

# Long Reef Golf Club - Collaroy

## ESD Opportunities Report DA Submission

Prepared for: Long Reef Golf Club

**Project No:** SYD3336  
**Date:** 30 April 2025  
**Revision:** 04



**Project:** Long Reef Golf Club - Collaroy

**Location:** Anzac Avenue  
Collaroy NSW 2097

**Prepared by:** ADP Consulting Pty Ltd  
Level 6, 33 Erskine Street  
Sydney NSW 2000

**Project No:** SYD3336

**Revision:** 04

**Date:** 30 April 2025

Rev	Date	Comment	Author	Technical Review	Authorisation
01	14 Feb 2025	DA Draft Issue	Gaia Anjali RC	Borris Boschman	Simon Bell
02	21 Feb 2025	DA Issue	Gaia Anjali RC	Borris Boschman	Simon Bell
03	07 April 2025	DA Issue – minor amendment	Gaia Anjali RC	Borris Boschman	Simon Bell
04	30 April 2025	DA Issue – minor amendment	Gaia Anjali RC	Borris Boschman	Simon Bell

### Project Team

**Client / Principal** Long Reef Gold Club

**Architect** i2C

**ESD Consultant** ADP Consulting Pty Ltd



# Contents

<b>1. Introduction .....</b>	<b>3</b>
1.1 Project Overview .....	3
1.2 Project Background .....	4
1.3 Relevant Policies and Guidelines .....	5
1.4 Documentation .....	5
<b>2. Ecologically Sustainable Development (ESD) Targets .....</b>	<b>6</b>
<b>3. Key Themes .....</b>	<b>7</b>
3.1 Vernacular+ .....	7
3.2 Adaptive Reuse .....	7
3.3 Natural Ventilation & Services Integration .....	8
3.4 Landscaping to Support Biodiversity .....	8
3.5 Rainwater Capture .....	8
<b>4. Supporting ESD Initiatives .....</b>	<b>9</b>
4.1 Natural Environment .....	9
4.2 Energy & Greenhouse Gas Emissions Reduction .....	9
4.3 Water Efficiency .....	11
4.4 Materials .....	11
4.5 Waste Management Practice .....	11
4.6 Healthy Indoor Environmental Quality .....	11
4.7 Recommended Social Initiatives .....	12
4.8 Sustainable Transport .....	12

## Figures

Figure 1	Site location for Long Reef Golf Club (LRGC) marked in red line. ....	5
Figure 2	Sustainability strategies for LRGc refurbishment and expansion .....	7

# 1. Introduction

## 1.1 Project Overview

This ESD Opportunities Report has been prepared by ADP Consulting Pty Ltd on behalf of Long Reef Golf Club – Collaroy for a proposed development in Anzac Avenue, Collaroy NSW 2097. The proposed development includes the following scope of works:

- > Alterations and additions to create a refurbished two (2) storey Club House
- > The ground floor is proposed to provide the following areas:
  - New lobby entry space
  - Three (3) Members & Community Multi-use Rooms
  - Two (2) bar areas
  - Members lounge with external terrace area
  - Commercial kitchen
  - Dining area
  - Amenities
  - Office spaces
  - Storage rooms
  - Keg room
  - Kiosk
  - Covered outdoor terrace dining area; and
  - Garden seating area.
- > The new first floor level will provide the following areas:
  - Lobby and entry area
  - Back of house space
  - Members & Community Multi-use Rooms
  - Bar lounge
  - Amenities
  - Members lounge and terrace area; and
  - Two (2) outdoor terrace areas
- > Revised vehicular access from Anzac Avenue
- > Shared pedestrian zone along existing access road for increased safety consisting of raised pavements and improved footpaths
- > Tree removal and associated replanting
- > Removal and reinstatement of solar panels on roof

The purpose of this ESD Opportunities Report is to provide a list of Environmentally Sustainable Design (ESD) initiatives and recommendations to be considered for the proposed development.

Following a review of the project brief, site location and architectural drawings, we propose the following areas of sustainability to be explored during the design, construction, and operation of the proposed development:

- > Natural Environment
- > Energy Efficiency and Compliance
- > Energy & Greenhouse Gas Emissions
- > Water efficiency and Conservation
- > Low Carbon Materials
- > Waste Management Practice
- > Healthy Indoor Environment Quality
- > Recommended Social Initiatives
- > Sustainable Transport

## 1.2 Project Background

The Site is positioned within the suburb of Collaroy, which forms part of the Northern Beaches Local Government Area (LGA). The Site is located at the eastern end of Anzac Avenue, Collaroy. The Site is located within Griffith Park which includes the Long Reef Golf Course (LRGC), Griffith Park Playing Field and amenities building, Collaroy Tennis Club, Long Reef Surf Lifesaving Club and associated facilities.

The Site is zoned RE1 Public Recreation and is subject to the provisions of Warringah Local Environmental Plan 2011. The Site is situated on the southern side of Anzac Avenue between Seaview Parade to the west and Fisherman's Beach to the east.

In its current state, the Site comprises the existing LRGCC Club House which is a single storey rendered brick building with hipped tile roof and part flat metal roof. The Club House has been subject to various additions and extensions over the years and is no longer fit for purpose. There is an existing at grade parking area to the west of the existing building that will remain largely unchanged.

The Site adjoins Fisherman's Beach to the north and east, open reserve and Fisherman's Beach Boat Ramp to the east, an access road to car parking along the foreshore, Pro Shop and golf course to the south and south-west and low-density residential housing to the north-west.

The wider Site context is a combination of recreational and sporting facilities within Griffith Park, beach and intertidal areas, and low-density residential development.



Figure 1 Site location for Long Reef Golf Club (LRGC) marked in red line.



The existing golf course and carpark are not in scope of this project.

### 1.3 Relevant Policies and Guidelines

The following documents were used to guide the development of the ESD opportunities and recommendations for the proposed development:

- > NCC 2022 Vol 1 Section J provisions of the Building Code of Australia (BCA)
- > NSW State Environmental Planning Policy (SEPP) 2022
- > Warringah Local Environmental Plan (LEP) 2011
- > Warringah Development Control Plan (DCP) 2011

### 1.4 Documentation

The following documentation has been used to inform this report:

- > i2C Architectural Set DA Set (issued 28 January 2025)

## 2. Ecologically Sustainable Development (ESD) Targets

The primary objective of the development is to be an asset to club members and the local community, creating a positive impact on its surrounding environment, and realise the sustainability ambitions of Northern Beaches Council. The following key targets have been identified for the project.

### **NCC 2022 Volume 1 Section J**

- > Meet or exceed the building fabric requirements for conditioned spaces.
- > The Heating, Ventilation, And Air-Conditioning (HVAC) systems are developed to minimise the operational energy consumption of the proposed development, whilst providing the building occupants with a thermally comfortable space.

### **NSW SEPP 2022**

- > Reduction in peak demand for electricity, including through the use of energy efficient technology,
- > Reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design,
- > Generation and storage of renewable energy,
- > Minimisation of the consumption of potable water.
- > Minimisation of waste from demolition and construction, including by the choice and reuse of building materials,
- > Metering and monitoring of energy consumption

### **Warringah Development Control Plan (DCP) 2011**

- > Natural Environment: Minimise impact on the natural environment
- > Energy efficiency: Implement passive design principles. Minimise energy consumption.
- > Water efficiency: Minimise water consumption.
- > Materials: Colour scheme to complement the existing structure and natural landscape.
- > Waste: Provide sufficient storage and collection area for construction and operational waste.
- > Transport: Provide bicycle parking and End of Trip facilities.
- > Social Sustainability: Consider universal design principles for entrances, corridors, and door handles.

All the requirements above will be addressed in the following sections.

## 3. Key Themes

ADP Consulting have identified 5 key themes where the most significant sustainability impacts will be. The proposed development will focus design efforts in the following categories.

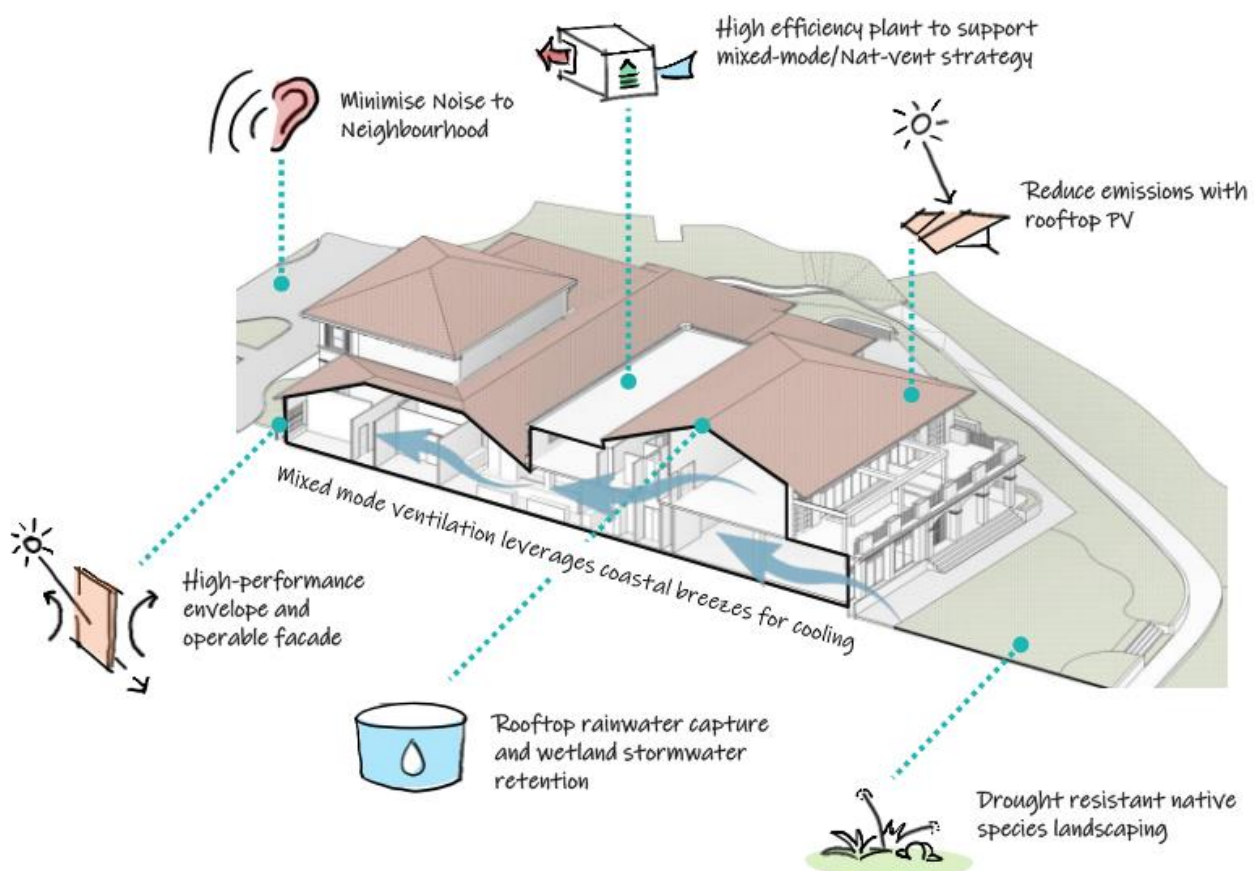
### 3.1 Vernacular+

The project will apply Vernacular architecture principles – i.e. design and construction approach that is unique to this location – combined with passive design principles to create a low-tech, high-performance building. This approach enables timeless architecture, contributing to the sense of place while simultaneously minimizing renovation needs.

### 3.2 Adaptive Reuse

This project has the opportunity to reduce its carbon emissions primarily through the adaptive reuse of the existing structure. Preservation of the original structure will also reduce the demand for construction materials and their associated costs.

Figure 2 Sustainability strategies for LRGC refurbishment and expansion





### 3.3 Natural Ventilation & Services Integration

The site's climate can be leveraged to reduce energy consumption. The project will incorporate a passive design building envelope with high performance insulation and glazing to reduce heating/cooling loads. In turn this enables a natural ventilation strategy that benefits from the cool coastal breezes and a seamlessly integrated and targeted approach to air conditioning in dedicated areas.

### 3.4 Landscaping to Support Biodiversity

New landscaping on site will prioritise native, salt-tolerant plant species to boost local biodiversity and microclimate surrounding the building. Specific attention has been given to species that thrive in a coastal environment.

### 3.5 Rainwater Capture

The current and future operations of LRGC rely on rainwater capture and reuse for landscaping irrigation to minimize the use of potable water from the grid.

Integrated with landscape design, the project proposes that site runoff water is diverted to an onsite wetland to use for irrigation purposes.

## 4. Supporting ESD Initiatives

This section outlines Environmentally Sustainable Design (ESD) design measures to support the sustainability targets in line with NCC, SEPP 2022, and Warringah DCP for this project.

### 4.1 Natural Environment

The project is exploring strategies to minimize impact to the local ecosystem, in addition to the key theme of supporting biodiversity. Some strategies being explored are:

- > LRGC has an existing Environmental Management Plan addressing the management strategies of its natural environment. The plan will be continually implemented for the proposed development.
- > In addition to selecting native plant species to support biodiversity, the proposed landscaping is to avoid invasive species as per the Council requirements.
- > Consideration for landscaping to be aligned with Water Sensitive Urban Design strategies (for rain- and stormwater management) and Urban Heat Island mitigation (for reducing local heat stresses and shocks).
- > The project will consider design options to reduce glare reflected from the building during the daytime.
- > Lighting design will incorporate reduction of light pollution from artificial illumination to minimise impact to the nocturnal fauna.
- > A Construction Environmental Management Plan will be considered to minimise impacts to the existing neighbouring trees, erosion and sedimentation caused by construction activities, disposal and management of toxic waste e.g. paints and solvents.

### 4.2 Energy & Greenhouse Gas Emissions Reduction

The project team are incorporating opportunities to reduce the buildings greenhouse gas emissions impact, through reduction in energy consumption and onsite energy generation. The following section outlines the design aspects considered.

#### 4.2.1 Passive design

Passive design has the largest impact in reducing energy consumption of a building. Expanding on the Vernacular+ theme, the project aims for the following:

- > Building form, where there is refurbishment and/or expansion works, to be optimized for passive cooling in the summer and passive heating in the winter.
- > Provision of high levels of insulation to the external walls, roof, and exposed floors that form part of the building envelope.
- > Optimization of glazing to façade ratio in all orientations to maximise daylight into the habitable spaces.
- > Efficient glazing systems:
  - Provision of high-performing window systems to help reduce heat loss in winter and heat gain in summer.

- The provision of glazing with a low solar heat gain coefficient to reduce unwanted heat gain from the morning (east) and evening (west) sun, optimising the thermal comfort levels and reducing the energy required to cool the space.
- Glazing selections that allow for high levels of Visual Light Transmission (VLT) to allow for useful daylight levels of daylight throughout the day.

#### 4.2.2 Heating, Ventilation, & Air Conditioning (HVAC) Design

Services integration with natural ventilation helps reduce the energy consumption from the mechanical systems. To complement this key theme, the project aims to further reduce the energy demand through:

- > Selection of high-efficiency, all-electric HVAC equipment
- > Selection of mechanical equipment that is suitable for low-Global Warming Potential refrigerants to minimise the risk of emissions through refrigerant leakage.
- > Exploring opportunities to optimise air-conditioning demand through the integration of carbon dioxide sensors or Building Management System (BMS)

#### 4.2.3 Lighting Design

Along with HVAC, lighting is one of the main ongoing energy users in a building. Below are some considerations in the design phase:

- > Select high-efficiency LED lights to provide adequate lighting levels and colour rendering with minimal energy expenditure.
- > Lighting controls are customised to occupancy patterns for various spaces.

#### 4.2.4 Domestic Hot Water

As a service which affects both energy usage as well as water usage, the project will consider the below:

- > Provide hot water via a high efficiency central electric heat pump.
- > Insulate pipes with a minimum R0.6 insulation to reduce heat loss as the hot water is distributed.

#### 4.2.5 Onsite Renewables

On-site solar photovoltaic (PV) generation is reused and expanded into the current design. The project is exploring:

- > The size and capacity of photovoltaic (PV) system to be installed on the roof. The current provision is being investigated for the minimum feasible peak array.
- > Combination of different options, layouts, and orientations to optimise performance whilst considering the constrained space, orientation, maintenance, and aesthetics of the project.

### 4.3 Water Efficiency

To support the key themes of having drought-resistant plants and using rainwater for irrigation, the project will consider the following measures to reduce its potable water demand:

- > Install highly efficient fixtures, fittings, and appliances for domestic water use within the building.
- > Selection of air-cooled mechanical system instead of a water-cooled system to eliminate the additional need for water.

### 4.4 Materials

Embodied carbon emissions for this project will be significantly reduced through Vernacular architecture and adaptive reuse. To further reduce this emission, the design aims to:

- > Select materials based on constructability, durability, and ease of maintenance – a longer lifespan reduces the material demand during the operational stage.
- > Select recycled and reuse materials where feasible, for example recycled steel, reuse of onsite sandstone for landscaping, reclaimed bricks, existing furniture, etc.

### 4.5 Waste Management Practice

The project considers a waste management strategy designed in line with the services provided by the Northern Beaches Council. Leveraging off the council's waste services, the design is incorporating:

- > A construction and demolition waste management in line with best practice guidelines. This DA submission is supported with a preliminary construction waste management plan.
- > An operational waste management design for the building occupants and visitors. The DA submission is supported with a preliminary operational waste management plan that details the following:
  - Identification of the waste streams relevant to the different operational components of the building.
  - Separation of waste streams by providing dedicated and labelled bins, a central waste storage area, and recycling facilities in the community room and public spaces as required.
  - Identification of storage areas for all waste streams and outline best practice safety and access requirements for their collection.

### 4.6 Healthy Indoor Environmental Quality

The project team has considered design initiatives for the health and wellbeing of its occupants. The design is exploring:

- > Design and construction strategies to prioritise performance, condensation, and mold management.
- > The ventilation system will be designed to mitigate the entry of outdoor pollutants and will provide access points for ease of maintenance and cleaning.
- > Responsible material selections will be considered to minimise exposure to harmful indoor pollutants such as Volatile Organic Compounds (VOC's) and formaldehyde from engineered wood.

## 4.7 Recommended Social Initiatives

As part of an ongoing sustainability vision, it is important to also consider social sustainability initiatives. Initiatives that are being considered for the project are:

- > Implementing universal design principles for a diverse range of users and abilities.
- > Design and implementation of Crime Prevention Through Environmental Design (CPTED) principles to increase the safety of the building occupants and visitors.

## 4.8 Sustainable Transport

The project is a very car-dependent neighbourhood with some public transportation options nearby. To incentivise lower carbon travel modes, the design is exploring the following:

- > Provide secure bicycle storage/parking for the building occupants and visitors.
- > Consideration of the capacity of the regional and local roads, and public transport to safely accommodate the new development will be considered.



---

# On a quest to inspire a better world through influence and design.

**Melbourne**

Level 13, 55 Collins Street  
Melbourne VIC 3000  
t. +61 3 9521 1195

**Adelaide**

Level 4, 22 King William Street  
Adelaide SA 5000  
t. +61 3 9521 1195

**Brisbane**

Level 16, 15 Adelaide Street  
Brisbane QLD 4000  
t. +61 7 3088 4022

**Gold Coast**

Level 10, 12-14 Marine Parade  
Southport, QLD 4215  
t. +61 7 3088 4022

**Sydney**

Level 6, 33 Erskine Street  
Sydney NSW 2000  
t. +61 2 8203 5447

**London**

53-64 Chancery Ln  
London WC2A 1QS  
United Kingdom  
t. +44 74 9478 5117

[adpconsulting.com](http://adpconsulting.com)