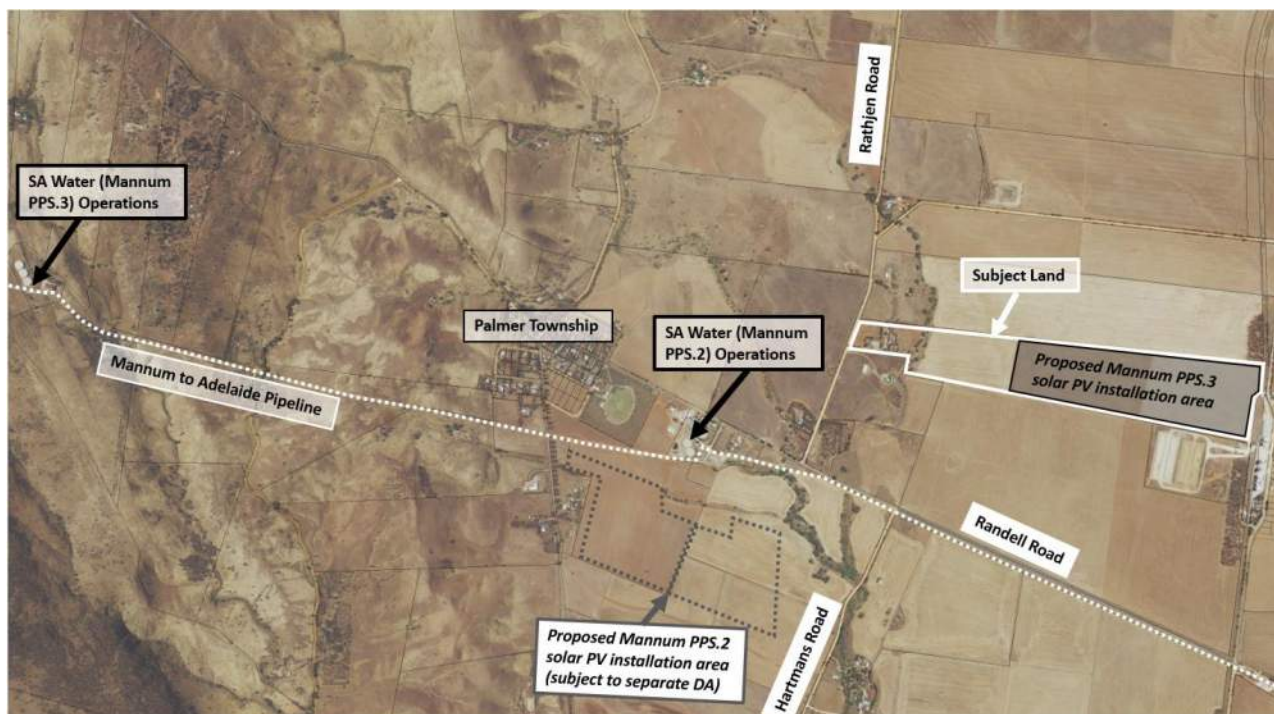
**Figure 1. Mannum PPS.3 – Proposed solar PV location.** Note: boundaries are approximate and shown for illustrative purposes only. Base image source: South Australian Property and Planning Atlas (SAPPA), <https://maps.sa.gov.au/SAPPA/>



**Figure 2. Mannum PPS.3 – Proposed solar PV installation as viewed from Milendella Road.** Note: boundaries are approximate and shown for illustrative purposes only. Base image source: South Australian Property and Planning Atlas (SAPPA), <https://maps.sa.gov.au/SAPPA/>

The site of the proposed development is located a considerable distance away from the SA Water infrastructure it is intended to serve, comprising the third major pumping station along the Mannum to Adelaide Pipeline system. The pumping station is located approximately 4.6km west of the solar PV installation site.

Figure 3, below, identifies the location of the existing SA Water pumping infrastructure and proposed solar PV installation site, within the context of the surrounding locality.



**Figure 3. Mannum PPS.3 – existing SA Water pump station and proposed solar PV location.** Note: boundaries are approximate and shown for illustrative purposes only. Base image source: South Australian Property and Planning Atlas (SAPPA), <https://maps.sa.gov.au/SAPPA/>

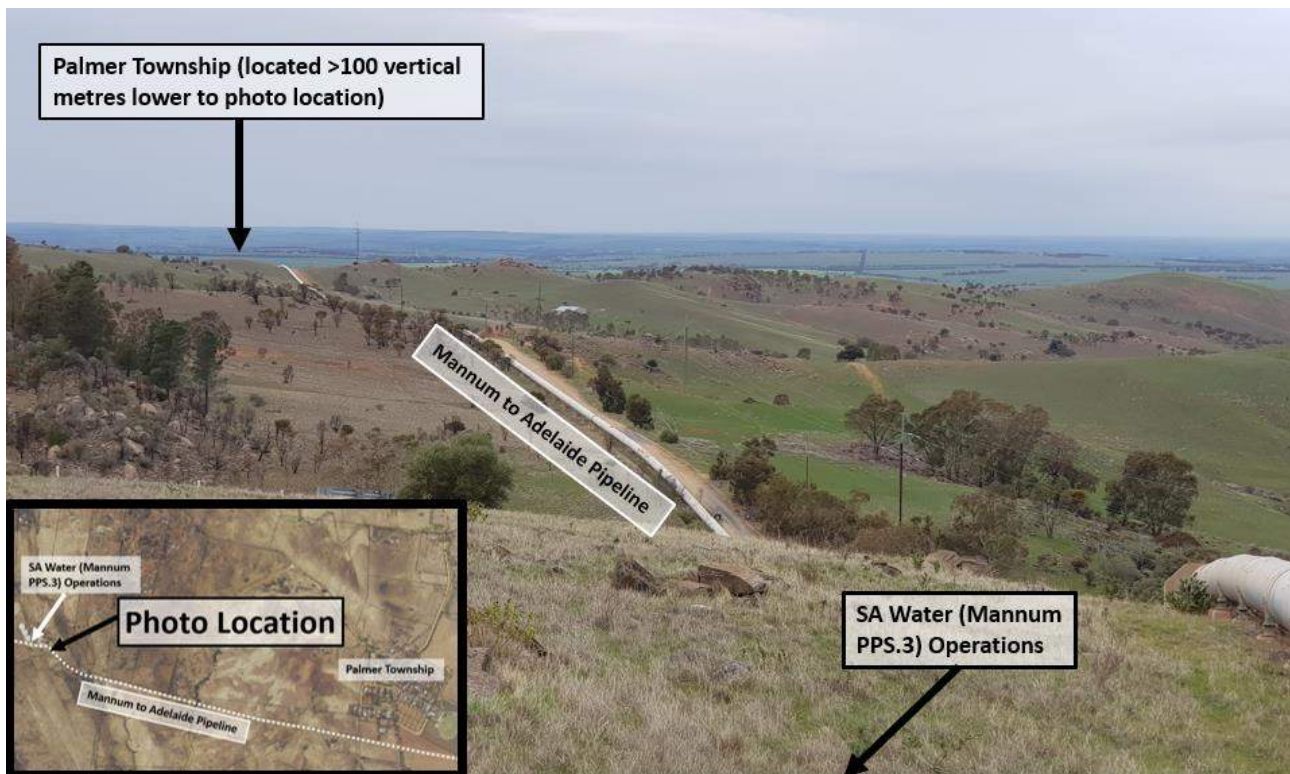
The overarching objective of the Zero Cost Energy Future program is based upon the installation of a commensurate amount of power generation (via solar PV) to meet the needs of the respective infrastructure site where the development is located. Importantly, behind-the-meter connections have been sought at each site to achieve more direct benefit from each respective solar PV installation. This also places greater importance upon the need for solar PV installations to be as close as possible to the respective infrastructure's point of connection in order to reduce loss of power generation through the transporting of electrons over large distances.

In the case of Mannum PPS.3, the ability to secure a suitable site for the installation of solar PV equipment in the immediate vicinity to the existing pump station was severely restricted by the nature of terrain in this locality. The existing Mannum PPS.3 pump station is situated within the deeply undulating landscape of the Eastern Mount Lofty Ranges, where the combined factors of steep slopes, lack of preferred (northern) orientation and the presence of extremely rocky conditions deemed a location nearer to the pump station to be unviable. The landscape restrictions are also compounded by the future planned establishment of the Palmer Wind Farm development, where the positioning of the individual turbines (and the need to avoid impacts from shadowing) further reduces available land in proximity to the pump station.

Site photos taken in proximity to the Mannum PPS.3 pump station are presented within Figures 4 and 5, below, to assist in understanding the challenging terrain;



**Figure 4. Mannum PPS.3** – site photo taken along Mannum-Adelaide Pipeline access track, facing west-northwest towards existing pump station and, inset, aerial view of photo location (base map source: SAPPA, <https://maps.sa.gov.au/SAPPA/> )



**Figure 5. Mannum PPS.3** – site photo taken from south-eastern corner of the pump station site and looking east towards Palmer Township and lower plains. Inset- aerial view of photo location (base map source: SAPPA, <https://maps.sa.gov.au/SAPPA/> ).

The proposed development has sought a location within suitably flat terrain to the east of the Palmer Township within an agricultural (cropping) allotment which will allow for the installation of a commensurate amount of solar PV generation to meet the needs of the Mannum PPS.3 operations. Additionally, the size of installation proposed will ensure that efficiency losses resulting from the distance that separates the solar PV arrays from the point of connection, as well as other shortfalls that exist within the broader Mannum to Adelaide Pipeline system, will be accounted for through the targeted energy output.

## 4 Proposed Development

### 4.1 Description of Proposal

The proposed development of a ground-mounted solar generation plant involves the below components;

- Approximately 36,120 individual solar PV cells, each measuring approximately 1960mm long x 991mm wide and 40mm in base;
- Associated Single Access Tracking framework for the solar panels (indicative framework design illustrated in Figure 7);
- Five (5) Inverter stations installed within appropriate weather-proof shelters and located centrally within development site (see Figure 9 for standard design);
- Provision of a lay-down area for construction, currently planned for the south-western corner of the development footprint;
- Establishment of a central access track (gravel surface) to ensure all-weather access to the centrally located inverter stations. This access track will require the creation of a new point of entry off Milendella Rd;
- Electrical cabling to enable direct connection back to the Mannum PPS.3 pump station, requiring a combination of overhead and underground cabling for a total approximate distance of 4.5km. Overhead lines to be installed for majority of route and underground cabling to be utilised for road crossings (see Appendix B – Design Drawings for proposed route details);
- Installation of 2.4m high chainmesh security fencing around development perimeters (standard design example within Figure 10).

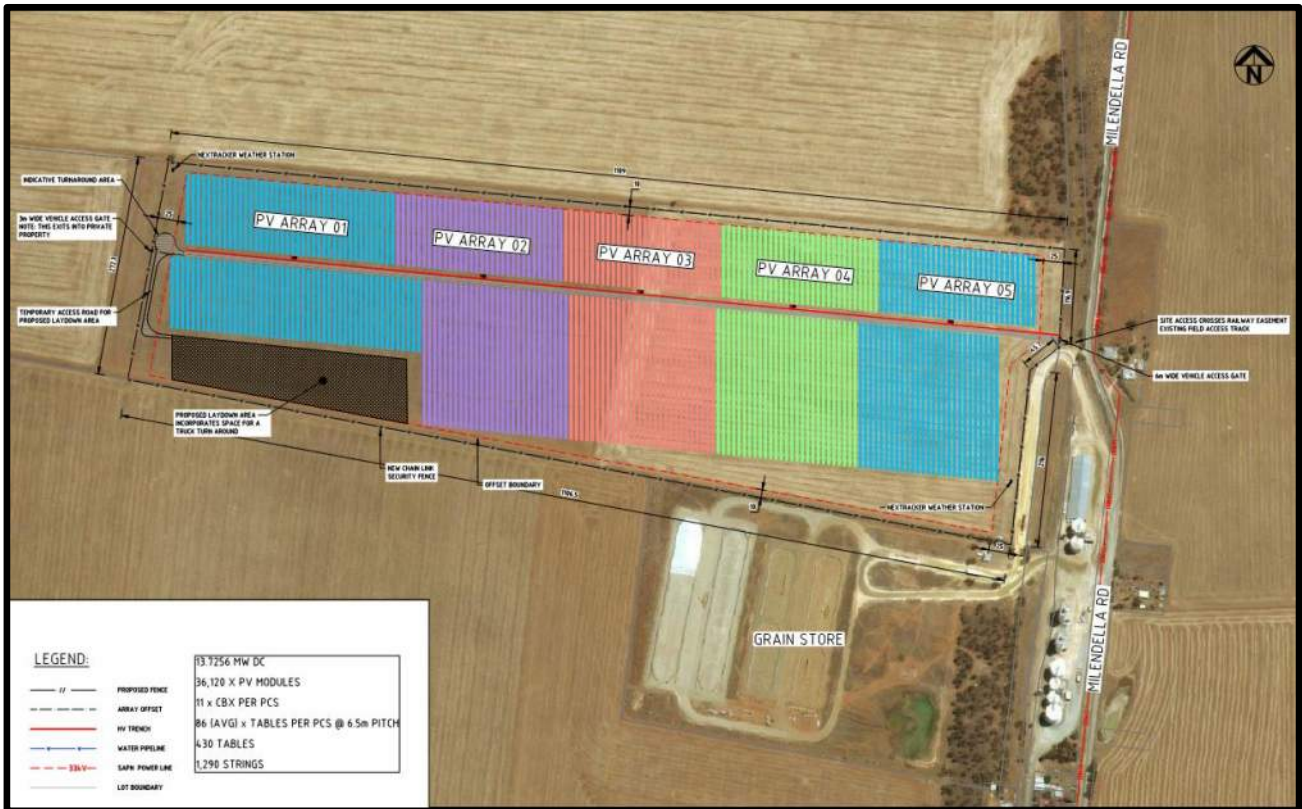
The proposed installation which is the subject of this Development Application requires approximately 34.5 hectares of land for the installation of solar PV arrays and associated infrastructure within the subject land.

Individual solar panels are installed on tracking tables, which are aligned with an axis in a North-South orientation, with a tracking range of +/- 55° in an East-West direction. An indicative maximum height of 2.33 metres from ground level to the top of the solar panels (when positioned at the highest angle) is provided within the attached plans (Appendix B- Design Drawings. NB: details to be confirmed within final designs).

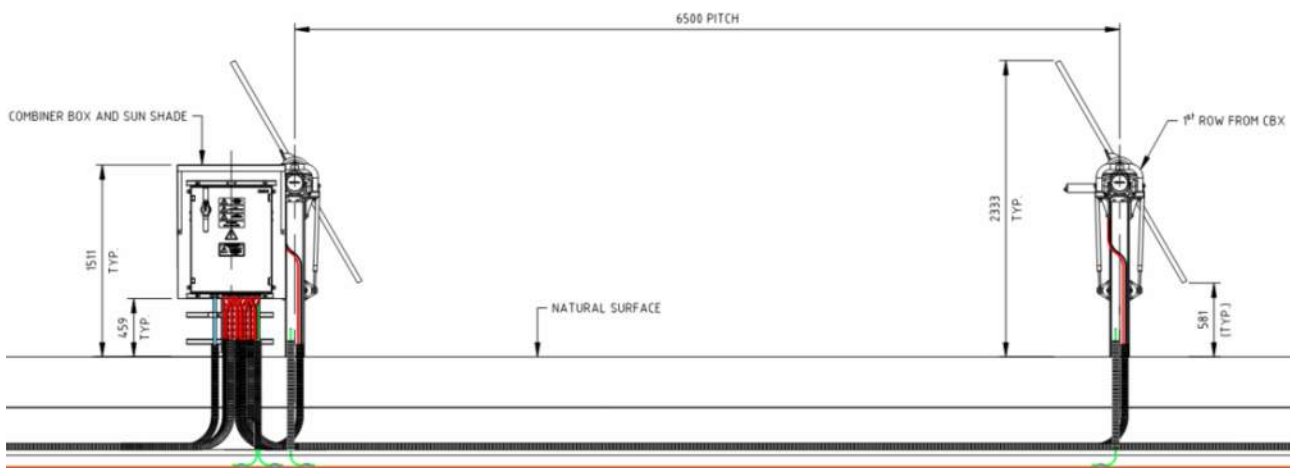
The positioning of the proposed solar arrays will incorporate sufficient setback from each of the perimeter site boundaries to allow for the free movement of vehicles associated with ongoing maintenance. A minimum setback distance of 10 metres (measured from the outer edge of proposed solar PV arrays) from all development perimeters (as demarcated by the proposed security fence line) has been included within the attached site plans. However, a greater setback distance has been allowed for at the eastern and western perimeters (both 25m, approx.) as well as along much of the southern boundary to account for the irregular property width which tapers off towards the west-northwest.

The installation of the required solar PV panels will be fully engineered to ensure that the panel frames can withstand all loading, including wind loading.

The proposed location and formation of the solar PV arrays and associated development components are exemplified in Figures 6-10, below.



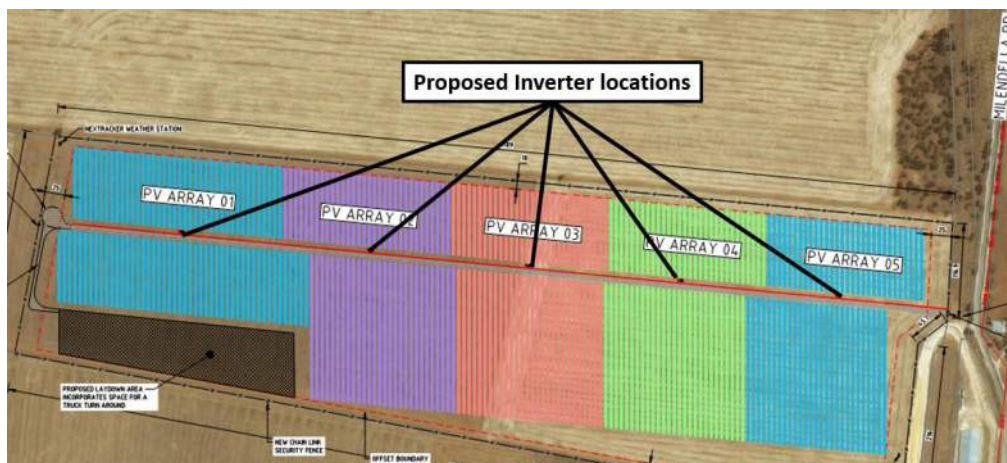
**Figure 6 . Mannum PPS.3 Solar PV layout design – excerpt from site plan, see Appendix B - Design Drawings for greater detail.**



**Figure 7 . Typical Ground-mounted, Single Access Tracking Solar Panel Layout (see Appendix B- Design Drawings for greater detail)**

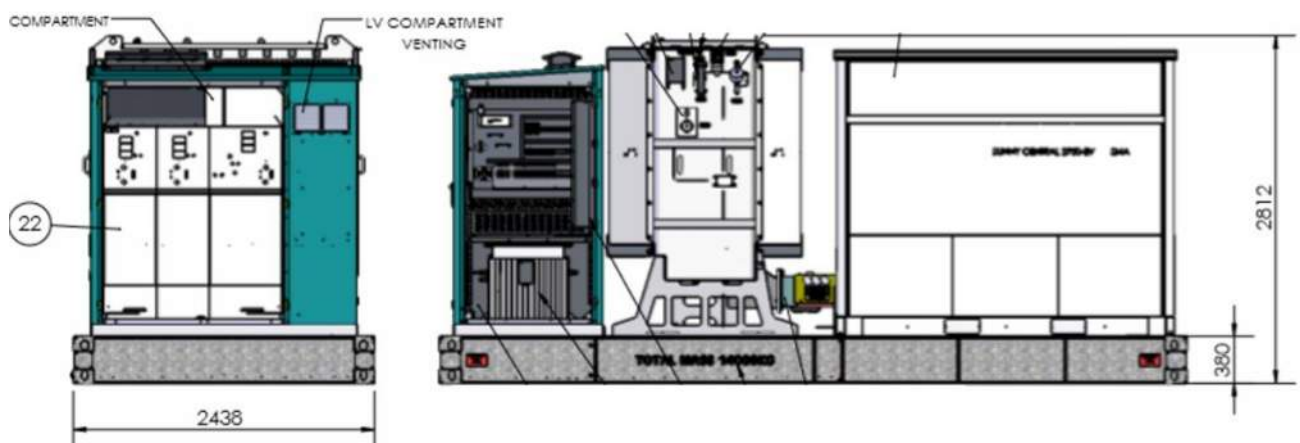


**Figure 8 . Typical Ground-mounted (Fixed Tilt) Solar Panel Layout** (this development proposes SAT array type, however the visual profile is similar to above example which is included to illustrate the PV panels)

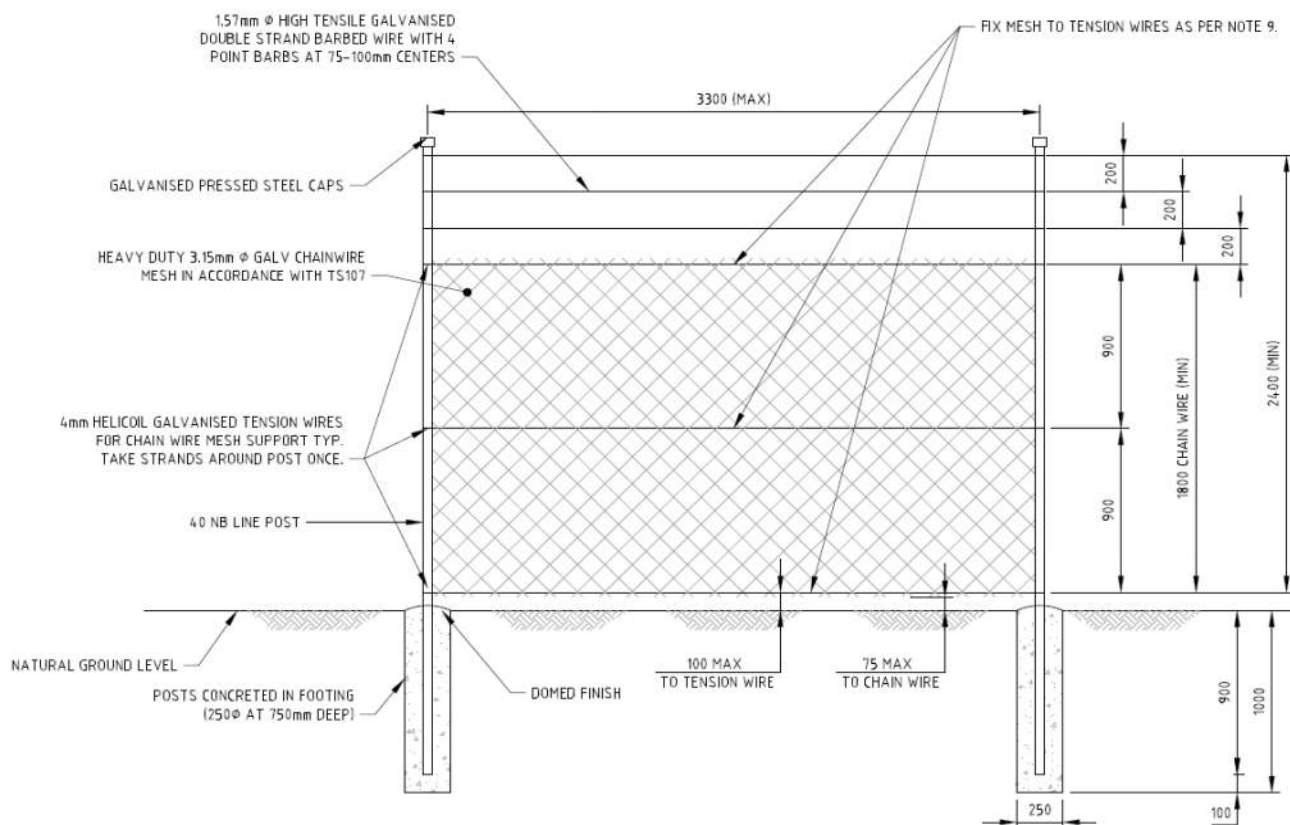


End view

Side view



**Figure 9. Typical Inverter block elevation** - end (width) view to the left and side (length) view to the right, demonstrating approximate dimensions of 2812mm high x 2438mm wide x 5855mm long (final design subject to confirmation). Indicative central Inverter locations shown above in site layout excerpt.



**TYPICAL FENCE PANEL**

**Figure 10. Typical 2.4m high chainmesh security fence design.**

## 4.2 Environmental management

SA Water is committed to ensuring the Mannum PPS.3 solar PV installation project is constructed in a sustainable manner which minimises impacts to the surrounding environment- a commitment which extends to all installations within the Zero Cost Energy Future project. An overview of potential construction activities and associated environmental impacts with the upgrade works are detailed in Table 2 below.

**Table 2. Construction Activities and Associated Environmental Impacts**

| Activity / Aspect                                                           | Potential Environmental Issues/Impact                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use of vehicles, equipment & plant                                          | <ul style="list-style-type: none"> <li>Noise creating nuisance</li> <li>Property damage from vibration</li> <li>Emissions to air from equipment</li> <li>Introduction/spread of weed seeds or plant pathogens</li> <li>Fire (hot works or use near dry vegetation)</li> <li>Nuisance to neighbours – access, light spill etc.</li> </ul> |
| Storage of materials, maintenance and refuelling of machinery and equipment | <ul style="list-style-type: none"> <li>Spills leading to pollution and contamination of soil, water</li> <li>Damage to vegetation and fauna</li> <li>Emissions of noxious / toxic gases</li> </ul>                                                                                                                                       |
| Washdown of equipment/plant                                                 | <ul style="list-style-type: none"> <li>Pollution to water (watercourses or stormwater)</li> <li>Introduction/spread of weed seeds or plant pathogens</li> <li>Damage to vegetation and fauna</li> </ul>                                                                                                                                  |

| Activity / Aspect                                                                                                                  | Potential Environmental Issues/Impact                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Excavation and earthworks<br><i>*limited to the digging of trenches for electrical cabling. Extensive earthworks not required.</i> | <ul style="list-style-type: none"> <li>• Damage to vegetation and fauna</li> <li>• Disturbance or damage to Aboriginal and non-Aboriginal Heritage</li> <li>• Discovery/management of soil or groundwater contamination</li> <li>• Dust</li> <li>• Erosion of exposed surfaces</li> <li>• Pollution to water (watercourses or stormwater)</li> </ul>                        |
| Stockpiling / spoil management                                                                                                     | <ul style="list-style-type: none"> <li>• Damage to vegetation and fauna</li> <li>• Pollution to water bodies from poor location / erosion /runoff</li> <li>• Water management and flooding</li> <li>• Dust</li> <li>• Inappropriate waste disposal/landfill</li> <li>• Contamination</li> <li>• Amenity of the estuarine/beach environment for water/beach users</li> </ul> |
| Waste Management and Disposal                                                                                                      | <ul style="list-style-type: none"> <li>• Aesthetics – litter/ debris</li> <li>• Inappropriate waste disposal/landfill</li> <li>• Resource use</li> </ul>                                                                                                                                                                                                                    |
| Import of fill material                                                                                                            | <ul style="list-style-type: none"> <li>• Introduction of weeds and diseases (phytophthora)</li> <li>• Contamination (imported)</li> </ul>                                                                                                                                                                                                                                   |
| Site / compound establishment                                                                                                      | <ul style="list-style-type: none"> <li>• Aesthetics – visually intrusive structures</li> <li>• Inappropriate waste management, litter</li> <li>• Access impacts and nuisance to neighbours</li> <li>• Noise creating nuisance</li> </ul>                                                                                                                                    |
| Dewatering or other discharges/<br>water released from site                                                                        | <ul style="list-style-type: none"> <li>• Pollution</li> <li>• Water management and flooding</li> <li>• Contamination</li> <li>• Damage to vegetation</li> </ul>                                                                                                                                                                                                             |
| Management of contaminated or hazardous materials                                                                                  | <ul style="list-style-type: none"> <li>• Pollution to soil or water</li> </ul>                                                                                                                                                                                                                                                                                              |

The ZCEF program-wide Construction Environment Management Plan (CEMP) is included in Appendix D, this has been prepared by SA Water's design and construction partner, Enerven. The plan addresses the potential environment and heritage impacts associated with key construction activities and outlines the minimum controls and monitoring responsibilities to ensure compliance with the requirements of the project environmental controls.

#### 4.2.1 Legal and other requirements

SA Water recognises key governing legal requirement for all projects is set out in the SA *Environment Protection Act 1993*, Section 25:

***A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.***

A summary of the environment and heritage approval / permits associated with the project is provided below, with the status and where relevant, conditions, for each.

Zero Cost Energy Future – Solar PV Project

| Act                                                                                                                      | Description                                                                                                                                                                                                                                                               | Tick if relevant to project         | Status/Assessment outcome/ comments      | Summary of approval/ assessment conditions (if relevant)                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment Protection and Biodiversity Conservation Act 2000 (Cth)                                                      | Approval from the Commonwealth Environment Minister is required for actions that have or are likely to have a significant impact on matters of national environmental significance (MNES).<br><br>If project triggers above, referral under EPBC Act required.            | <input type="checkbox"/>            | EBPC self-assessment has been completed. | Self-assessment indicates that the project is not likely to have a significant impact on any MNES.                                                                                                                                                                                                            |
| Development Act 1993                                                                                                     | Works that constitute Development require approval. Development includes (not limited to): <ul style="list-style-type: none"><li>• Change of land use</li><li>• Building works</li><li>• Prescribed earthworks</li><li>• Impacts to Significant/Regulated Trees</li></ul> | <input checked="" type="checkbox"/> | Development approval is required         | Development Application will be lodged with SCAP for approval. Information regarding the proposal will be provided to the Mid Murray Council in parallel to DA lodgement to outline project objectives and to identify potential concerns prior to the formal referral of the application to Council by SCAP. |
| Heritage Act/Development Act                                                                                             | Works that impact on State heritage require development authorisation                                                                                                                                                                                                     | <input checked="" type="checkbox"/> | Search of heritage databases complete    | No listed heritage places occur within the project site.                                                                                                                                                                                                                                                      |
| Environmental Protection Act 1993<br>(Section 36 – Requirement for licence)                                              | Prescribed activities of Environmental Significance require an EPA licence. (E.g. dredging/earthworks drainage/abrasive blasting, transport of contaminated soil, sewage treatment, desal, etc.)                                                                          | <input type="checkbox"/>            |                                          |                                                                                                                                                                                                                                                                                                               |
| Environmental Protection Act 1993<br>(Section 10 & 25)<br>General Environmental Duty and Standard for the Production and | Excavation of borrow pits, diversion channels and construction of temporary roads, blocking banks etc. where materials are planned for re-use off site, or materials are imported from off-site                                                                           | <input checked="" type="checkbox"/> | No approval required                     | Need to ensure spoil management is undertaken in accordance with the EPA's Waste Derived Filled requirements.                                                                                                                                                                                                 |

| Act                                                                                 | Description                                                                                                                                                                                                 | Tick if relevant to project         | Status/Assessment outcome/ comments                                                                                                                                                                 | Summary of approval/ assessment conditions (if relevant)                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use of Waste Derived Fill (WDF)                                                     |                                                                                                                                                                                                             |                                     |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                     |
| Native Vegetation Act 1991                                                          | Approval for clearance of native vegetation is required under the Act. Native vegetation includes trees, shrubs, groundcovers and grasses.                                                                  | <input type="checkbox"/>            | The Native Vegetation Act 1991 does not apply in this instance.                                                                                                                                     | No native vegetation identified within the project location.                                                                                                                                                                                        |
| National Parks and Wildlife Act 1972 (SA)                                           | Scientific Permit.                                                                                                                                                                                          | <input type="checkbox"/>            | No impacts to National Parks land                                                                                                                                                                   | N/A                                                                                                                                                                                                                                                 |
| Aboriginal Heritage Act 1988                                                        | Authorisation from the Minister for Aboriginal Affairs is required to interfere, damage or disturb Aboriginal heritage sites, objects or remains.                                                           | <input checked="" type="checkbox"/> | A search of Aboriginal Heritage Sites and Objects is being undertaken via the Aboriginal Affair Register for the subject land parcel proposed to accommodate the Mannum PPS.3 solar PV development. | All Aboriginal sites and objects protected under the Aboriginal Heritage Act 1988. In event of discovery, stop work follow the SA Water SOP for Discovery of Aboriginal heritage Sites                                                              |
| Natural Resources Management Act 2004<br>(Section 175—transporting declared plants) | Consultation with NRM Board is required if transporting plants declared under Part 175 of NRM Act                                                                                                           | <input type="checkbox"/>            |                                                                                                                                                                                                     | The Contractor will be responsible for obtaining authorisation from the Natural Resources Management Board to transport declared plants on a public road, in accordance with Section 175 and 188 of the Natural Resources Management Act 2004 (SA). |
| Native Title Act 1993                                                               | Notice to be issued if works Native Title.<br>Note: ILUA notification process may be applicable in some areas.                                                                                              | <input checked="" type="checkbox"/> | The proposed development area is undergoing review as part of land acquisition process to ensure the status of Native Title claims is known.                                                        | SA Water will ensure that all acquired land parcels are investigated for respective Native Title status.                                                                                                                                            |
| Local Government Act 1999 (SA)                                                      | Section 221: Alteration of road<br>a Person must not make an alteration to a public road unless authorised to do so by the council.<br><br>Section 31 permit required where roads to be temporarily closed. | <input checked="" type="checkbox"/> | Existing points of access to be used wherever possible and disruption/ alteration / closure of local roads to be avoided.                                                                           | SA Water / Enerven to liaise with Mid Murray Council once design finalised and where alterations/ closures to local roads identified as required.                                                                                                   |

| Act                                           | Description                                                                                                                                                                                                                                                                                       | Tick if relevant to project         | Status/Assessment outcome/ comments                                                                                              | Summary of approval/ assessment conditions (if relevant)                                                                 |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <i>Road Traffic Act 1961 (SA)</i>             | Section 33 Council approval is required for temporary closure of a public road to facilitate an event                                                                                                                                                                                             | <input type="checkbox"/>            | Approval required if temporary closure of a Council Road necessary                                                               | Enerven to liase with Mid Murray Council where road closures identified as required.                                     |
| <i>Parliamentary Committees Act 1991 (SA)</i> | 16A: Certain public works referred to Public Works Committee (PWC)<br>Subject to subsection (3), a public work is referred to the PWC by force of this section if the total amount to be applied for the construction of the work will, when all stages of construction are complete, exceed \$4M | <input checked="" type="checkbox"/> | Infrastructure construction works in excess \$4M require Public Works Committee (PWC) referral and associated Cabinet Submission | As the total expected construction cost exceeds \$4m, a referral to the Public Works Committee (PWC) will be undertaken. |

## 4.3 Site works and Construction

The expected site works will include:

- Earthworks including minor levelling works as preparation for panel installation. The existing landform is largely flat, minimal earthworks expected to be required, subject to confirmation in Final Designs.
- Trenching/ installation of new High-voltage and Low-voltage electrical cabling. This will consist of both aboveground (i.e. within cable support systems) and underground cable routes.
- Site works will include installation of the framework to support the panel arrays, with a layout, height and configuration similar to that shown in Figure 7, above.
- Installation of a 2.4m high chainmesh security fence around the development perimeter.
- Upgrades will be required of SA Water's electrical infrastructure to facilitate connecting the array to a High Voltage (HV) switchboard.
- All construction work and equipment installation at the site will take approximately 20 weeks. Commissioning of the solar plant, which involves connection and testing works, is expected to take a further 10 weeks.

## 4.4 Project Timing

The proposed timing for the installation of the photovoltaic panels at the site is currently being finalised, but will follow the following high-level plan:

- |                                             |                            |
|---------------------------------------------|----------------------------|
| • Tender Review:                            | October 2018               |
| • Tender Award:                             | November 2018              |
| • Detailed Design:                          | December 2019-January 2020 |
| • Solar PV Installation and Connection:     | May-October 2020           |
| • Site Acceptance Tests/Panels Operational: | November 2020              |

## 4.5 Stakeholder Engagement

SA Water has developed a community and stakeholder engagement strategy to identify key stakeholders, potential project impacts and highlight key messages for communication. SA Water will seek to secure stakeholders' understanding of the need for the project, the expected timing and the construction methodology.

SA Water is committed to ensuring a high level of stakeholder engagement in order to manage expectations, concerns and any other stakeholder issues associated with the project. Details of the proposed solar PV installation, as well as the broader objectives of SA Water's Zero Cost Energy Future will be provided to the Mid Murray Council in parallel to the Development Application lodgement. Continued correspondence between Aurecon (on behalf of SA Water) will be maintained throughout the development process to ensure the Mid Murray Council are made aware of any important milestones, and so that we can more readily address any items raised by Council staff.

In the case of the Mannum PPS.3, SA Water's Stakeholder Engagement Team have engaged with immediately surrounding landowners as part of property negotiations. SA Water plan to continue to work with these residents as well as any other nearby landholders/ other stakeholders to ensure that visual impact and other amenity concerns (both for construction periods and the developments' lifespan) can be addressed, and appropriate measures for mitigation are in place. As these discussions are ongoing, Aurecon will ensure that any outcomes which may require alterations to the proposed development will be communicated to the assessing officer for this application.

The SA Water Stakeholder Engagement Team will monitor the progress and effectiveness of the stakeholder engagement strategy and provide regular reports to the Project Manager on issues and opportunities identified through the stakeholder engagement process.

## 5 Procedural Matters

### 5.1 Relevant authority

The Minister for Planning is the relevant authority for Crown Development, taking advice from the State Commission Assessment Panel (SCAP).

### 5.2 Nature of development

The nature of the development is best described as an electricity generating plant in the form of a solar PV installation with a generating capacity of more than five megawatts.

An electricity generating station is not listed as complying or non-complying development within the Rural Zone, Murray Plains Policy Area 16, noting that these provisions do not apply to a Crown Development assessment.

Acknowledging the electricity generating capacity of the proposed development, SA Water has obtained a broad approval for the Zero Cost Energy Future project from the Office of the Technical Regulator (OTR). A copy of the OTR's advice is provided in Appendix C.

### 5.3 Referral bodies

Pursuant to Section 49(4a) of the *Development Act 1993*, SCAP must provide notice of the Crown Development Application to the Mid Murray Council.

Having regard to Schedule 8 of the *Development Regulations 2008*, we do not consider that any State Agency Referrals are required.

### 5.4 Public notification

The cost of the proposed development is more than \$4 million; as such formal public notification of this Crown Development Application is considered to be required.

## 6 Planning Assessment

The site of the proposed development is located within the Mid Murray Council. Accordingly, The Mid Murray Council Development Plan (consolidated 23 August 2018) is the relevant Development Plan. As delineated within the Development Plan, the proposal lies wholly within the Rural Zone and Murray Plains Policy Area 16.

The table below outlines the objectives and principles of development control considered to be relevant to the assessment of the proposed development. These reflect items within the General Section of the Development Plan, as well as those appearing within the relevant Zone and Policy Area provisions.

**Table 1. Relevant Development Plan Provisions**

| Zone Specific                |                                   |                                      |
|------------------------------|-----------------------------------|--------------------------------------|
| Rural Zone                   | Objectives                        | 1, 2, 3, 4, 5, 6, 17, 19, 21, 23, 25 |
|                              | Principles of Development Control | 1, 2, 4, 7, 11, 15, 16, 18, 20       |
| Murray Plains Policy Area 16 | Objectives                        | None                                 |
|                              | Principles of Development Control | 1                                    |

| Council Wide                     |                                |                                   |
|----------------------------------|--------------------------------|-----------------------------------|
|                                  | Objectives                     | Principles of Development Control |
| Form of Development              | 1, 7                           | 1                                 |
| Movement of People and Goods     | 15, 16                         | 40, 41                            |
| Public Utilities                 | 17                             | 44, 45, 46, 53                    |
| Appearance of Land and Buildings | 18, 20                         | 66, 67, 72, 76, 78, 79            |
| Interface Between Land Uses      | 25, 26                         | 85, 86, 87                        |
| Rural Development                | 51, 52                         |                                   |
| Siting and Visibility            | 54                             | 162, 163, 166, 168                |
| Natural Resources                | 55, 58, 59, 60, 62, 64, 67, 68 | 170, 171, 200, 201                |
| Energy Efficiency                | 75                             | 224                               |
| Hazards                          | 91, 92                         | 377, 378                          |
| Bushfire Protection              | 101, 102                       | 394, 397                          |
| Renewable Energy                 | 103, 104, 105                  | 401                               |
| Noise                            |                                | 91, 92                            |
| Flooding                         |                                | 218                               |

## 6.1 Land Use

The Rural Zone envisages the continuation of agriculture and broader primary production activities as the predominant land use within the zone, along with developments associated with primary production purposes. The Rural Zone also envisages the establishment of windfarms and ancillary development as a desired land use within the zone, so long as they are located outside of the Barossa Valley Character Preservation district. Murray Plains Policy Area 16 envisages the land is used for “dryland farming although in proximity of the River Murray Zone where it is economical to reticulate River water, horticultural development of a variety of types is undertaken compared to other agricultural regions”. The policy further notes that “there are a number of large stands of the original Mallee vegetation of the Plains which should be preserved”.

While solar PV installations are not specifically listed as an envisaged use for the zone or policy area, the proposed development is directly supportive of the continued operations of critical SA Water infrastructure within the Mannum PPS.3 pump station that serves communities along the Mannum to Adelaide pipeline within the Mid Murray Council region and beyond. The proposal has been sited and designed to ensure that it does not impact upon continued operations within adjoining properties. The installation has also been designed to ensure maximum energy generating capacity is achieved, thereby solidifying its important functionality to the plant and broader pipeline system. Once operational, the solar PV infrastructure will deliver significant and immediate benefit to the Mannum PPS.3 operations (and the Mannum to Adelaide Pipeline system as a whole) by reducing operational costs and allowing for greater security in the provision of ongoing reliable power.

## 6.2 Design and Appearance

The proposal will utilise design elements contributing to a coordinated appearance typical to solar PV installations. These elements include;

- Relatively low heights maintained by the panels (approximately 2.33 metres at highest positioning);
- Consistent orientation and spacing between ‘strings’, or rows; as well as
- Careful positioning of associated equipment such as the inverter stations (positioned towards the centre of the development footprint and away from outer boundaries) to ensure that a high visual standard of development is achieved.

Though there is very limited variation across the terrain and very little substantial vegetation within the surrounding landscape to the subject land, the proposed development has achieved as discreet a location as possible through reasonable separation from the Palmer Township, residences and major roadways. The setback distances incorporated from the property boundaries have maximised distance from the eastern boundary, which is the nearest perimeter of the development to a neighbouring residence. A small number of trees are also located along Milendella Road within the sightline of this residence, though these will not totally obscure views of the proposed development. The relatively low heights maintained by the solar PV arrays will ensure that the long-ranging views which this nearest residence has of the Eastern Mount Lofty Ranges will be largely uninterrupted. Randall Road, approximately 750m south of the proposed development, is situated at slightly lower elevation so that views from motorists travelling along this Secondary Arterial Road (as delineated within Map MiMu/1 – Overlay 1) will be somewhat obscured.

## 6.3 Hazards

The proposed development has been sited within land outside of the River Murray Protection Area / Floodplain Area, as identified within Map MiMu/1 (Overlay 3)- Development Constraints (Water Management Areas) of the Mid Murray Council Development Plan (consolidated 23 August 2018). However, through the same assessment, the land is identified as positioned within the River Murray Protection Area – Tributaries Area, accordingly, the proposed development has been

appropriately positioned away from areas that are vulnerable to the risk of natural hazards such as flooding.

The installation of solar PV arrays and associated infrastructure involves relatively minor alterations to the existing land form by way of earthworks and will seek to maintain existing surface hydrology as far as possible. The proposal will seek to minimise the addition of impermeable ground surfaces to the subject land, pending confirmation by SA Waters construction partners within forthcoming detailed designs. Onsite management of stormwater, both during construction and operation, in order to prevent offsite soil erosion and transport, is recognised as an important element that will be addressed in the detailed design stage by SA Waters construction partner.

The proposed development is sited within a Medium Bushfire Risk area, as shown on Bushfire Protection Area Figure MiMu(BPA)/4 of the Mid Murray Council Development Plan (consolidated 23 August 2018). Accordingly, the proposed development will ensure that proposed access arrangements allow vehicles, including emergency services vehicles, to be permitted safe and convenient access into the site and ensure free movement through the subject land around the perimeter of the solar PV arrays. A minimum setback distance of 10m (measured from the outer edge of the solar PV arrays) has been allowed from all points along the perimeter security fence, though the distance will be greater than this in many places. Further, the proposed development does not involve the storage of hazardous materials and the solar PV arrays and associated support frames will utilise a relatively open design to minimise the opportunity for debris to become trapped within the associated strings, or rows.

## 6.4 Interface between land uses

The proposed development has been sited within land used for agricultural (cropping) purposes within the Rural Zone. The proposed location is well separated from the main Palmer Township and surrounding road networks, as well as from isolated stands of native vegetation and residential land uses.

The development is designed and located to minimise the potential for adverse impact upon the existing amenity within this locality and to support the continued operation of desired land uses. The positioning of the proposed development away from the township allows for appropriate separation from surrounding sensitive land uses.

The potential for adverse impacts upon the surrounding locality is minimised through the relatively inoffensive nature of the development, which requires little ongoing maintenance and operational activities. The greatest potential for adverse impacts such as noise and dust nuisance are largely limited to that associated with the construction period. Appropriate mitigation measures will be employed by SA Water's construction partner to ensure that the potential for adverse impacts throughout the construction period is suitably minimised. These are reflected through the CEMP prepared by Enerven and included as Appendix-E.

The proposal is consistent with the provisions of the respective zone and will not impact upon the continued operations within surrounding land uses to achieve the relevant provisions of respective adjoining zones.

## 6.5 Natural Resources

The proposed development will not require the clearing of native vegetation to allow for the installation of solar PV arrays and associated infrastructure, as the project location is entirely void of native vegetation. Vegetation within the subject land is limited to that within the creekline to the east and surrounding the residence, which will not be impacted upon by this development.

The proposed installation of solar PV arrays and associated infrastructure in connection to the Mannum PPS.3 SA Water operations will require relatively limited alteration to the existing landform by way of earthworks as the site is already largely flat with little variation across the terrain. Development will seek to minimise the introduction of impermeable surfaces in order to protect

natural ecological systems and preserve existing site hydrology with respect to the movement of surface waters across the land in high rainfall events.

## **6.6 Transportation and Access**

The proposed development will require the creation of a new point of access off Milendella Road, as well as the establishment of a gravel-surfaced track within the development site. The proposed access arrangement (which is subject to further refinement in Detailed Designs) will ensure safe and convenient access for all vehicles throughout the construction phase and for ongoing maintenance of the infrastructure site. Confirmation for the positioning and design of the new point of access will be reached through discussion with

Ongoing access throughout the life of the solar infrastructure will be minimal and limited to any required maintenance/ replacement or cleaning of the panels and other equipment and is expected to be of relatively low frequency.

## 7 Conclusion

The proposed installation of solar PV arrays in connection to key SA Water operating sites, such as the Mannum PPS.3 site, will immediately reduce the operating energy costs for the site and reduce SA Water's exposure to increases in electricity costs. It supports the continued operations of this important site of public infrastructure that supports the Mid Murray Council region and beyond.

The proposed development is considered to be relatively inoffensive in nature and has sought a location and design which will reduce the potential for detrimental impact on the locality. The layout and design of this proposed development allows rural land uses to continue within the remaining areas of the subject land, as well as ensuring the energy generation capacity is maximised and ease of operations/ maintenance is optimised.

Once constructed, it will not significantly impact traffic flow, create noise/emissions, impede on the amenity or significantly impede rural views of nearby residences (though the development will be visible from some points in the surrounding locality). The development has been designed to minimise longer term impacts, although it is recognised that short term impacts will occur during the construction period. These impacts will be appropriately managed throughout the construction period in accordance with Enerven's CEMP.

The proposed development **is not** seriously at variance with the Mid Murray Council Development Plan, being generally consistent with the intent of the Zone, Policy Area and relevant Council Wide provisions, and merits the approval of the Minister for Planning.

# Appendix A Certificates of Title

REAL PROPERTY ACT, 1986



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



## Certificate of Title - Volume 5332 Folio 87

Parent Title(s) CT 4096/735  
Creating Dealing(s) CONVERTED TITLE  
Title Issued 28/03/1996 Edition 10 Edition Issued 21/11/2011

## Estate Type

FEE SIMPLE

## Registered Proprietor

DARREN EDWARD JOHN JENKINS  
OF PO BOX 360 MANNUM SA 5238  
1 / 2 SHARE

BAO YUN LU  
OF PO BOX 360 MANNUM SA 5238  
1 / 2 SHARE

## Description of Land

ALLOTMENT 108 FILED PLAN 169857  
IN THE AREA NAMED PALMER  
HUNDRED OF TUNGKILLO

## Easements

NIL

## Schedule of Dealings

| Dealing Number | Description                             |
|----------------|-----------------------------------------|
| 11667903       | MORTGAGE TO WESTPAC BANKING CORPORATION |

## Notations

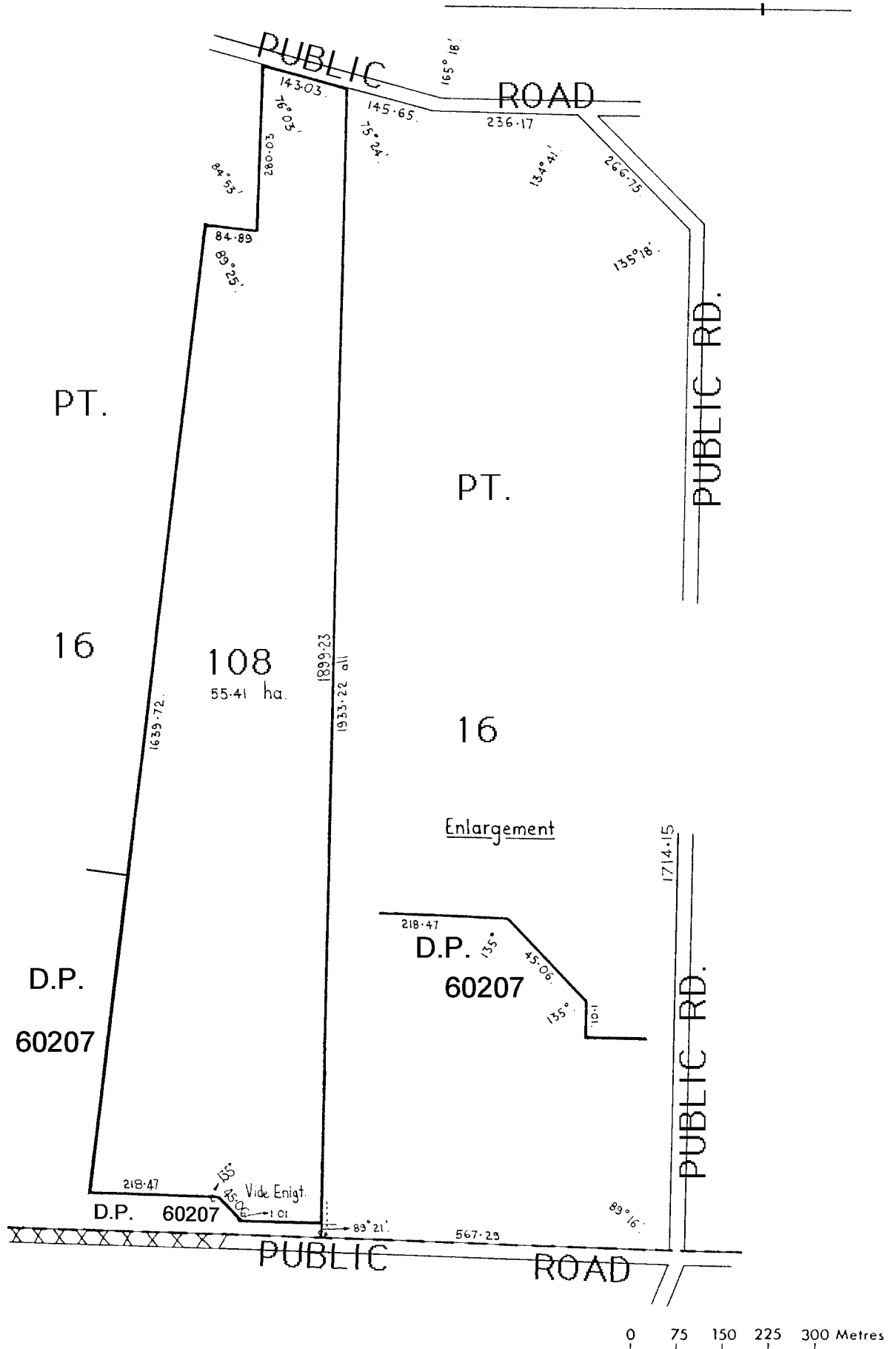
|                          |     |
|--------------------------|-----|
| Dealings Affecting Title | NIL |
| Priority Notices         | NIL |
| Notations on Plan        | NIL |

## Registrar-General's Notes

AMENDMENT TO DIAGRAM VIDE 446/2001  
AMENDMENT TO DIAGRAM VIDE 64/2003

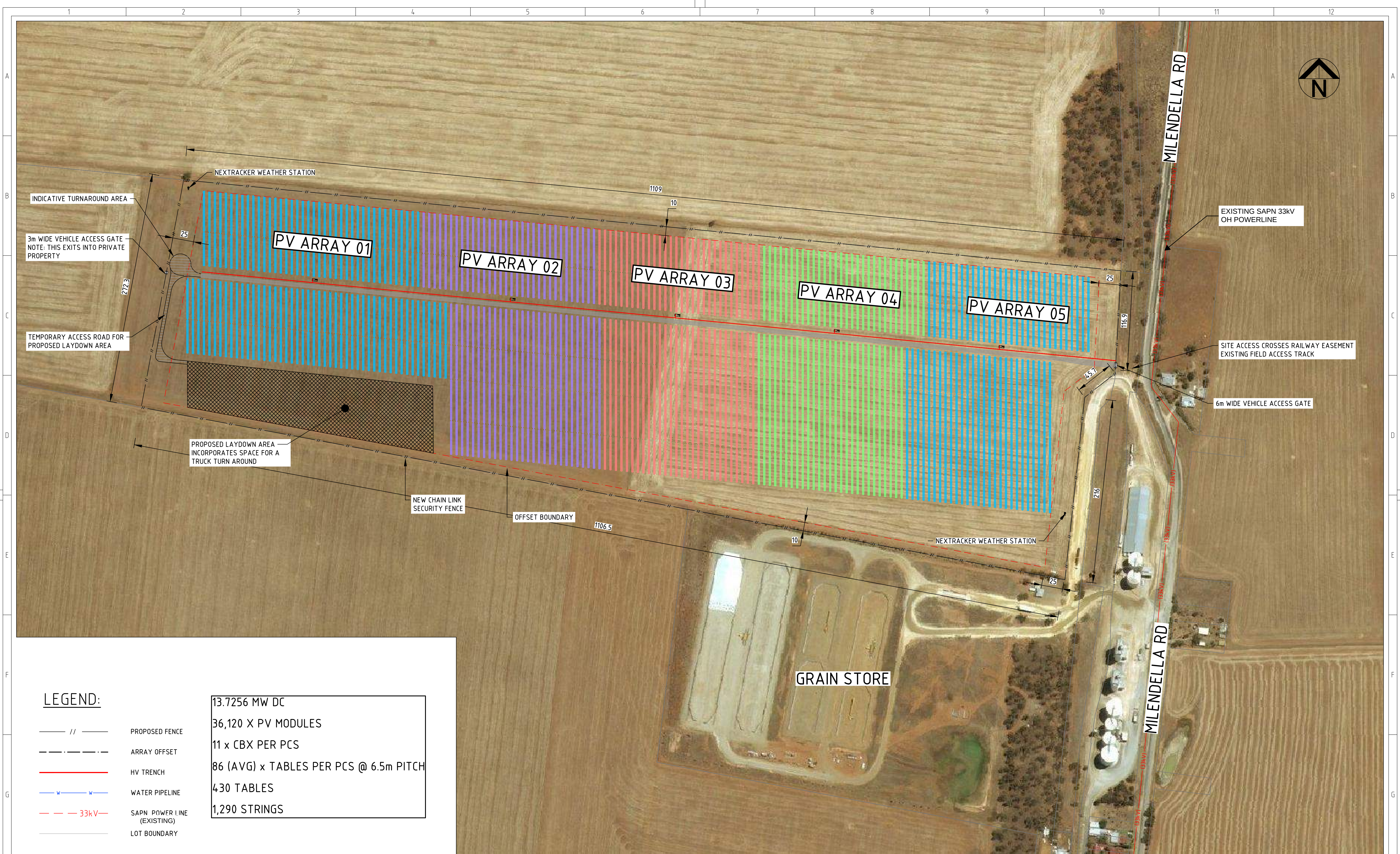
|                          |     |
|--------------------------|-----|
| Administrative Interests | NIL |
|--------------------------|-----|

This plan is scanned for Certificate of Title 4096/735



Note : Subject to all lawfully existing plans of division

# Appendix B Design Drawings



LEGEND:

- PROPOSED FENCE
- ARRAY OFFSET
- HV TRENCH
- WATER PIPELINE
- SAPN POWER LINE (EXISTING)
- LOT BOUNDARY

13.7256 MW DC  
36,120 X PV MODULES  
11 x CBX PER PCS  
86 (AVG) x TABLES PER PCS @ 6.5m PITCH  
430 TABLES  
1,290 STRINGS

PV SITE PLAN  
SCALE 1:2000

0 20 40 80 120  
Full Size 1:2000 ; Half Reduction 1:4000  
SCALE (m)

DRAFT ISSUE  
NOT FOR CONSTRUCTION

| REVISION PANEL          |      |     |         | DESIGN PANEL         |                        |             |            | TOTAL SHEETS: |                   |          |  |
|-------------------------|------|-----|---------|----------------------|------------------------|-------------|------------|---------------|-------------------|----------|--|
| REV                     | DATE | DRN | DETAILS | APR'D                | CURRENT REV AUTHORISED | DESIGNED    | AUTHORISED | SHT SIZE      | PROJECT No:       | REVISION |  |
|                         |      |     |         |                      |                        | DRAWN       | SIGNATURE  |               | MAXIMO ID: MA3315 |          |  |
|                         |      |     |         |                      |                        | REVIEWED    |            |               | SUPERSEDES:       |          |  |
|                         |      |     |         |                      |                        | CONTRACTOR: |            |               | DRAWING NUMBER    |          |  |
|                         |      |     |         |                      |                        |             |            |               | MA3315-06-00001   |          |  |
| CURRENT REV CONTRACTOR: |      |     |         | CURRENT REV PROJECT: |                        |             |            |               |                   |          |  |

SA Water  
This drawing is the property of the  
SOUTH AUSTRALIAN  
WATER CORPORATION  
and shall not be copied or modified  
in part or in whole without authorization.

## **Appendix C Office of the Technical Regulator (OTR) Certificate**



Ref: 2017/01873.01 D18133459

15 October 2018

Paul Cooledge  
SA Water  
250 Victoria Square  
Adelaide SA 5000  
By email: paul.cooledge@sawater.com.au

Energy and Technical  
Regulation

Office of the  
Technical Regulator

Level 8, 11 Waymouth Street  
Adelaide SA 5000

GPO Box 320  
Adelaide SA 5001

Telephone: 08 8226 5500  
Facsimile: 08 8226 5866

[www.sa.gov.au/otr](http://www.sa.gov.au/otr)

Dear Michael,

**RE: CERTIFICATE FOR DEVELOPMENT OF THE SA WATER ZERO COST  
ENERGY FUTURE PROJECT**

The development of the SA Water Zero Cost Energy Future Project has been assessed by the Office of the Technical Regulator (OTR) under Section 37 of the Development Act 1993.

Regulation 70 of the *Development Regulations 2008* prescribes if the proposed development is for the purposes of the provision of electricity generating plant with a generating capacity of more than 5 MW that is to be connected to the State's power system – a certificate from the Technical Regulator is required, certifying that the proposed development complies with the requirements of the Technical Regulator in relation to the security and stability of the State's power system.

In making a decision on your application, our office has taken the following information into account:

- An initial meeting regarding the project between SA Water, Aurecon and the OTR on 14 August 2018;
- A follow up meeting between SA Water, Aurecon and the OTR on 20 September 2018;
- Your application emailed to the OTR on 5 October 2018.
- Further information regarding the project emailed by Aurecon to the OTR on 15 October 2018.

After assessing the information provided, I advise that approval is granted for the proposed project.

Energy and Technical Regulations

Level 8, 11 Waymouth Street Adelaide SA 5000 | GPO Box 320 Adelaide SA 5001 | DX541  
Tel (+61) 8 8226 5500 | Fax (+61) 8 8226 5866 | [www.dpc.sa.gov.au](http://www.dpc.sa.gov.au) | ABN 83 524 915 929



I note SA Water's request to commission the Photo Voltaic (PV) Generation prior to commissioning the Battery Energy Storage System (BESS). I approve this request on the basis that the required Fast Frequency Response, as per the OTR's Generator Development Approval Procedure Version 1.1, is made available in full no later than six months after the commissioning of the PV Generation has occurred.

Should you have any questions regarding this matter, please do not hesitate to call David Bosnakis on (08) 8429 3323.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Rob Faunt".

Rob Faunt  
**TECHNICAL REGULATOR**

cc: John Hart – SA Water  
Ashley Nicholls – SA Water  
Paul Godden - Aurecon

## **Appendix D – ZCEF Construction Environmental Management Plan (CEMP)**



# SA Water: Project ZCEF

Attachment 7:

**CONSTRUCTION ENVIRONMENTAL  
MANAGEMENT PLAN**

**000000-EEI-10-PLN-00001**

**CS8772**

29 July 2019

## DOCUMENT CONTROL

For the duration of the project, all personnel shall implement the requirements of this plan. Revisions to the Construction Environmental Management Plan shall be made when:

- The plan no longer reflects the actual work practices of Enerven or its contractors
- The plan does not adequately reflect the requirements of the contract
- A non-conformance is detected in the plan
- To incorporate agreed improvement to the plan

## DOCUMENT HISTORY AND STATUS

| Rev | Reviewed                                              | Date             | Authorised by |
|-----|-------------------------------------------------------|------------------|---------------|
| 1   | Draft issued for internal review                      | 24 August 2018   | J Balogh      |
| 2   | Issued to SA Water                                    | 7 September 2018 | J Balogh      |
| 3   | Final issue                                           | 6 December 2018  | J Balogh      |
| 4   | Draft issued to SA Water                              | 5 March 2019     | V Nair        |
| 5   | Update Fre Management to incorporate CFS requirements | 21 March 2019    | J Balogh      |
| 6   | Project Director update                               | 29 July 2019     | J Balogh      |

## Signatories

This Construction Environmental Management Plan is reviewed by:

Enerven Environment Consultant

Name: Julianna Balogh

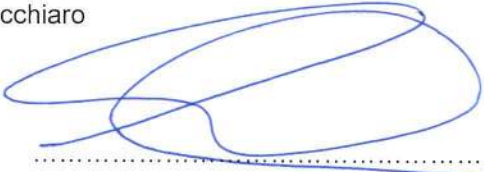
Signature: 

Date: 29 / 07 / 2019

Authorised by:

Enerven Project Director

Name: Leon Cocchiaro

Signature: 

Date: 29 / 07 / 2019

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# 1. Introduction

The CEMP describes the environmental management processes and controls that Enerven will apply for the duration of SA Water's Zero Cost Energy Future (ZCEF).

The purpose of the CEMP is to provide a structured approach for the management of environmental risks during each phase of the project. Implementing this CEMP will ensure that Enerven meets the clients' minimum environmental requirements in addition to relevant legislative and policy obligations in a systematic manner.

The CEMP has been developed in line with SA Power Networks\* Environmental Management System (EMS) and is consistent with AS/NZS ISO14001.

\* Enerven is a group of SA Power Networks and therefore EMS documentation, including the Environment Policy, is referenced as SA Power Networks.

## 2. Abbreviations

| Abbreviation                     | Description                                                                                                                                                                                                            |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ACM</b>                       | Asbestos Containing Material                                                                                                                                                                                           |
| <b>AS</b>                        | Australian Standard                                                                                                                                                                                                    |
| <b>CEMP</b>                      | Construction Environmental Management Plan                                                                                                                                                                             |
| <b>Cwlth</b>                     | Commonwealth                                                                                                                                                                                                           |
| <b>EMS</b>                       | Environmental Management System                                                                                                                                                                                        |
| <b>Environmental Incident</b>    | An incident that causes harm and/or damage, or the potential to, the environment eg oil and chemical spills, vegetation clearance without approval, damage to Aboriginal heritage sites, air, water or noise pollution |
| <b>EPA</b>                       | Environment Protection Authority                                                                                                                                                                                       |
| <b>Hazard (environmental)</b>    | An object or situation that has the potential to cause harm and/or damage to the environment                                                                                                                           |
| <b>KPI</b>                       | Key Performance Indicator                                                                                                                                                                                              |
| <b>Near miss (environmental)</b> | An incident that could have resulted in damage to the environment                                                                                                                                                      |
| <b>PM</b>                        | Project Manager                                                                                                                                                                                                        |
| <b>Regs</b>                      | Regulations                                                                                                                                                                                                            |
| <b>SDS</b>                       | Safety Data Sheet                                                                                                                                                                                                      |
| <b>SF6</b>                       | Sulfur hexafluoride                                                                                                                                                                                                    |
| <b>SQE</b>                       | Safety, Quality and Environment                                                                                                                                                                                        |
| <b>WI</b>                        | Work Instruction                                                                                                                                                                                                       |

## 3. Project Description

### 1.1 Locations

Various SA Water sites across South Australia.

### 1.2 Construction / Operation Activities

Construction activities involve the following tasks:

- Earth works
- Site preparation
- Vegetation management
- Piling
- Trenching
- Concreting
- Foundation works
- Piling
- Fencing
- Drainage management
- Hauling

## 4. Roles and Responsibilities

The Environment Consultant is responsible for:

| Responsibilities                                                                                                                                                             | Timing                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Providing management advice to Enerven with respect to technical content of this CEMP and associated environmental procedures or work instructions                           | Ongoing                             |
| Reviewing for currency and updating this CEMP when changes occur to work practices, when it does not reflect the requirements of the contract or to incorporate improvements | As required                         |
| Review and participate as required in environmental incident investigation and corrective measures that arise from incidents in relation to the project                      | On occurrence as required           |
| Ensuring periodic audits are undertaken to determine compliance with the implementation of this CEMP                                                                         | As per environmental audit schedule |

The Environmental Representative is responsible for:

| Responsibilities                                                                                                                                                                                | Timing                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Undertake a risk assessment and ensure all environmental controls identified in the planning process are understood and communicated to field employees and contractors and implemented on site | Commencement of the project and ongoing                 |
| Ensuring all employees, contractors and visitors are provided with a site induction inclusive of any environmental controls prior to commencing any work activities                             | Prior to commencing work for the first time and ongoing |
| Communicating any site controls with respect to this CEMP to field staff and contractors during weekly toolbox meetings                                                                         | Weekly                                                  |
| Ensuring any environmental incidents or near misses with respect to the project are reported in a timely manner and recorded in the SA Power Networks online reporting system                   | On incident or near miss                                |
| Ensuring regular environment inspections/observations are undertaken to monitor compliance with this CEMP                                                                                       | Fortnightly                                             |
| Maintaining relevant environmental records on site                                                                                                                                              | Ongoing                                                 |

The Environmental Representative will be the SQE Advisor allocated to this project. If the Environmental Representative cannot be on site at any given time, the delegate will be the Construction Supervisor at the relevant project site.

## 5. Training and Site Induction

Relevant Enerven personnel, including contractors and subcontractors, will be required to attend a kick-off meeting prior to site works which will include an environmental component. This will cover key environmental issues, mitigation measures for their control, specific environmental management requirements and roles and responsibilities.

A site induction will be delivered to contractors and subcontractors by the Site Supervisor, or delegate, to inform personnel and contractors of critical environmental protection measures (eg vegetation management, weed hygiene procedures, oil containment, waste soil management) and general environmental obligations. A record of this will form the training register which will include name, contact number, date of induction, and any other relevant information.

In addition, pre-start meetings and toolbox talks will be used throughout the duration of the project to raise awareness and educate personnel on site specific environmental issues.

## 6. Inspections and Auditing

The Site Supervisor, or delegate, will undertake inspections of the work site on a regular basis to evaluate the effectiveness of environmental controls. These will occur fortnightly or on an as needs basis, depending on the complexity of the work and anticipated environmental risks. Findings will be recorded on a Site Environmental Checklist (see Appendix 4 for a copy of the template), including any actions required.

In addition to inspections, environmental audits will be undertaken by Enerven's Environment Consultant, or the Environmental Representative, to verify compliance with the following:

- The CEMP
- Any client environmental requirements
- Any relevant legal and other requirements (eg approvals, agreements, licenses, permits)

The frequency of audits will be bimonthly (ie every 2 months) and an audit schedule will be prepared and maintained to reflect this.

If any non-conformances are identified during site inspections or audits, they will be investigated to determine the cause and to ascertain the necessary corrective actions. Non-conformances will be verbally reported to the client within 4 hours of occurrence.

## 7. Incidents and Emergencies

In the event of an environmental incident, near miss or hazard, these will be managed in accordance with SA Power Networks EMS 4.2 Environment Incident Response Procedure, a copy of which will be held at each site. The procedure provides information on emergency incident response including:

- Classification of environmental incidents
- Process for responding to and managing environmental incidents
- Roles and responsibilities
- Regulatory requirements

Specific response actions will depend on the type and location of the environmental incident, near miss or hazard. General response measures may include:

- Control/contain
- Stabilise and neutralise
- Clean up
- Remediate
- Notification
- Investigation
- Reporting

With regards to notification, the relevant authorities will be contacted if necessary, depending on the type of incident, near miss or hazard. A list of emergency contact numbers is provided below. In addition, and in consultation with the client, the EPA may be notified in accordance with the *Environment Protection Act 1993*.

As part of Enerven's reporting obligations, the client will be verbally notified within 4 hours of occurrence.

### 1.3 Emergency Contacts

| Contact                                | Role(s)                                                                | Name (if applicable) | Phone         |
|----------------------------------------|------------------------------------------------------------------------|----------------------|---------------|
| Emergency Response Personnel           | Available 24/7, also has authority to stop or direct works             |                      |               |
| Environment Protection Authority (EPA) | Pollution, licensing, site contamination                               |                      | 08 8204 2004  |
| Police, Fire, Ambulance                | Life threatening emergencies                                           |                      | 000           |
| Metropolitan Fire Service              | General enquiries during business hours                                |                      | 8204 3600     |
| RSPCA                                  | 24/7 hotline for the rescue/advice for sick or injured animals         |                      | 1300 4 777 22 |
| Fauna Rescue                           | 24/7 hotline for the rescue/advice for sick or injured native wildlife |                      | 08 8289 0896  |
| Koala Hotline                          | 24/7 hotline for the rescue/advice for sick or injured koalas          |                      | 1300 562 527  |
| Bats Hotline                           | 24/7 hotline for the rescue/advice for sick or injured bats            |                      | 0475 132 093  |
| National Parks SA                      | Information on native plants, weeds, water affecting activities        |                      | 8204 1910     |
| SA Ambulance Service                   | General enquiries and ambulance service information                    |                      | 1300 136 272  |
| SA Water Program Manager               | Project related enquiries                                              | John Hart            | 0436 682 042  |
| Enerven Program Director               | Project related enquiries                                              | Paul Farnworth       | 0447 057 829  |

| Contact                                                 | Role(s)                       | Name (if applicable) | Phone        |
|---------------------------------------------------------|-------------------------------|----------------------|--------------|
| SA Water Senior Environmental Impact Assessment Officer | Environment related enquiries | Jackie Griggs        | 0448 379 303 |
| Enerven Environment Consultant                          | Environment related enquiries | Julianna Balogh      | 0419 877 627 |

## 8. Environment Control Measures

For each environmental aspect below, the following controls will be undertaken if applicable:

| Water Quality       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)        | <ul style="list-style-type: none"> <li>Prevent or minimise adverse effects on surface water and groundwater quality, flows and drainage</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Management Strategy | <ul style="list-style-type: none"> <li>Works in, around or on waterways must be managed to eliminate or minimise impacts on water quality</li> <li>If any works are proposed within 10m of the top of a bank or in the bed of a watercourse, a Water Affecting Activity permit is required from the Natural Resources Management Board</li> <li>Generally, works in or alongside drains, directional drilling under a watercourse or works that extend 10m beyond the top of a bank do not require a permit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Controls            | <ul style="list-style-type: none"> <li>Review construction area to minimise potential for surface runoff to enter the site and to identify controls for runoff leaving the site.</li> <li>Review project activities that will require protection and installation of controls.</li> <li>Identify designated stockpile/laydown areas away from drainage lines.</li> <li>Schedule works that will occur in watercourses /drainage lines for periods of favourable weather (eg dry periods) or implement construct techniques that reduce construction footprint (eg directional drilling).</li> <li>No discharge to a watercourse (including stormwater system) without approval from the site superintendent.</li> <li>Install erosion and sediment control devices prior to works commencing (eg silt fences, silt socks, hay bales diversion drains, geotextile fabric) and ensure they are maintained (eg remove debris from sediment control items regularly)</li> <li>Ensure stockpiles have erosion control devices installed, particularly downslope of stockpile</li> <li>Monitor weather forecasts to identify rain events and ensure control measures in place</li> <li>Inspect and maintain/clean sediment control items regularly</li> <li>Clearly define access tracks and routes</li> <li>Compact, backfill and resurface disturbed or unsealed areas as soon as possible</li> </ul> |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | <ul style="list-style-type: none"> <li>• No onsite refuelling, service, maintenance or cleaning in areas where runoff/wastewater may enter stormwater system or waterbodies.</li> <li>• All equipment wash-down to be undertaken within an identified wash-down area, and no discharge of wash-down water to stormwater or watercourse.</li> <li>• Turbid water from concrete cutting etc. not to be directed to stormwater or watercourses.</li> </ul> |
| Performance Indicators | <ul style="list-style-type: none"> <li>• No environmental prosecutions brought against the project</li> <li>• No reportable environmental incidents</li> <li>• No non-conformances</li> <li>• No uncontrolled release of contaminated stormwater to drains or waterways</li> </ul>                                                                                                                                                                      |
| Monitoring             | <ul style="list-style-type: none"> <li>• Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>• The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>• Erosion and sediment controls will be inspected to ensure they are effective and maintained</li> </ul>                                                           |
| Reporting              | <ul style="list-style-type: none"> <li>• Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                                                                  |
| Corrective Actions     | <ul style="list-style-type: none"> <li>• For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>• Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                                                                             |
| Reference(s)           | <ul style="list-style-type: none"> <li>• EMS 5.10 Water Quality Management Procedure</li> <li>• EPA Handbook for Pollution Avoidance on Commercial and Residential Building Sites</li> <li>• EPA Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry</li> </ul>                                                                                                                                                 |
| Legislation            | <ul style="list-style-type: none"> <li>• <i>Environment Protection Act 1993</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                              |

|  |                                                                                                               |
|--|---------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>• <i>Environment Protection (Water Quality) Policy 2015</i></li> </ul> |
|--|---------------------------------------------------------------------------------------------------------------|

| Flora and Fauna     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)        | <ul style="list-style-type: none"> <li>• Minimise impacts on flora and fauna</li> <li>• Retain and enhance existing flora and fauna habitat wherever possible</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Management Strategy | <ul style="list-style-type: none"> <li>• Effective management and protection of ecological habitats is essential for the survival of native flora and fauna within and surrounding project sites</li> <li>• Management of these habitats extends beyond minimising direct impacts on flora and fauna and includes protection of vegetation, management of weed species, locating hazardous material storage away from environmentally sensitive areas and managing bushfire risk by minimising potential sources of fuel</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Controls            | <ul style="list-style-type: none"> <li>• Areas to be retained and adjacent habitats will be cordoned off, or in the case of vegetation, clearly marked with pink tape, prior to works to prevent damage or accidental clearing</li> <li>• This information will be relayed to each contractor and/or subcontractor undertaking the work, so they are clear about what to retain</li> <li>• If vegetation clearance is required during the course of works, the relevant approvals will be sought in consultation with the client</li> <li>• Prior to any vegetation clearance, a pre-clearing inspection will be undertaken which will include             <ul style="list-style-type: none"> <li>○ A check for the presence of fauna and if located, engage a suitably qualified person to remove and relocate</li> <li>○ Salvage potential fauna habitat (eg hollow logs) from clearing where possible and reinstate in appropriate locations</li> <li>○ Completion of any pre-clearing requirements by the client or as outlined in relevant approvals, agreements, licenses or permits</li> </ul> </li> <li>• Vehicle movements will be kept to marked areas and defined access tracks</li> <li>• No stockpiling of materials or parking of machinery/vehicles, in the drip line of trees</li> <li>• Minimise trap hazards for fauna by covering trenches, open pits and excavations, which will be regularly inspected in the event fauna are located</li> </ul> |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | <ul style="list-style-type: none"> <li>• If required, barriers will be installed to prevent the movement of livestock and other animals onto the work site</li> <li>• Any injury or death of native wildlife caused by construction activity will be reported to the site superintendent.</li> <li>• Ensure all disturbed areas caused by construction and maintenance activities are restored as close as practicable to their original or agreed condition</li> </ul> |
| Performance Indicators | <ul style="list-style-type: none"> <li>• No environmental prosecutions brought against the project</li> <li>• No reportable environmental incidents</li> <li>• No non-conformances</li> <li>• No damage or injury to protected flora and fauna</li> </ul>                                                                                                                                                                                                               |
| Monitoring             | <ul style="list-style-type: none"> <li>• Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>• The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>• The site will be regularly checked for the presence of fauna</li> </ul>                                                                                                          |
| Reporting              | <ul style="list-style-type: none"> <li>• Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                                                                                  |
| Corrective Actions     | <ul style="list-style-type: none"> <li>• For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>• Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                                                                                             |
| Reference(s)           | <ul style="list-style-type: none"> <li>• EMS 5.5 Flora and Fauna Management Procedure</li> </ul>                                                                                                                                                                                                                                                                                                                                                                        |
| Legislation            | <ul style="list-style-type: none"> <li>• <i>Environment Protection and Biodiversity Conservation Act 1999</i></li> <li>• <i>National Parks and Wildlife Act 1972</i></li> <li>• <i>Native Vegetation Act 1991</i></li> </ul>                                                                                                                                                                                                                                            |

| Pest Plants and Diseases |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)             | <ul style="list-style-type: none"> <li>Prevent the introduction and establishment of new pest plants and diseases</li> <li>Minimise the spread of pest plants and diseases</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Management Strategy      | <ul style="list-style-type: none"> <li>Project sites must be kept free of pest plants for the duration of works, including the reinstatement and/or revegetation period</li> <li>Controls will be put in place to prevent the establishment of new pest plant and diseases, restrict their spread around the project site and surrounds, and to effectively manage them in accordance with legislation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Controls                 | <ul style="list-style-type: none"> <li>Vehicles, machinery and equipment will be risk assessed to determine the necessary level of inspection and wash down</li> <li>Where deemed necessary to reduce the spread of weeds or through property owner specified requirements, either a temporary wash down bay will be established, or a mobile wash trailer or pressure spray utilised to ensure vehicles, machinery and equipment are thoroughly washed prior to leaving the area or moving to adjacent properties</li> <li>Undertake periodic cleaning of excess soil and organic matter from vehicles, machinery and equipment as required in designated area</li> <li>Where possible, site entry and exit point will be established away from pest plant or disease infected areas</li> <li>Vehicles will be kept to public roads, designated access tracks or within work areas where practicable</li> <li>Locate stockpiles away from pest plant infected areas where possible</li> <li>Any imported soil materials will be sourced from licensed facilities to ensure there is no introduction of weeds or diseases to the site</li> <li>For ongoing maintenance, weed control measures will be undertaken utilising products which are appropriate for areas with sensitive receptors (ie waterways, native vegetation, ecological habitats, etc.)</li> </ul> |
| Performance Indicators   | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> <li>No evidence of new pest plants on site</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Pest Plants and Diseases |                                                                                                                                                                                                                                                                                                                                                        |
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| Monitoring               | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>The site will be monitored for the presence of pest plants</li> </ul> |
| Reporting                | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                   |
| Corrective Actions       | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                |
| Reference(s)             | <ul style="list-style-type: none"> <li><i>EMS 5.2 Biosecurity - Pest Plant Animal Disease Management</i></li> <li><i>EMS 5.2.1 WI-Weed Spread Prevention</i></li> <li><i>EMS 5.2.2 WI-Phytophthora Spread Prevention</i></li> </ul>                                                                                                                    |
| Legislation              | <ul style="list-style-type: none"> <li><i>Natural Resources Management Act 2004</i></li> </ul>                                                                                                                                                                                                                                                         |

| Soil Erosion and Drainage Management |                                                                                                                                                                                                                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)                         | <ul style="list-style-type: none"> <li>Prevent pollution of surface water through appropriate erosion and sediment control</li> </ul>                                                                                                                                          |
| Management Strategy                  | <ul style="list-style-type: none"> <li>Ground cover provides the most effective means of preventing erosion</li> <li>Sediment run-off and dust controls depend on retaining existing vegetation or revegetating and mulching disturbed areas as soon as possible</li> </ul>    |
| Controls                             | <ul style="list-style-type: none"> <li>Assess the site and proposed works for risks of erosion and sedimentation, considering slope, soil type, exposed surfaces, proximity to environmentally sensitive areas (eg waterway, fauna habitat, cultural heritage site)</li> </ul> |

| Soil Erosion and Drainage Management |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                                      | <ul style="list-style-type: none"> <li>Control erosion of stockpiles, batters and disturbed areas by control devices (eg straw bales, geotextile sediment fences, silt socks) and keep stockpiles away from drainage lines</li> <li>Always check the worksite prior to and during rain or when leaving the site for several days to ensure erosion control measures are effective</li> <li>Maintain erosion and sediment control structures and clean out and replace as needed</li> <li>Prevent sediment loads and wastewaters (generated by activities such as concreting) from entering drainage lines and surrounding waterways</li> <li>Construct wash down bays in appropriate sites (eg not near drains) <ul style="list-style-type: none"> <li>Line with durable plastic liner</li> <li>Use bay specifically for concrete waste only</li> <li>Decommission bay when works complete at site</li> </ul> </li> </ul> |
| Performance Indicators               | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> <li>No uncontrolled release of contaminated stormwater to drains or waterways</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Monitoring                           | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>Erosion and sediment controls will be inspected to ensure they are effective and maintained</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Reporting                            | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Corrective Actions                   | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### Soil Erosion and Drainage Management

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|              | <ul style="list-style-type: none"> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                                                                           |
| Reference(s) | <ul style="list-style-type: none"> <li>EMS 5.10 Water Quality Management Procedure</li> <li>EPA Handbook for Pollution Avoidance on Commercial and Residential Building Sites</li> <li>EPA Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry</li> </ul> |
| Legislation  | <ul style="list-style-type: none"> <li><i>Environment Protection Act 1993</i></li> <li><i>Environment Protection (Water Quality) Policy 2015</i></li> </ul>                                                                                                                                       |

### Air Quality

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| Objective(s)        | <ul style="list-style-type: none"> <li>Minimise pollutant emissions from construction and maintenance activities as far as feasible and reasonable</li> <li>Identify and control potential dust and air pollutant sources</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Management Strategy | <ul style="list-style-type: none"> <li>Management of the ambient air near construction works, noting the protection of workers on site</li> <li>Use of improved equipment where economically feasible to replace those less efficient</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Controls            | <ul style="list-style-type: none"> <li>Weather conditions will be monitored, and appropriate responses will be organised and undertaken periodically (eg excavations will be minimised or ceased on extremely windy days)</li> <li>Regular visual monitoring of dust generation from work zones</li> <li>Plant and equipment will be serviced and maintained in good working order to reduce unnecessary emissions from exhaust fumes</li> <li>Dust suppression measures (eg water carts, covers, dust barriers) will be used if required for excavation works, stockpiles, unsurfaced haul roads and loads of soil being transported to reduce windblown dust emissions</li> <li>Sediment will be swept or removed regularly from paved or sealed areas</li> </ul> |

| Air Quality            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                        | <ul style="list-style-type: none"> <li>Traffic movement and vehicle speeds will be restricted over undisturbed areas and unsealed roads</li> <li>Minimise the extent of exposed and stripped surface areas within the project area</li> <li>Stockpiles to be managed to reduce dust (manage height, cover, water down as required)</li> </ul>                                                                                                                                     |
| Performance Indicators | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> <li>Number of complaints from residents or businesses related to dust</li> </ul>                                                                                                                                                                                                                |
| Monitoring             | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>Dust control measures will be inspected to ensure they are in place and implemented</li> </ul>                                                                                                   |
| Reporting              | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                                                                                              |
| Corrective Actions     | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                                                                                                           |
| Legislation            | <ul style="list-style-type: none"> <li><i>Environment Protection Act 1993</i></li> <li><i>Environment Protection (Air Quality) Policy 2016</i></li> <li><i>Local Nuisance and Litter Control Act 2016</i></li> <li><i>National Environment Protection (Ambient Air Quality) Measure 2003</i></li> <li><i>National Environment Protection (Diesel Vehicle Emissions) Measure 2001</i></li> <li><i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</i></li> </ul> |

| Noise, Vibration and Visual Amenity |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Objective(s)                        | <ul style="list-style-type: none"> <li>To ensure any works causing noise or vibration do not affect nearby structures, heritage items or sensitive receptors</li> <li>Maintain amenity in adjoining areas</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Management Strategy                 | <ul style="list-style-type: none"> <li>Plan activities and engage affected stakeholders to minimise noise and vibration impacts</li> <li>Implement noise and vibration mitigation measures</li> <li>Conduct monitoring and ensure compliance with SA EPA legislation</li> <li>Reduce visual impact of construction to surrounding community</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Controls                            | <ul style="list-style-type: none"> <li>Turn off or throttle down machinery when not in operation</li> <li>Restrict construction noise to applicable hours as per EPA guidelines               <ul style="list-style-type: none"> <li>Between the hours of 7am and 7pm Monday to Saturday</li> <li>Any other time to avoid impacts such as unreasonable interruption to vehicle or pedestrian traffic movement – this must be authorised by the Site Superintendent (SA Water's Program Manager)</li> </ul> </li> <li>If works must occur outside of EPA guideline hours, notify SA Water and nearby residents/landholders before commencement, at least 3 days prior</li> <li>Where possible, schedule noisy activities from mid-morning to early afternoon</li> <li>Use equipment with noise control features where available and ensure it is properly maintained</li> <li>Arrange the work site to take advantage of natural barriers (eg hills, trees) and structures (eg fences, stockpiles) to reduce their line of sight with sensitive receptors</li> <li>Site lighting must be designed and used so as to minimise impacts on surrounding land uses, and must not illuminate/project onto areas of conservation including wetlands, waterways and ecological habitats</li> <li>The work site will be regularly maintained and be kept tidy and free of rubbish</li> </ul> |
| Performance Indicators              | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                    | <ul style="list-style-type: none"> <li>No non-conformances</li> <li>Number of complaints from residents or businesses related to noise, vibration or visual amenity</li> </ul>                                                                                                                                                                                                                |
| Monitoring         | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>Noise or vibration monitoring if required by SA Water, local council or in response to complaints</li> </ul> |
| Reporting          | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                          |
| Corrective Actions | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                       |
| Reference(s)       | <ul style="list-style-type: none"> <li>EMS 5.13 Noise Guideline</li> <li>SA EPA Guideline: Construction noise</li> <li>SA EPA Guideline: General environmental noise</li> </ul>                                                                                                                                                                                                               |
| Legislation        | <ul style="list-style-type: none"> <li><i>Environment Protection Act 1993</i></li> <li><i>Environment Protection (Noise) Policy 2007</i></li> <li><i>Local Nuisance and Litter Control Act 2016</i></li> </ul>                                                                                                                                                                                |

### Hazardous Materials

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| Objective(s) | <ul style="list-style-type: none"> <li>Ensure awareness of risks of hazardous materials and their correct storage, transport, use and disposal</li> <li>Prevent pollution arising from leakage or spillage of hazardous materials</li> </ul> |
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| Management Strategy    | <ul style="list-style-type: none"> <li>The purchase, handling, storage and disposal of chemicals used on the project site will be managed appropriately to have negligible impact on the environment and do not pose a threat to the health or safety of workers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Controls               | <ul style="list-style-type: none"> <li>Safety Data Sheets (SDS) for substances and materials will be readily available on site (eg hard copy, tablet) for personnel when required</li> <li>Refuel plant and equipment off site where possible</li> <li>If required, store and dispense fuels, oils and chemicals within sealed and bunded areas where spills can be contained and safely cleaned up and removed</li> <li>Ensure bunds are regularly cleared of stormwater, and oily water mixtures are disposed of by a licensed waste contractor</li> <li>Secure equipment, containers and drums during transport</li> <li>Spill containment equipment (eg spill kit) will be made available around the construction site</li> <li>In the event of a minor spill (eg diesel), the affected soil will be excavated and disposed of at an appropriately licensed landfill</li> <li>In the event of a major fuel or chemical spill, immediately notify the SA Water Site Superintendent of the spill and if known, any associated details (eg type of spill, source, time of incident)</li> <li>Any hazardous materials will be stored, handled and transported in accordance with the Dangerous Substances Act 1979</li> </ul> |
| Performance Indicators | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> <li>No uncontrolled spills of hazardous materials</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Monitoring             | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>Bunds to be checked that they are the appropriate size and functioning</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| Reporting          | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                    |
| Corrective Actions | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul> |
| Reference(s)       | <ul style="list-style-type: none"> <li>AS 1940-2004: The storage and handling of flammable and combustible liquids</li> <li>SA EPA Guideline: Bunding and spill management</li> <li>SA EPA Guideline: Waste transport certificate</li> </ul>                                            |
| Legislation        | <ul style="list-style-type: none"> <li><i>Dangerous Substances Act 1979</i></li> <li><i>Environment Protection Act 1993</i></li> </ul>                                                                                                                                                  |

| Soil Contamination  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Objective(s)        | <ul style="list-style-type: none"> <li>To ensure compliance with regulatory requirements associated with the management of waste soil, including stockpiling, sampling, transport and disposal</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Management Strategy | <ul style="list-style-type: none"> <li>Ensure that sites with soil contamination do not pose a risk to the health and wellbeing of workers or residents and businesses in the vicinity</li> <li>Provide a clear and transparent process that enables a coordinated approach to the assessment and management of contaminated soil</li> </ul>                                                                                                                                                                                                                                                                                         |
| Controls            | <ul style="list-style-type: none"> <li>If any contaminated soil is encountered which has not previously been identified, manage accordingly in consultation with SA Water</li> <li>Ensure controls are in place to prevent the spread of any contaminated soil</li> <li>Contaminated material must be handled and managed in accordance with EPA requirements (licensed waste transporter and to an EPA licensed facility)</li> <li>Retain copies of Waste Transport Certificates (WTC) on site and ensure this is recorded on the WTC Register</li> <li>Where possible, utilise suitable waste soil for beneficial reuse</li> </ul> |

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| Performance Indicators | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> <li>No environmental notices from SA EPA</li> </ul>                                                                                                                       |
| Monitoring             | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>Contaminated material is managed in accordance with legislation</li> </ul> |
| Reporting              | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                        |
| Corrective Actions     | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                     |
| Reference(s)           | <ul style="list-style-type: none"> <li><i>EMS 5.3 Waste Soil Management Procedure</i></li> <li><i>EPA Standard for the Production and Use of Waste Derived Fill</i></li> </ul>                                                                                                                                                                              |
| Legislation            | <ul style="list-style-type: none"> <li>Environment Protection Act 1993</li> </ul>                                                                                                                                                                                                                                                                           |

| Heritage            |                                                                                                                                                                                                                              |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)        | <ul style="list-style-type: none"> <li>Minimise impacts on items or places of heritage significance</li> <li>Avoid accidental impacts on heritage items</li> </ul>                                                           |
| Management Strategy | <ul style="list-style-type: none"> <li>Ensure places with identified heritage values are conserved and managed as required by legislation</li> <li>Maintain and exceed compliance with all statutory requirements</li> </ul> |

| Heritage               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Controls               | <ul style="list-style-type: none"> <li>• Check with the client to determine if any heritage sites exist in or near the work area prior to commencement</li> <li>• If any heritage sites are identified these will be cordoned off, or clearly marked, as no go zones</li> <li>• No go zones will be checked throughout the duration of the project to ensure disturbance does not occur</li> <li>• If any sites or items believed to be of Aboriginal or non-Aboriginal origin are discovered or unearthed, work will stop immediately, and SA Water's Aboriginal Heritage Discovery Procedure will be followed (see Appendix 5)</li> </ul> |
| Performance Indicators | <ul style="list-style-type: none"> <li>• No environmental prosecutions brought against the project</li> <li>• No reportable environmental incidents</li> <li>• No non-conformances</li> <li>• Immediate reporting of archaeological remains if discovered</li> </ul>                                                                                                                                                                                                                                                                                                                                                                        |
| Monitoring             | <ul style="list-style-type: none"> <li>• Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>• The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> <li>• Engagement of Aboriginal monitors during earthworks as required</li> </ul>                                                                                                                                                                                                                                                                           |
| Reporting              | <ul style="list-style-type: none"> <li>• Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Corrective Actions     | <ul style="list-style-type: none"> <li>• For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>• Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| Reference(s)           | <ul style="list-style-type: none"> <li>• EMS 5.7 Cultural and European Heritage Procedure</li> <li>• EMS 5.7.1-WI-Aboriginal Heritage Management</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Legislation            | <ul style="list-style-type: none"> <li>• <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Heritage |                                                                                                                                                                                                                    |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <ul style="list-style-type: none"> <li>• <i>Aboriginal Heritage Act 1988</i></li> <li>• <i>Environment Protection and Biodiversity Conservation Act 1999</i></li> <li>• <i>Heritage Places Act 1993</i></li> </ul> |

| Fire Management     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)        | <ul style="list-style-type: none"> <li>• Minimise the risk of adverse impact from fire on life, property and the environment</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Management Strategy | <ul style="list-style-type: none"> <li>• Ensure measures are in place to appropriately respond quickly and effectively in the event of a fire</li> <li>• Ensure measures are in place to allow the Country Fire Service (CFS) to access and safely circulate through the site in the event of an emergency</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Controls            | <ul style="list-style-type: none"> <li>• Ensure spark-arrestors are fitted on vehicles and plant powered by internal combustion engines</li> <li>• Where possible, utilise diesel powered vehicles and plant</li> <li>• Hot work permits required for 'hot works' on total fire ban days, no works on catastrophic fire rating days unless approved by SA Water's Site Superintendent</li> <li>• Any welding activities to be undertaken in a controlled manner that minimises fire risk</li> <li>• The work site will be regularly inspected to ensure no build-up of flammable materials, particularly in high fire risk seasons</li> <li>• There will be access to firefighting equipment (eg fire extinguisher, portable water spray) at each work site</li> <li>• No burning off or burning of waste</li> <li>• Cigarette butts will be disposed of in designated containers</li> <li>• Locked gates to work areas must be secured with a CFS standard issue lock that can be opened by CFS personnel in the event of an emergency incident when the site is unoccupied</li> <li>• Access ways around and through the site shall always be kept clear of vegetation, machinery, plant, equipment and materials to enable movement by CFS and other emergency services vehicles in a continuous forward motion</li> </ul> |

| Fire Management        |                                                                                                                                                                                                                                                                                         |
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|                        | <ul style="list-style-type: none"> <li>A minimum of 6.0 metres around the perimeter of the solar panels shall be maintained clear of vegetation and be generally trafficable by CFS and other emergency services vehicles</li> </ul>                                                    |
| Performance Indicators | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> </ul>                                                                                                 |
| Monitoring             | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> </ul>      |
| Reporting              | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                    |
| Corrective Actions     | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul> |
| Reference(s)           | <ul style="list-style-type: none"> <li>Bushfire Risk Management Manual No. 8</li> </ul>                                                                                                                                                                                                 |
| Legislation            | <ul style="list-style-type: none"> <li><i>Fire and Emergency Services Act 2005</i></li> </ul>                                                                                                                                                                                           |

| Waste Management    |                                                                                                                                                                                                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)        | <ul style="list-style-type: none"> <li>Minimise the production of wastes</li> <li>Maximise the reuse and recycling of materials used on site</li> <li>Dispose of wastes in an environmentally responsible manner, and in accordance with legislation</li> </ul> |
| Management Strategy | <ul style="list-style-type: none"> <li>Adopt the principles of the waste management hierarchy by maximising the reuse, recycling and recovery of materials</li> </ul>                                                                                           |

| Waste Management       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | <ul style="list-style-type: none"> <li>Organise regular waste collections to avoid excessive on-site storage</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Controls               | <ul style="list-style-type: none"> <li>Separate recyclable waste and materials from general waste for recycling or reuse and clearly mark bins to avoid cross contamination</li> <li>Cover and store wastes in a designated area to prevent it being blown or washed away</li> <li>Dispose of hazardous materials (eg asbestos waste, contaminated materials) to an EPA licensed facility, using EPA's Waste Tracker system for the Waste Transport Certificate (WTC) when required</li> <li>Copies of all WTCs will be kept on site, and recorded on the WTC Register (see Appendix 6 for a template of the register)</li> </ul> |
| Performance Indicators | <ul style="list-style-type: none"> <li>No environmental prosecutions brought against the project</li> <li>No reportable environmental incidents</li> <li>No non-conformances</li> <li>No complaints from residents or businesses related to waste</li> <li>Presence of onsite waste containers for segregation of waste</li> </ul>                                                                                                                                                                                                                                                                                                |
| Monitoring             | <ul style="list-style-type: none"> <li>Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> </ul>                                                                                                                                                                                                                                                                                                                                                |
| Reporting              | <ul style="list-style-type: none"> <li>Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                              |
| Corrective Actions     | <ul style="list-style-type: none"> <li>For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li> <li>Improvement opportunities may also result in the implementation of corrective actions</li> </ul>                                                                                                                                                                                                                                                                                                                                           |
| Reference(s)           | <ul style="list-style-type: none"> <li>EMS 5.4 Waste Disposal and Recycling Procedure</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### Waste Management

|             |                                                                                                                                                                                                                                   |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legislation | <ul style="list-style-type: none"> <li>• <i>Environment Protection Act 1993</i></li> <li>• <i>Environment Protection (Waste to Resources) Policy 2010</i></li> <li>• <i>Local Nuisance and Litter Control Act 2016</i></li> </ul> |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Asbestos Management

|                        |                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective(s)           | <ul style="list-style-type: none"> <li>• Minimise any potential hazards posed by asbestos containing material (ACM)</li> </ul>                                                                                                                                                                                                                                                                               |
| Management Strategy    | <ul style="list-style-type: none"> <li>• Eliminate exposure to asbestos through the identification and removal of asbestos where safe to do so</li> <li>• Where elimination is not possible, exposure is to be minimised as far as reasonably practicable</li> </ul>                                                                                                                                         |
| Controls               | <ul style="list-style-type: none"> <li>• Reasonable steps will be taken to identify all possible locations of ACM</li> <li>• In consultation with the client, if ACM is identified or presumed, the material will be tested and treated accordingly</li> <li>• Dispose of any ACM at an EPA licensed facility, accompanied by a Waste Transport Certificate (a copy to be supplied to the client)</li> </ul> |
| Performance Indicators | <ul style="list-style-type: none"> <li>• No environmental prosecutions brought against the project</li> <li>• No reportable environmental incidents</li> <li>• No non-conformances</li> <li>• Number of safety audits performed</li> </ul>                                                                                                                                                                   |
| Monitoring             | <ul style="list-style-type: none"> <li>• Regular monitoring for environmental non-conformances will be undertaken by the SQE Advisor on site</li> <li>• The Environment Consultant will be advised of any non-conformances identified through monitoring by the SQE Advisor</li> </ul>                                                                                                                       |
| Reporting              | <ul style="list-style-type: none"> <li>• Any reports on environmental incidents, environmental non-conformances or complaints will be maintained by the Enerven Consultant and made available to the client</li> </ul>                                                                                                                                                                                       |

| Asbestos Management |                                                                                                                                                                                                                                                                                          |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Corrective Actions  | <ul style="list-style-type: none"><li>• For each non-conformance identified, the corrective action(s) will be implemented in consultation with the relevant construction staff</li><li>• Improvement opportunities may also result in the implementation of corrective actions</li></ul> |
| Reference(s)        | <ul style="list-style-type: none"><li>• Asbestos.sa.gov.au</li><li>• Safe Working with Asbestos</li></ul>                                                                                                                                                                                |
| Legislation         | <ul style="list-style-type: none"><li>• <i>Environment Protection Act 1993</i></li><li>• <i>Work Health and Safety Act 2012</i></li><li>• <i>Work Health and Safety Regulations 2012</i></li></ul>                                                                                       |

## 9. Environment Control Maps

An Environment Control Map will be developed for each project site, identifying the location of environmental features and hazards (eg vegetation, heritage sites, water bodies, protected areas, etc) to assist in the planning and delivery of works. The maps will be prepared prior to commencement of construction and updated regularly if the work site or activity changes. They will be placed in locations for reference by all site staff and contractors.

An example of an Environment Control Map is provided in Appendix 3.

## 10. Appendix 1 – Environment Policy



### Environmental Policy

#### Purpose

SA Power Networks is committed to conducting its electricity distribution operations and business activities in a manner that prevents or minimises pollution and other adverse impacts on the environment.

#### Principles

To fulfil this commitment, SA Power Networks will:

- comply with all environmental legislation, formal agreements, and relevant industry standards;
- measure and continually improve our environmental performance and environmental management system;
- ensure environmental impacts are considered in the planning, design, construction, decommissioning and operation of our work;
- recognise the biodiversity of areas under its operational control, and avoid unnecessary disturbance to cultural and natural sites of significance;
- respond openly and constructively to the reasonable expectations of the community on environmental matters;
- promote an attitude of care and responsibility and a sense of stewardship for the environment by employees through environmental education and training;
- use resources efficiently, minimise waste and where practicable reuse or recycle materials generated by our operations; and
- inform agents, advisers, contractors and consultants of the Environmental Policy.

|                   |                       |
|-------------------|-----------------------|
| Policy Area       | Customers & Community |
| Policy Number     | 5.1                   |
| Approved by Board | 21/07/2006            |

#### Definitions

In this policy statement:

- **environment** means the surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation;
- **Environmental Management System** means an organisation's structure of responsibilities policies, practices, procedures, processes and resources for protecting the environment and managing environmental issues; and
- **biodiversity** means the variety of ecosystems and plant and animal life that can be found in the environment.

#### Explanations

Responsible management of our resources and our environment will contribute to the well being of the SA community.

Ensuring that environmental considerations are incorporated into all SA Power Networks' business activities as a fundamental part of sound management practice.

The identification of environmental risk and implementation of environmental improvement plans to address the risk will ensure continual improvement in our environmental management.

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Robust environmental incident response procedures will reduce pollution and environmental impacts, regulatory risk and business costs.

The integration of the Environmental Management System, based on sustainable development principles, into the existing business system will ensure that SA Power Networks is acting in a diligent manner.

This will:

- protect the environment;
- enhance relationships with shareholders and the community; and
- reduce the risk of litigation, related to environmental incidents, for SA Power Networks Board and personnel.

### **Responsibilities**

The SA Power Networks Board is responsible for this Policy and monitoring compliance with the Policy.

The Chief Executive Officer is responsible for ensuring that all reasonable and practical steps are taken to:

- monitor the effectiveness of the environmental performance of SA Power Networks; and
- hold management responsible for the effective implementation of, and compliance with, the Environmental Management Policy.

General Managers are responsible for:

- ensuring that the operations under their control comply with this Policy;
- establishing and monitoring achievement of agreed environmental performance objectives; and
- actively promulgating the Policy.

Managers and Leaders are responsible for:

- ensuring that legal and environmental standards are met;
- ensuring that the environmental management systems and procedures are developed and applied in the workplace to prevent or minimise environmental risks;
- providing and documenting environmental training;
- ensuring environmental improvement plans and programs are developed, implemented, monitored and reviewed;
- ensuring environmental incident response procedures are implemented, maintained and incidents reported and investigated; and
- ensuring environmental performance is monitored and reported to their General Managers.

All SA Power Networks personnel are responsible for:

- being involved in, and committed to, sound environmental management practices in the workplace;
- complying with all environmental legislation, systems and procedures in their workplace;
- conducting their duties in a manner that prevents or minimises environmental damage or nuisance; and
- reporting any incident or threatened incident to their manager or leader.

General Manager People & Culture is the custodian of the Environmental Policy.

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The Manager Environment & Property Services is responsible for:

- coordinating the review process every year for relevance to business requirements and consistency with legislation and government directives;
- reviewing and recommending updates to the Policy;
- monitoring the implementation of the Policy;
- developing, coordinating implementation, monitoring and reporting performance of SA Power Networks environmental management system; and
- providing advice on legislation and other environmental issues.

|                        |                                  |
|------------------------|----------------------------------|
| Controlled Document ID | A-42                             |
| Policy Area            | Customers & Community            |
| Policy Number          | 5.1                              |
| Approved by Board      | 21/07/2006                       |
| Custodians             | General Manager People & Culture |
| Major Version          | 5                                |
| Commencement Date      | 21/07/2006                       |
| Review Date            | 29/08/2017                       |
| Next Review            | 29/08/2018                       |

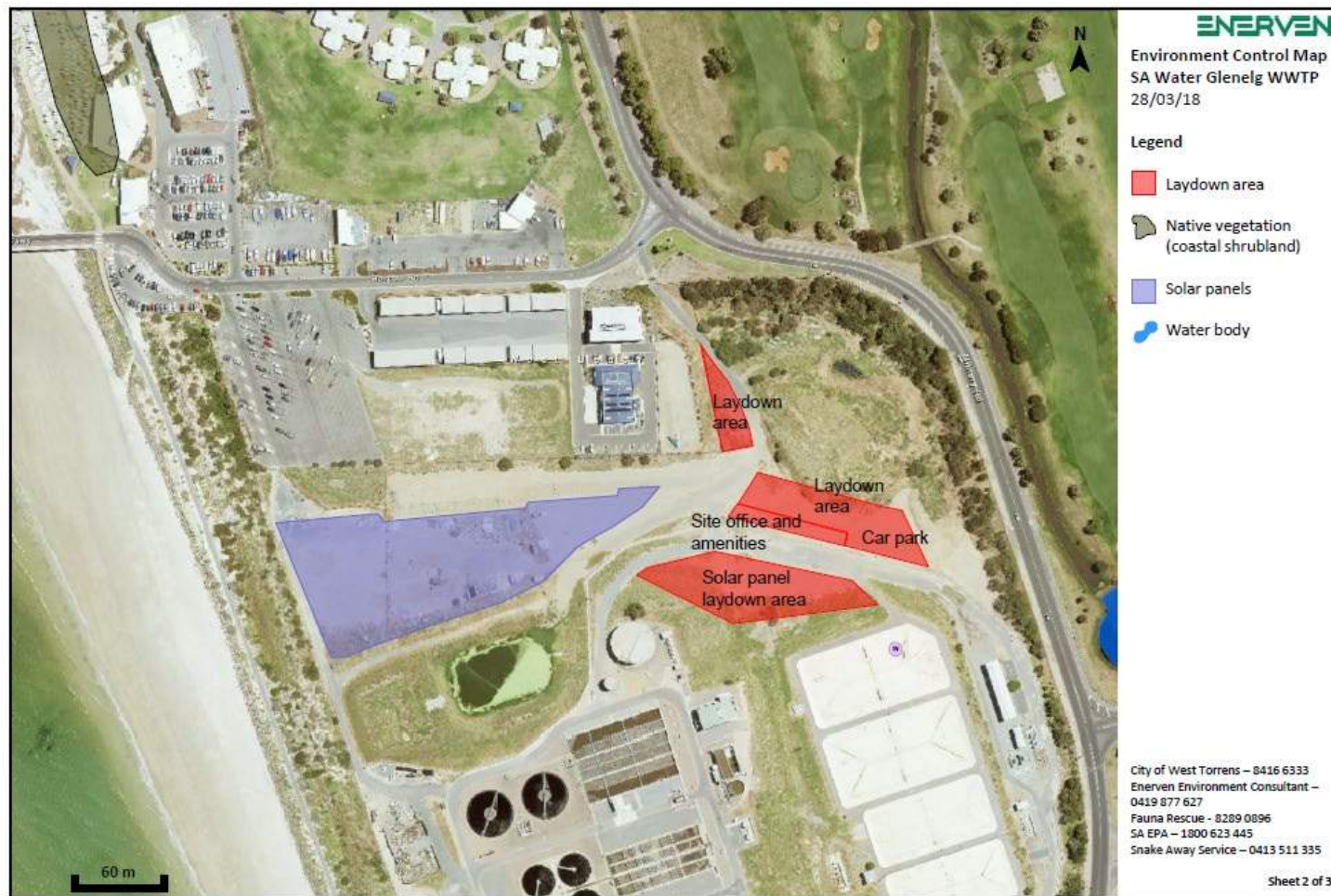
## 11. Appendix 2 – Legislation Register

| <b>SA and Commonwealth (Cwlth) Environmental Legislation</b><br><br>(refer to <a href="#">ENVIROLAW</a> for detailed legislative obligations and updates) | Air quality - Dust/Odour/ Pollutants | Native Fauna (animals) | Native Vegetation (eg approval for vegetation removal) | Toxic and Hazardous Materials (PCBs, SF6, CFC, Fuels,) | Heritage (Natural, European) | Aboriginal Heritage and Native Title | Noise and Vibration | Water Quality -Erosion and Sediment Control and Pollution | Soil Management (eg waste transport certificates) | Waste Management (liquid and solid) | Water Resource Use/ Restrictions etc) | Pest and Disease Management (plants and animals) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------|--------------------------------------------------------|--------------------------------------------------------|------------------------------|--------------------------------------|---------------------|-----------------------------------------------------------|---------------------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------------------|
| Aboriginal Heritage Act, 1988(SA) /Aboriginal and Torres Strait Islander Heritage Protection Act, 1984 <b>(Cwlth)</b>                                     |                                      |                        | ✓                                                      |                                                        |                              | ✓                                    |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Dangerous Substances Act, 1979 (Regs 2008)                                                                                                                |                                      |                        |                                                        | ✓                                                      |                              |                                      |                     |                                                           | ✓                                                 | ✓                                   |                                       |                                                  |
| Development Act, 1993 (Regs 2008)                                                                                                                         |                                      |                        | ✓                                                      |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Electricity Act 1996 (Regs 2010)                                                                                                                          |                                      |                        | ✓                                                      |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Environment Protection Act, 1993 (various Regs etc)                                                                                                       | ✓                                    |                        |                                                        | ✓                                                      |                              |                                      | ✓                   | ✓                                                         | ✓                                                 | ✓                                   | ✓                                     |                                                  |
| Environment Protection and Biodiversity Conservation Act (1999) <b>(Cwlth)</b>                                                                            |                                      | ✓                      | ✓                                                      |                                                        | ✓                            |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Fire and Emergency Services Act 2005                                                                                                                      | ✓                                    |                        | ✓                                                      |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Fruit and Plant Act 1992                                                                                                                                  |                                      |                        |                                                        |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       | ✓                                                |

| <b>SA and Commonwealth (Cwlth) Environmental Legislation</b><br><br>(refer to <a href="#">ENVIROLAW</a> for detailed legislative obligations and updates) | Air quality - Dust/Odour/ Pollutants | Native Fauna (animals) | Native Vegetation (eg approval for vegetation removal) | Toxic and Hazardous Materials (PCBs, SF6, CFC, Fuels,) | Heritage (Natural, European) | Aboriginal Heritage and Native Title | Noise and Vibration | Water Quality -Erosion and Sediment Control and Pollution | Soil Management (eg waste transport certificates) | Waste Management (liquid and solid) | Water Resource Use/ Restrictions etc) | Pest and Disease Management (plants and animals) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------|--------------------------------------------------------|--------------------------------------------------------|------------------------------|--------------------------------------|---------------------|-----------------------------------------------------------|---------------------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------------------|
| Heritage Places Act, 1993(SA) / Australian Heritage Council Act 2003 (Cwlth)                                                                              |                                      |                        |                                                        |                                                        | ✓                            |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Local Government Act, 1999                                                                                                                                |                                      |                        |                                                        |                                                        |                              |                                      | ✓                   | ✓                                                         | ✓                                                 | ✓                                   | ✓                                     |                                                  |
| Local Nuisance and Litter Control Act 2016                                                                                                                | ✓                                    |                        |                                                        |                                                        |                              |                                      | ✓                   |                                                           |                                                   | ✓                                   |                                       |                                                  |
| National Environment Protection Act 1994 and (Cwlth)                                                                                                      | ✓                                    |                        |                                                        | ✓                                                      |                              |                                      | ✓                   | ✓                                                         | ✓                                                 | ✓                                   | ✓                                     |                                                  |
| National Parks and Wildlife Act, 1972 (Regs 2001)                                                                                                         |                                      | ✓                      | ✓                                                      |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| National Trust of South Australia Act, 1955                                                                                                               |                                      | ✓                      | ✓                                                      |                                                        | ✓                            |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Native Vegetation Act, 1991 (Regs 2017)                                                                                                                   |                                      |                        | ✓                                                      |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Natural Resources Management Act, 2004                                                                                                                    |                                      | ✓                      | ✓                                                      |                                                        |                              |                                      |                     | ✓                                                         | ✓                                                 |                                     |                                       | ✓                                                |
| Work Health and Safety Act 2012                                                                                                                           |                                      |                        |                                                        |                                                        |                              |                                      |                     |                                                           |                                                   | ✓                                   |                                       |                                                  |

| <b>SA and Commonwealth (Cwlth) Environmental Legislation</b><br><br>(refer to <a href="#">ENVIROLAW</a> for detailed legislative obligations and updates) | Air quality - Dust/Odour/ Pollutants | Native Fauna (animals) | Native Vegetation (eg approval for vegetation removal) | Toxic and Hazardous Materials (PCBs, SF6, CFC, Fuels,) | Heritage (Natural, European) | Aboriginal Heritage and Native Title | Noise and Vibration | Water Quality -Erosion and Sediment Control and Pollution | Soil Management (eg waste transport certificates) | Waste Management (liquid and solid) | Water Resource Use/ Restrictions etc) | Pest and Disease Management (plants and animals) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------|--------------------------------------------------------|--------------------------------------------------------|------------------------------|--------------------------------------|---------------------|-----------------------------------------------------------|---------------------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------------------|
| Ozone Protection and Synthetic Greenhouse Gas Management Act 1989                                                                                         | ✓                                    |                        |                                                        |                                                        |                              |                                      |                     |                                                           |                                                   |                                     |                                       |                                                  |
| Zero Waste SA Act 2004                                                                                                                                    |                                      |                        |                                                        |                                                        |                              |                                      |                     |                                                           |                                                   | ✓                                   |                                       |                                                  |

## 12. Appendix 3 – Environment Control Map Example



## 13. Appendix 4 – Site Environmental Checklist

### Site Environmental Checklist ENV-F-001



Area: Environmental

Contact Person (s):

Inspections will be conducted by Enerven's Safety, Quality and Environment (SQE) Advisor or delegate to ensure implementation of Enerven's Safety and Environmental Management Plan by Enerven personnel and contractors. All inspection reports and checklists will be kept by Enerven's SQE Advisors and copies sent to Enerven's Construction Manager and Environment Consultant.

#### 1. PROJECT DETAILS

|                 |  |
|-----------------|--|
| Project Name:   |  |
| Project Number: |  |
| Date:           |  |

#### 2. SITE ACTIVITIES AND CONTRACTORS

List all contractors present at time of inspection and activities being undertaken.

| Enerven / Contractor | Work Activities |
|----------------------|-----------------|
|                      |                 |
|                      |                 |
|                      |                 |

#### 3. CHECKLIST

|          | Environmental Item                                                                                                 | YES                      | NO                       | N/A                      | Comment |
|----------|--------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|---------|
| <b>1</b> | <b>General</b>                                                                                                     |                          |                          |                          |         |
| 1.1      | A copy of the relevant Environment Control Map or Construction Environment Management Plan (CEMP) is kept on site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>2</b> | <b>Flora and Fauna Management</b>                                                                                  |                          |                          |                          |         |
| 2.1      | Have any native animals been trapped on site?                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 2.2      | Has vegetation clearance been undertaken?                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 2.3      | If yes, has vegetation clearance approvals been obtained?                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>3</b> | <b>Pest and Weed Management</b>                                                                                    |                          |                          |                          |         |
| 3.1      | Any pest plants on site?                                                                                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 3.2      | Are vehicles, plant and machinery entering site clean of loose mud and weed matter e.g. burrs etc?                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 3.3      | Has this been recorded in the SMP, under 'Mobile Plant and Equipment Site Inspection Register'?                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |

ENV-F-001 – Site Environmental Work Checklist

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Rev 1

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|          | Environmental Item                                                                                                                                                                                                                 | YES                      | NO                       | N/A                      | Comment |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|---------|
| <b>4</b> | <b>Soil Erosion and Drainage Management</b>                                                                                                                                                                                        |                          |                          |                          |         |
| 4.1      | Are required erosion control devices (eg silt traps/fences) in place and working?                                                                                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 4.2      | Are soil stockpiles bunded and stabilised to prevent sediment wash off and dust?                                                                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 4.3      | Is the site stable to prevent stormwater runoff erosion or dust?                                                                                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>5</b> | <b>Hazardous Materials</b>                                                                                                                                                                                                         |                          |                          |                          |         |
| 5.1      | Are all oil/chemicals stored in portable or temporary bunds or sealed shipping containers and maintained in line with the EPA guidelines?                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 5.2      | Are fully maintained chemical spill kits on site?                                                                                                                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 5.3      | Were there any oil or chemical spills during preceding week?                                                                                                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 5.4      | If yes, was it cleaned up and reported in line with SA Power Networks environmental incident response procedure?                                                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 5.5      | Are relevant SDS's for chemicals located on site?                                                                                                                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 5.6      | Have chemical waste been disposed of in line with SDS's?                                                                                                                                                                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>6</b> | <b>Noise</b>                                                                                                                                                                                                                       |                          |                          |                          |         |
| 6.1      | Have construction activities been limited to between 7am and 7pm?                                                                                                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 6.2      | If no, was out of hours work approved.                                                                                                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 6.3      | Has the daily site activity log been completed for any noise compliant and an investigation completed?                                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>7</b> | <b>Aboriginal Heritage</b>                                                                                                                                                                                                         |                          |                          |                          |         |
| 7.1      | Any items of cultural heritage located during work activities?                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 7.2      | If yes, were the controls in the CEMP under 'Heritage' applied?                                                                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>8</b> | <b>Waste Management</b>                                                                                                                                                                                                            |                          |                          |                          |         |
| 8.1      | Is the construction site clean?                                                                                                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 8.2      | Have waste materials been separated into appropriately labelled bins or returned to a works depot for segregation?                                                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 8.3      | Has concrete agitator/equipment waste been washed off site or in an on site sealed pit?                                                                                                                                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 8.4      | Has sewerage waste been collected by a licensed waste contractor?                                                                                                                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 8.5      | For any waste oil removed from site, have Waste Transport Certificates (WTC) been received from the contractor?                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>9</b> | <b>Waste Soil</b>                                                                                                                                                                                                                  |                          |                          |                          |         |
| 9.1      | Has any excess soil or contaminated soil been removed to an EPA licensed landfill for disposal?                                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 9.2      | If yes: <ul style="list-style-type: none"> <li>Has the soil been tested prior to removal or tested at the landfill?</li> <li>WTCs have been retained in project files/folders on site and recorded on the WTC Register?</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 9.3      | Has any imported soil been verified as "Waste Fill" and documents retained in the project file?                                                                                                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |

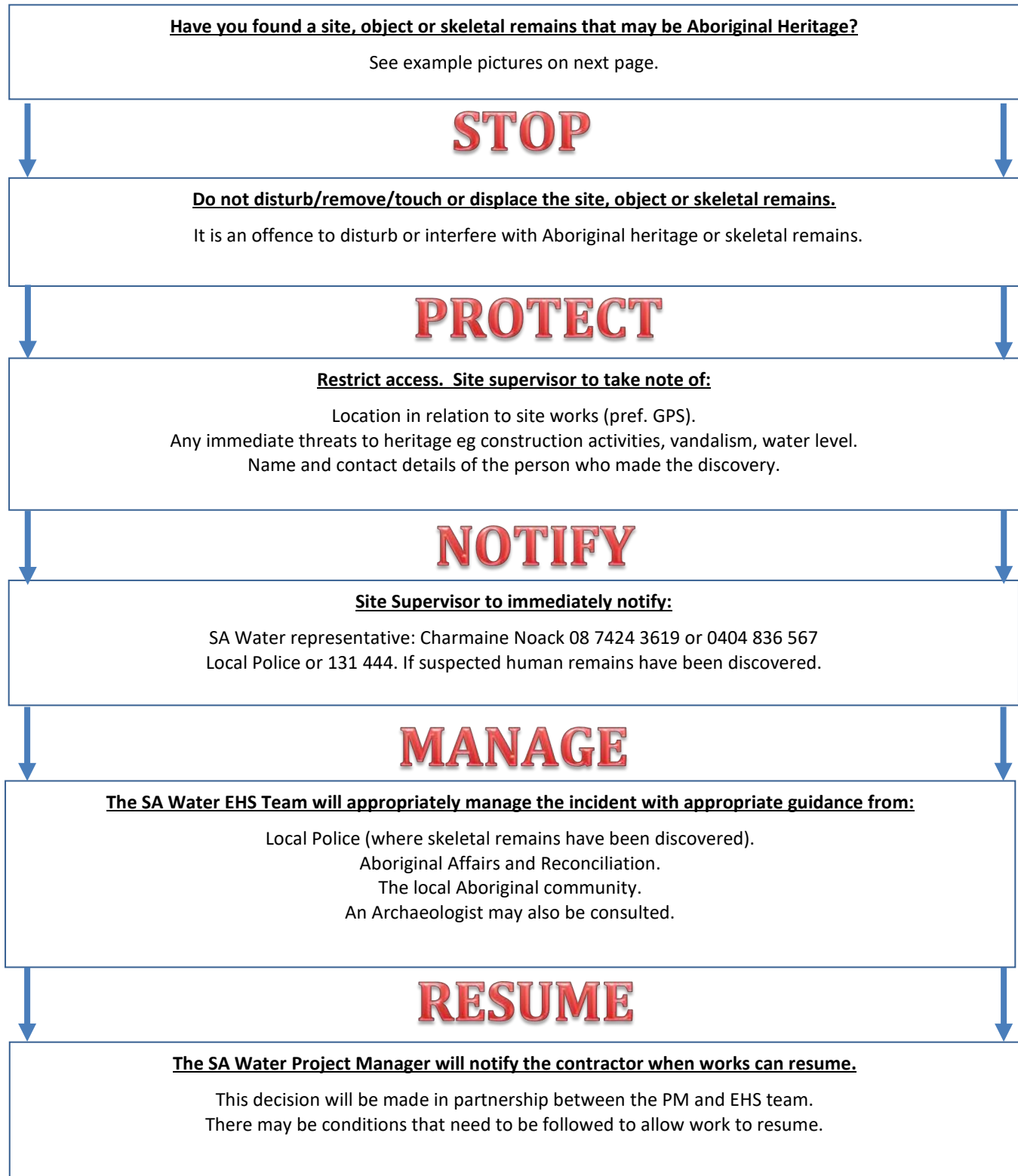
|           | Environmental Item                                                                                                                 | YES                      | NO                       | N/A                      | Comment |
|-----------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|---------|
| 9.4       | Have the requirements of Enerven's Waste Soil Management Procedure been met?                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>10</b> | <b>Air Quality</b>                                                                                                                 |                          |                          |                          |         |
| 10.1      | Are vehicle loads covered when leaving or entering site to prevent loss of materials during transport?                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 10.2      | Are vehicle and equipment turned off when not needed?                                                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>11</b> | <b>Ground Water Management</b>                                                                                                     |                          |                          |                          |         |
| 11.1      | Has any excess contaminated groundwater from dewatering cable trenches or earth stakes been removed by an EPA licensed contractor? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 11.2      | If yes, has waste disposal documentation been received and retained on site?                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>12</b> | <b>Traffic management</b>                                                                                                          |                          |                          |                          |         |
| 12.1      | Are all vehicles following designated access route and parking in designated parking areas?                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>13</b> | <b>Bushfire Management</b>                                                                                                         |                          |                          |                          |         |
| 13.1      | Are bushfire control mitigation measures installed and implemented?                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| <b>14</b> | <b>Complaint Management</b>                                                                                                        |                          |                          |                          |         |
| 14.1      | Were any complaints received in the preceding week regarding construction activities?                                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |
| 14.2      | If yes, was this recorded and the client informed?                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |         |

| OUTSTANDING ACTIONS REQUIRING COMPLETION                                                                         |                                |                    |          |                |
|------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------|----------|----------------|
| <i>The Responsible Person must notify the Enerven person (above) that the agreed actions have been completed</i> |                                |                    |          |                |
| Item                                                                                                             | Agreed actions to be completed | Responsible person | Due Date | Completed Date |
|                                                                                                                  |                                |                    |          |                |
|                                                                                                                  |                                |                    |          |                |
|                                                                                                                  |                                |                    |          |                |
|                                                                                                                  |                                |                    |          |                |
|                                                                                                                  |                                |                    |          |                |

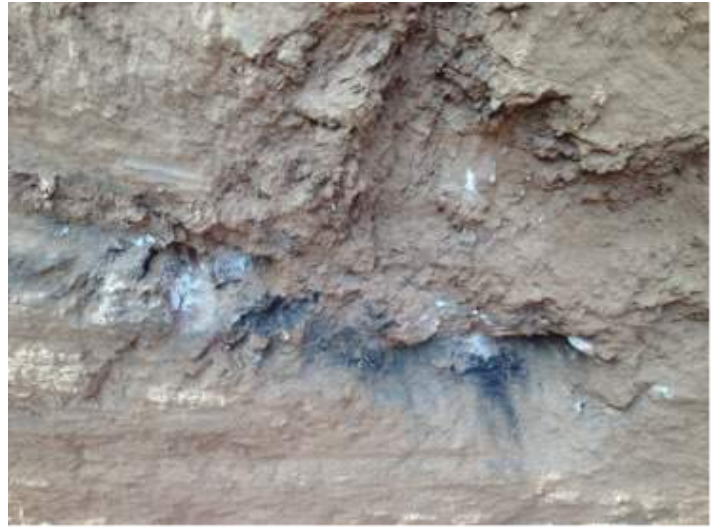
Environmental inspection conducted by:

|       |  |        |  |            |  |
|-------|--|--------|--|------------|--|
| Name: |  | Title: |  | Signature: |  |
| Date: |  | Time:  |  |            |  |

## 14. Appendix 5 – SA Water’s Aboriginal Heritage Discovery Procedure and Example Pictures



## Examples Pictures



## 15. Appendix 6 – Waste Transport Certificate Register

[illegible]

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