TARONGA INSTITUTE OF SCIENCE AND LEARNING

S4.55(1A) MODIFICATION

ENVIRONMENTAL IMPACT STATEMENT

11 APRIL 2018
SA7303
FINAL
PREPARED FOR TARONGA CONSERVATION SOCIETY AUSTRALIA

URBIS

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EXECUTIVE SUMMARY

This Environmental Assessment Report (EAR) accompanies an application to modify State Significant Development (SSD) approval number SSD 7311 (as modified) pursuant to the provisions of the Section 4.55 (1A) of the *Environmental Planning and Assessment Act 1979* (the Act). The application is lodged on behalf of Taronga Conservation Society Australia (TCSA).

The original development was granted approval by the Minister for Planning on 29 June 2016. Consent was granted for the demolition of existing education building, former Staff Amenities Block, discovery host building and other associated structures and public domain elements and the construction of a three (3) storey research and education facility known as *Taronga Institute of Science and Learning*. The application was assessed pursuant to *State and Environmental Planning Policy (State and Regional Development) 2011* as it met the criteria identified in Clause 2 of Schedule 2 which identifies Taronga Zoo as a specific site. As the proposed development had a CIV greater than $10 Million, it was assessed as an SSD.

The application proposes to modify the SSD approval as it relates to the exterior of the roof structure for the purpose of solar and hot water panels. The proposed modification involves the installation of 224 solar panels and 12 solar hot water panels which, when operational, will provide renewable power and hot water to the science and learning facility and is consistent with the Zoo's transition to renewable sources.

The modified proposal has been assessed against the relevant environmental planning instruments, policies and guidelines. The key issues have been assessed as summarised below:

- **Design** – the proposed modification is consistent with the approved design of the building and will not deter from the surrounding area. The proposed panels are consistent in design with "standard" solar panels and will be generally flush with the roof line.
- **Visual Impact** – the proposed modification is generally consistent with the approved scheme and will not have discernible impacts on the visual qualities of the surrounding zoo, residential area or Sydney Harbour Foreshore. The potential visual impacts from the modification is softened by the abundance of foliage surrounding the site as well as the topography of the surrounding area.
- **Heritage** – the proposed modification is considered to have minimal impact to the heritage significance of the precinct and will not detract from the amenity of the area.

Overall, the proposed modification will not result in any significant adverse impacts and will result in a number of benefits to the local economy. As such, it is concluded that the modification is worthy of approval.

1. INTRODUCTION

This modification application is lodged on behalf of Taronga Conservation Society Australia (TCSA) under the provisions of the Act. It seeks to modify the SSD approval (SSD 7311) for the demolition of existing education building, former Staff Amenities Block, discovery host building and other associated structures and public domain elements and the construction of a three (3) storey research and education facility located at Bradleys Head Road, Mosman.

The proposed modification involves the installation of solar and hot water panels on the roof structure of the approved building.

This report includes the following information:

- Description of the site, its context and approvals history;
- A description of the proposed modifications;
- Planning compliance assessment taking into account the environmental planning instruments, policies and guidelines relevant to the site and the proposed modification.

This planning report has been prepared based on the following updated plans and specialist reports which have been lodged with the Section 4.55(1A) application:

- Drawings prepared by Solgen Energy Group

2. SITE ANALYSIS

2.1. LOCAL CONTEXT

Taronga Zoo is located on Bradleys Head Road, Mosman. The site is bounded by Bradleys Head Road to the east, Athol Wharf Road and Sydney Harbour to the south, Little Sirius Cove to the west and Whiting Beach Road to the north.

The site is situated at the southern end of Mosman and south of the established Mosman residential suburb which is characterised by single detached dwellings along landscaped streets. The residential precincts include heritage conservation areas such as the Bradleys Head Road Conservation Area.

The locality generally slopes down from the north at Mosman Junction to Sydney Harbour. South of Taronga Zoo lies Sydney Harbour National Park which provides a natural bushland setting. The western and southern boundaries of the Zoo adjoin bushland situated along the foreshores of Athol Bay and Little Sirius Cove that provide added bushland amenity to Sydney Harbour. Viewed from Sydney Harbour, existing built form elements of the Zoo are predominantly nestled amongst foreshore vegetation and vegetation within the Zoo grounds.

2.2. THE TARONGA ZOO AND THE SUBJECT SITE

The legal description of the site is Lot 22 in DP 843294. Taronga Zoo is located on NSW Crown Land which is vested with the Zoological Parks Board of NSW, trading as the Taronga Conservation Society Australia (TCSA). The site is indicated Figure 1 below.

Figure 1 – Location Map

Source: SixMaps 2015

Access to Taronga Zoo is from Bradleys Head Road which functions as a local collector road that extends from Mosman Junction and provides access to the visitor car parking on the site. Visitor car parking is located within a multi-storey car parking and an adjacent area used for overflow parking. Whiting Beach Road is local access road that runs in an east – west direction along the site's northern boundary and provides staff and delivery access to the site. Athol Wharf Road extends along the south of the site and includes access to the Taronga Zoo ferry terminal.

2.3. SITE OF TARONGA INSTITUTE OF SCIENCE AND LEARNING (TISL)

TISL is situated towards the north of the site and west of the main Taronga Zoo entrance. The location of the centre within the Zoo is shown in **Figure 2** below.

Figure 2 – Aerial Photograph of the Site

Source: Taronga Zoo

2.4. APPROVAL HISTORY

On 29 June 2016, SSD approval (SSD 7311) was granted for the construction of a three (3) storey research and education facility known as Taronga Institute of Science and Learning. The approval granted consent for the following, as described in the Environmental Assessment of the original scheme:

- The demolition of the existing education centre building; the Section 170 Registered Staff Amenity Block (78B); part of the existing lecture theatre; the capital works building and animal holding areas; ancillary structures and the relocation of the Section 170 listed Archive and Records (15M);
- Construction of the Taronga Institute of Science and Learning accommodating:
  - office space and staff amenities;
  - class rooms and lecture theatres;
  - learning and training areas, including areas for children's overnight encounter areas; and
  - research facilities and laboratories.
- Change of use of the existing lecture theatre lobby to office and administration use to accommodate TCSA staff;

- Retention of and upgrade of the existing lecture theatre and the existing wildlife encounter experience area for students and VIPs;
- Removal of an existing courtyard and creation of partly sheltered lawn areas for passive recreational use for students and staff;
- Removal of trees and new landscaping works including new tree planting; and
- Upgrades to services such as relocation and augmentation where required.

The development is currently under construction and is nearing completion.

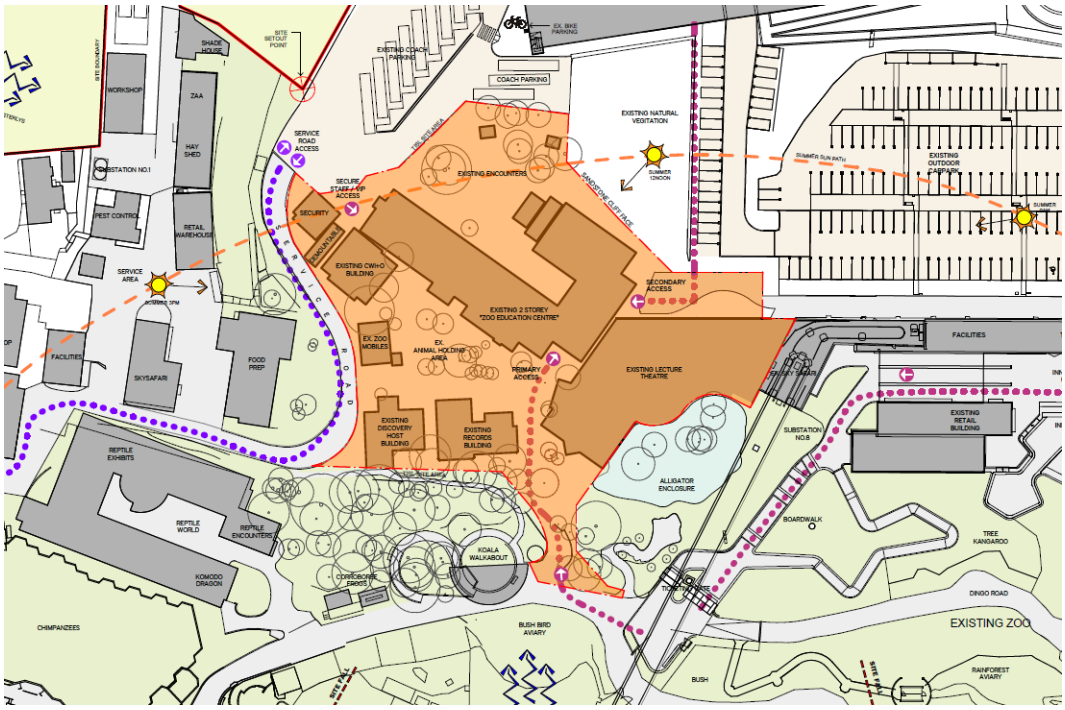
2.5. SURROUNDING DEVELOPMENT

The site is immediately surrounded by the following uses:

- **To the north** of the site is the Zoo's multistorey car park and at grade coach parking area. Further to the north is Little Ashton Park and Whiting Beach Road. On the opposite side of Whiting Beach Road, approximately125m from the site are residential uses.
- **To the east** of the site is an area of indigenous remnant vegetation listed as 105L in the Section 170 Register. This stand of vegetation sits atop a sandstone outcrop that is elevated above the site. Beyond this lies an at-grade open car park area and residential uses on the opposite side of Whiting Beach Road. The Sky Safari cable car terminal is situated southeast and beyond is visitor amenities and the primary Taronga Zoo entrance.
- **To the south** of the site is remnant indigenous vegetation and landscaping, identified in the Section 170 Register as 123L *Australian Section Landscape* and 240L *Remnant indigenous vegetation, Angophora Costata association*. Further south of this vegetation is the koala enclosure and to the southeast is the alligator enclosure, both of which are also identified in the Section 170 Register as 77B *Koala House* and 120B *Alligator Enclosure*. Refer to Figure 4 above.
- **To the west** of the site is an internal service road. Further west are back of house areas including food preparations areas and other storage warehouses.

The location of the site is indicated at ***Figure 5.***

Figure 3 – Location Plan



Source: Taronga Zoo

Photographs of the surrounding locality are included at **Figure 4**.

Figure 4 – Surrounding Development

Picture 1 – Taronga Zoo car park

Picture 2 – Elevated above and east of the site is the indigenous remnant vegetation

3. SECTION 4.55(1A) MODIFICATION

The proposal seeks to modify SSD 7133, including

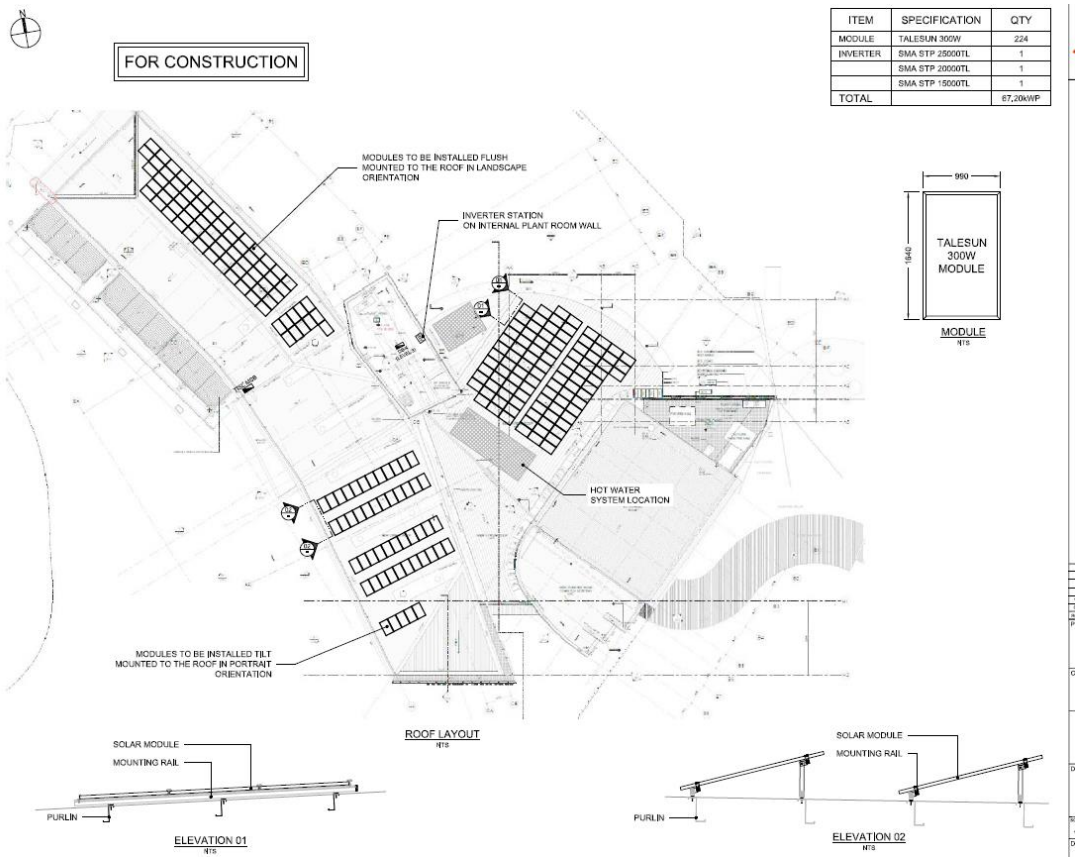
- Installation of 224 solar panels to generate electricity; and
- Installation of 12 solar hot water panels.

All panels will be on the roof structure of the approved development as illustrated in figure 5 below.

The solar hot water panels will be connected to water tanks and associated infrastructure. Refer to *Commercial Solar Solutions Brochure* attached.

The proposed modification will ensure the facility is consistent with the Zoo's transition to renewable and sustainable energy sources.

Figure 5 – Proposed solar and hot water panels



3.1. OBJECTIVES OF THE PROPOSED DEVELOPMENT

The modification will allow the overall Zoo to continue to invest in renewable energy to power its facilities. The approved science and learning centre will be a state of the art facility, providing education facilities for all ages in conservation and sustainability. The installation of the solar panels will ensure the park continues to achieve sustainable outcomes for all developments throughout the park as part of its strategic commitment to becoming more sustainable.

3.2. BUILDING DESIGN

The proposed modification will not have an impact to the overall approved design of the building, as the majority of solar panels will be 'flush' with the roof line and will not be visible from ground level or surrounding land uses. No solar panels will protrude over the building line.

3.3. SUSTAINABILITY INITIATIVES (ESD)

The proposed modification will ensure the approved development is consistent with the Zoo's commitment to sustainability. The solar panels will provide renewal energy to the approved facility, decreasing the facility's impact on the environment. The solar panels will not cause visual impacts from Sydney arbour foreshore or residential areas.

4. PLANNING FRAMEWORK

This section assesses and responds to the relevant legislative and policy frameworks in accordance with the EP&A Act and Regulations. The following environmental planning instruments, policies and guidelines have been considered in the assessment of this modification.

- *Environmental Planning and Assessment Act 1979;*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005;*
- *State Environmental Planning Policy (State and Regional Development); and*
- *Mosman Local Environmental Plan 2012*

4.1. ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Approval of the proposed modification is sought in accordance with the provisions of Section 4.55(1A) of the Act. The following assesses the modifications to SSD 7133 against the relevant threshold tests of Section 4.55(1A), which demonstrates that they are of minimal environmental impact and are substantially the same as approved.

4.1.1. Minimal Environmental Impact

The design and location of the solar and hot water panels have been designed to ensure minimal impact to surrounding land uses and the overall approved design of the facility.

The proposed solar panels will be located on the eastern and part of the western side of the roof as referred to in Figure 5. The panels will be generally “flush” with the roof line, with 51 proposed to be tilted and risen 40-50cm above the roof line on one side to ensure maximum capture of sunlight. The panels will not exceed 6.2% reflectivity which has been achieved by using innovative lamination technology.

The proposed solar hot water panels will be located along the western and centre of the building, adjacent to solar panels and will be slightly tilted for maximum capture of sunlight. Refer to Figure 8.

4.1.2. Substantially the Same Development

The modification to the approved development are substantially the same under Section 4.55(1A) given the modifications is to install roof top solar and hot water panels to the roof structure and will not result in changes to the overall approved design or use of the facility.

4.2. STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across the State by providing a consistent planning regime for infrastructure and the provision of services. The SEPP deals with electricity generating works or solar energy systems which are permitted with consent.

4.3. SYDNEY REGIONAL ENVIRONMENTAL PLAN (SYDNEY HARBOUR CATCHMENT) 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (deemed SEPP) provides planning principles for development within the Sydney Harbour catchment. Taronga Zoo falls within the Sydney Harbour Catchment area. This planning instrument is supplemented by the Sydney Harbour Foreshores and Waterways Area Development Control Plan 2005 which provides the detailed design guidelines.

The site is located within the foreshore and waterways area of SREP 2005 and is identified as a “Strategic Foreshore Site”. The original SSD demonstrated that the proposed development was consistent with the provisions of the plan. The proposed modifications (as demonstrated at Section 4.1) are substantially the same and only seek installation of solar and hot water panels on the roof structure of the

approved development. Accordingly, the development remains consistent with the plan and the SSD 7133 approval.

4.4. STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

Proposals involving activities that are listed in Schedule 2 of the *State Environmental Planning Policy (State and Regional Development) 2011* are declared to be SSD. Schedule 2 Clause 2 identifies Taronga Zoo as a specific site and requires any development with a CIV greater than $10 million to trigger the SEPP.

The original DA demonstrated that the proposed development had a CIV greater than $10 million, and accordingly triggered the DA to be assessed and determined by the Minister. The proposed modifications (as demonstrated at Section 4.1) are substantially the same and only seek installation of solar panels and solar hot water panels on the roof structure of the approved development. Accordingly, the development remains consistent with the SEPP and the SSD 7133 approval.

4.5. MOSMAN LOCAL ENVIRONMENTAL PLAN 2012

Mosman Local Environmental Plan 2012 (MLEP 2012) provides the local statutory planning provisions and controls to the site.

4.5.1. Zoning and Permissibility

The site is zoned SP1 Special Activities and is identified on the zoning map as “Zoological Gardens” under MLEP 2012. The only uses permitted on the site with development consent is for the purpose shown on the Land Zoning Map including any development that is ordinarily incidental or ancillary to development for that purpose.

The TISL is development that is ordinarily incidental and ancillary development to a Zoological Garden as it will allow for the continued study and conservation of animals within the Zoo. The proposed works to install solar and hot water panels is associated with servicing the approved use and do not alter the approved nature of the use.

4.5.2. Height

No maximum building heights apply to the site, however the proposed modification will not cause substantial height increases to the approved development.

4.5.3. Floor Space Ratio

No maximum floor space ratio applies to the site.

4.6. MOSMAN DEVELOPMENT CONTROL PLAN 2012

Mosman Development Control Plan 2012 (DCP 2012) provides the design guidelines for future developments. The SEPP (State and Regional Development) 2011 excludes the application of development control plans to SSD projects under Clause 11.

5. IMPACT ASSESSMENT

The Secretary's Environmental Assessment Requirements issued in association with the original SSD application were reviewed to identify the key issues likely to be of relevance in the assessment of the modified proposal. These include:

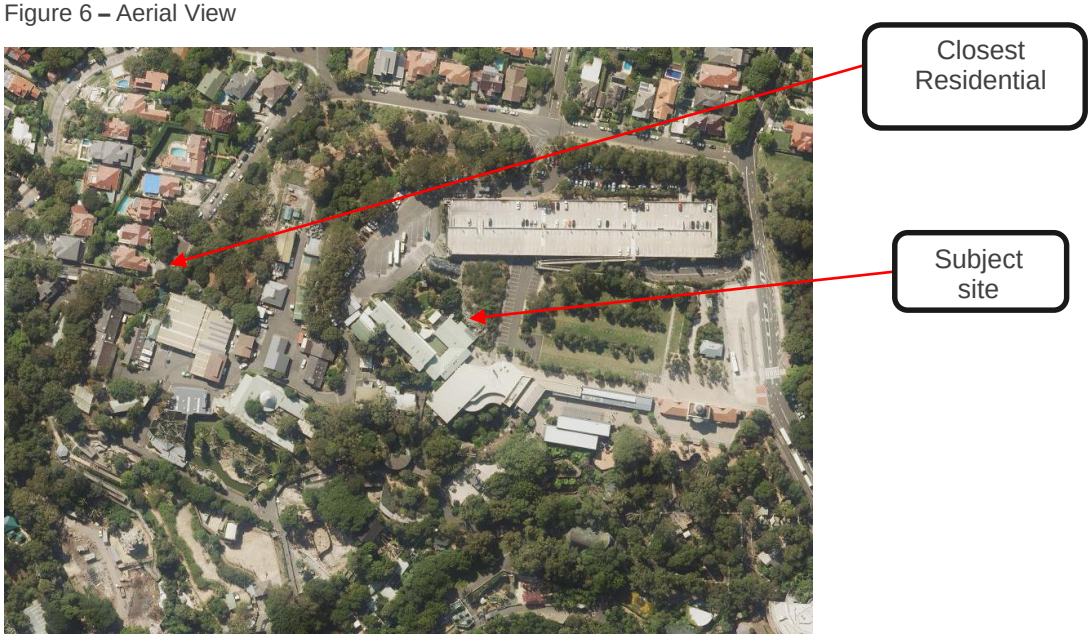
- Visual Impact and design
- Heritage

5.1.1. Visual Impact and design

The proposed modification is considered to be minor in nature and will not result in visual impacts when viewed from within the site and from site surrounds.

The site is located 140m from the closest residential dwellings as demonstrated in the figure below.

Figure 6 – Aerial View

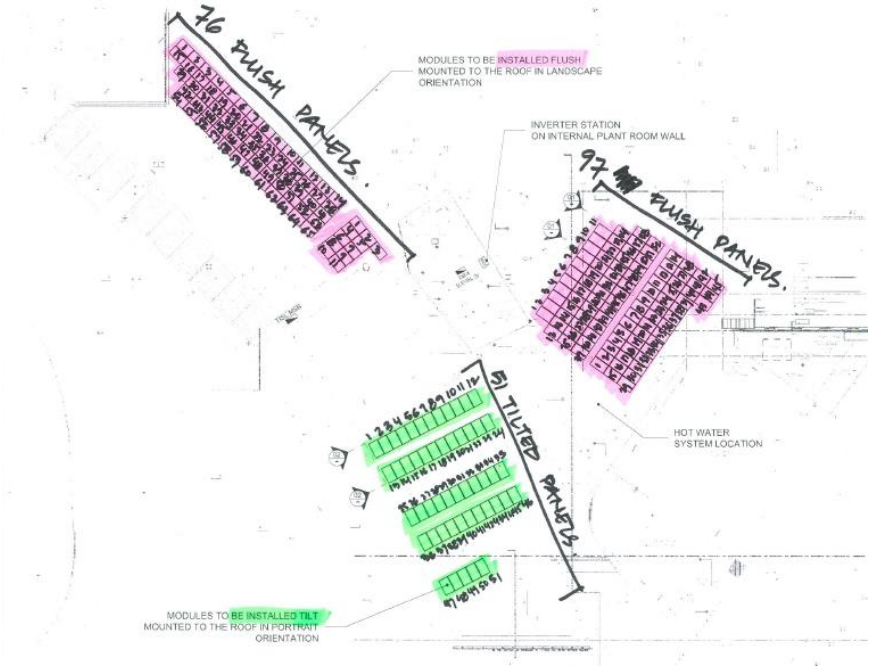


The proposed modification seeks to install minor elements to the roof structure of the approved building which will not be readily visible in consideration of the distance between the closest residential dwellings and the site and the presence of intervening vegetation. The modification will also not result in significant increase to the building height.

The approved development sits on a ridge and can slightly be seen from Sydney harbour foreshores as demonstrated in the figure below, however this is considered very minor, with the majority of the development obscured by foliage and other buildings within the zoo. The panels are to be generally located along the eastern side of the roof, facing away from the foreshore as shown in figure 5, ensuring visual impacts from the foreshore are further minimised.

Figure 7 – View from Sydney Harbour Foreshore taken from Curraghbeena Park.

Figure 8 – Location of the Proposed Solar and Hot Water Panel System



The proposed modification will not change the overall design or use of the approved science and learning facility. The installation of solar panels and the solar hot water panels on the roof of the building will mostly be seamless and will not be readily discernible from ground level and surrounding areas within the site such that the design of the building will remain substantially the same as approved.

5.1.2. Heritage

Taronga Zoo is well recognised as place of heritage significance and has been subject to a number of heritage and archaeological studies. The Taronga Zoo Conservation Strategy 2000 (the Conservation Strategy) by GML is the key document that guides the future management of heritage resources within the Zoo.

The significance of Taronga Zoo as a whole is articulated in the Conservation Strategy, with developments in the precinct required to have regard to this sensitive and important environment. Approval for SSD 7133 was partly granted on the basis that the development has minimal impact to the heritage significance of the precinct.

The proposed modification will not cause additional impacts to surrounding heritage items and will not detract from the heritage amenity of the zoo.

6. THE PUBLIC INTEREST

The proposal has been assessed against the current planning framework for the site and is consistent with the objectives of the relevant SEPPs. The proposal will ensure the use of renewable energy as an alternative to environmentally harmful fossil fuels used through the main grid. The assessment has demonstrated that no significant adverse impacts will result to the surrounding area. The proposal is in the public interest.

7. CONCLUSION

This modification application is lodged on behalf of Taronga Conservation Society Australia (TCSA). Under the provisions of Section 4.55(1A) of the Act. It seeks to modify the SSD approval (SSD 7133) for the installation of 224 solar panels and 12 solar hot water panels on the roof structure of the approved building within Taronga Zoo.

The proposed modification involves minor design changes to the roof structure only and will not impact on the overall design or use of the approved facility which will substantially remain the same.

This proposal has thoroughly considered the modifications in terms of the immediate built context and statutory planning compliance, and found that the proposal is satisfactory and acceptable for the following reasons:

- The proposed modifications result in a building that is more sustainable and ecologically friendly and is appropriate for the site.
- The proposed solar panels and solar hot water panels have been designed to ensure consistency with the desired design outcomes for the approved development and will not change the use of the facility.
- The modification will not adversely impact on the visual and environmental amenity for users of the Zoo or surrounding residential and recreational areas.

For these reasons, it is considered that the modifications are appropriate and are worthy of approval.

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APPENDIX A ARCHITECTURAL PLANS

APPENDIX B ELEVATION PLAN

APPENDIX C SOLAR HOT WATER PANEL INSTALLATION MANUAL

APPENDIX D SOLAR PANEL DETAILS

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