Kogarah Golf Club Redevelopment

Application Number: **03313** Commencement Date: **29/01/2026** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Kogarah Golf Club Redevelopment

1.1.2 Project industry type *

Commercial Development

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

01/04/2027

1.1.4 Estimated end date *

01/10/2033

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The proposed action is for the redevelopment of land within the existing Kogarah Golf Club, located adjacent to Sydney International Airport. The area subject to assessment for the project is referred to as the 'project area', while the area subject to disturbance for the project is referred to as the 'project footprint'. All remaining areas within the project area that are outside of the project footprint are considered as the avoidance area. The project area is 36.27 ha, including a disturbance footprint of 21.78 ha. The location of the project footprint and project area is shown in **Attachment A Figure 1**.

The project is a joint venture between Stockland and Boyd Properties, who are the entities proposing to take the proposed action. The proposed action comprises the following main components:

- A net development zone of approximately 15 ha with up to 343,250m2 Gross Floor Area (GFA) comprising
    - 290,000m2 of multi-level logistics and warehousing;
    - 20,000m2 for hotel and visitor accommodation uses;
    - 20,000m2 for commercial office uses, including 3,250m2 within Lot 31 which are not exclusively Commercial. Permitted uses include:
        - Hotel and motel accommodation;
        - Serviced apartments;
        - Office premises;
        - Food and drink premises;
        - Artisan food and drink industry; and
        - Advertising structures.
    - 10,000m2 of retail uses;
- Multi-level logistics with building heights generally up to 6 storeys (approx. 70m)
- A retail podium with commercial office and hotel above, up to a total of 12 storeys (approx. 51m)
- Built form of a scale and composition which caters for the generation of approximately 3,300 new jobs
- A surrounding open space precinct including:
    - A highly activated waterfront including the Fig Tree Grove outdoor dining and urban park precinct
    - A contribution to the Bay to Bay Regional cycle link, 'Foreshore Walk', including active and passive recreational uses, together with environmental enhancements
    - Master planned and Council-owned and delivered 'Pemulwuy Park' - with an agreed embellishment outcome of passive open space and environmental enhancements to be delivered in stages post construction of the M6 Stage 1 Motorway
- Complementary on and off-site infrastructure to be delivered by way of State and Local Voluntary Planning Agreements.

Works covered under the proposed action will be undertaken across two stages. Stage 1 will include delivery of State and Local Voluntary Planning Agreement (VPA) external road works, bulk earthworks, including demolition works, clearing of vegetation and remediation as well as flood contouring and embellishments of the project area, internal roads, and ground improvement, servicing and benching to Block 3A enabling the commencement of construction. Stage 2 will include detailed earthworks for Block 3B, 3C, delivery of internal State 7 Local VPA Works, ground improvement and servicing and roads to enable the development of Blocks 3B and 3C. This methodology is subject to further review, and the development may elect to conduct site wide bulk earthworks including ground improvement and delivery of all built form pads (benched & serviced) ready for warehouse construction.

The above package of works is subject to further refinement. Refer to **Attachment A Figure 2** for an indicative staging plan for the project. The conceptual project layout for the proposed action is shown in **Attachment A Figure 3**.

1. The project footprint is approximately 21.78 ha in extent, including 1.96 ha of cleared land and 19.82 ha of land mapped by SLR Consulting as comprising the following vegetation communities:

- 0.02 ha of Plant Community Type (PCT) 4091;
- 0.01 ha of PCT 4097;
- 5.52 ha of Planted Native Vegetation;
- 0.27 ha of Exotic Vegetation;
- 13.53 ha of Lawns and other Exotic Grassland; and
- 0.47 ha of Waterbodies with fringing Aquatic Vegetation.

The mapped extent of these communities by SLR within the project footprint and wider project area is provided in **Attachment A Figure 4**.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

Yes

1.2.5 Provide information about the staged development (or relevant larger project).

The proposed action is not part of a staged development where different parts of the project area will be developed over several years; however the construction of the proposed action itself will be staged. The general breakdown of each construction stage includes:

Local DA – Local and State VPA works including upgrades and associated works to Marsh Street, Gertrude St and Flora St enable access to the project footprint and adjacent future public park (not part of this referral).

Stage 1 –Site-wide bulk earthworks, including demolition works, clearing of vegetation and remediation as well as flood contouring and embellishments of the project area, internal roads, and servicing and benching to Block 3A enabling the commencement of construction

Stage 2 – Detailed earthworks for Block 3B, 3C, delivery of Local VPA works, servicing and roads to enable the development of Blocks 3B and 3C.

A project staging plan is provided in **Attachment A Figure 2**. The project footprint comprises the land subject to all construction stages detailed above.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The following Commonwealth and state legislation, planning frameworks and policy documents apply to the project:

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- NSW *Biodiversity Conservation Act 2016* (BC Act);
- NSW *Environment Planning and Assessment Act 1979* (EP&A Act);
- NSW *Fisheries Management Act 1994* (FM Act);
- NSW *Biosecurity Act 2015* (Biosecurity Act);
- NSW *Water Management Act 2000* (WM Act);
- State Environmental Planning Policy (SEPP) (Precincts – Eastern Harbour City) 2021
- State Environment Planning Policy (SEPP) (Resilience and Hazards) 2021
- Bayside Local Environmental Plan 2021 (BLEP 2021);
- Bayside Development Control Plan 2022 (Bayside DCP); and
- Bayside West Precincts 2036 Plan

The Cooks Cove Planning Proposal (PP-2022-1748) was prepared to amend Bayside Local Environmental Plan 2021 (BLEP 2021) to rezone and insert planning controls for certain land known as Cooks Cove within the BLEP 2021. The Planning Proposal was issued a Gateway Determination by the (former) NSW Department of Planning and Environment (DPE) on 5 August 2022. Gazettal was achieved on the 9th May 2025.

The EP&A Act is the overarching planning legislation in NSW, providing for the creation of planning instruments that guide land use. Development consent is required for the project under the NSW EP&A Act.

The BC Act is the key piece of legislation in NSW relating to the protection and management of biodiversity and threatened species. The BC Act requires consideration of whether a development or an activity is likely to significantly affect threatened species.

For State Significant Development (SSD) under Part 4, Division 4.7 of the EP&A Act the Biodiversity Offsets Scheme (BOS) is automatically triggered and an assessment in accordance with the Biodiversity Assessment Methodology (BAM) by an accredited BAM assessor is required. This includes the preparation of a Biodiversity Development Assessment Report (BDAR) or BDAR Waiver (if applicable). The proposed action will require the removal of a trace (less than 0.01 ha) of the BC Act listed community 'Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions' and potential habitat for the Green and Golden Bell Frog, listed as Endangered under the BC Act and Grey-headed Flying Fox, listed as Vulnerable under the BC Act . Accordingly, a BDAR will be required under the BC Act.

The FM Act protects threatened fish species and marine vegetation and identifies associated threatening processes. Marine vegetation is considered to be key fish habitat and is protected under the FM Act. The FM Act sets out provisions to protect marine vegetation (which includes mangroves, saltmarshes, seagrass and seaweeds). The project footprint is located adjacent to Cooks River, and contains marine vegetation, and therefore the FM Act is applicable. A permit may need to be obtained from the DPI Fisheries before any areas of saltmarsh or mangroves are cleared, as saltmarsh and mangroves are classified as key fish habitat under the FM Act.

Problematic weeds in NSW are handled under the NSW Biosecurity Act. All land within the project footprint occurs within the Greater Sydney Local Land Services region, and weed management within the region is to be undertaken under the direction of the Greater Sydney Regional Strategic Weed Management Plan.

The proposed development works will require the clearing of potential habitat for threatened fauna species that are listed under both the BC Act and the EPBC Act, including potential habitat for the Green and Golden Bell Frog and the Grey-headed Flying Fox , both of which are listed as Vulnerable under the EPBC Act. Threatened species listed under the EPBC Act comprise Matters of National Environmental

Significance (MNES). This document comprises an assessment against the requirements of the EPBC Act, including an assessment of impacts on MNES in accordance with the Significant Impact Guidelines 1.1 – Matters of National Environmental Significance.

The Precincts Eastern Harbour City SEPP came into force on 1 March 2022 and consolidates and repeals the provisions of several SEPPs/Sydney Regional Environment Plans (SREP) including the former SREP 33 – Cooks Cove which applied to the project footprint. The SEPP consolidation is administrative and no policy changes have been made i.e. the SEPP consolidation does not change the legal effect of the existing SEPPs/SREPs, with section 30A of the *Interpretation Act 1987* applying to the transferred provisions.

State Environment Planning Policy (SEPP) (Resilience and Hazards) 2021 applies to the project footprint because it contains land identified as proximity area to coastal wetlands on the Coastal Wetlands and Littoral Rainforests Area Map. Coastal wetlands identified on the map occur adjacent to the project footprint to the south of the M5 Motorway (Eve Street Wetlands) and the proximity area to these wetlands extends into a small part of the southern section of the project footprint. According to the Resilience and Hazards SEPP, development consent must not be granted to development on land identified as "proximity area for coastal wetlands" unless the consent authority is satisfied that the proposed development will not significantly impact on the biophysical, hydrological or ecological integrity of the adjacent coastal wetland, or the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland.

The Cooks Cove site is located within the Bayside LGA and falls under the Bayside Local Environmental Plan 2021.

The Bayside West Precincts 2036 Plan provides the local strategic framework to facilitate the urban renewal and guide development within the Bayside West Precincts, including Cooks Cove

The Bayside Development Control Plan 2022 (Bayside DCP) together with the BLEP 2021, provides detailed planning and design provisions and guidelines for developments within the Bayside LGA. The baseline provisions of the Bayside DCP will become applicable to the project footprint, with a new chapter inserted for specific new controls relevant to the Cooks Cove site, including for biodiversity.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Formal public consultation will be conducted in conjunction with the exhibition of the Development Application and subsequent SSD's, as part of the NSW assessment process. However, discussions have been on-going for some time with local First Nation's representatives, elected Councillors and staff of Council.

Two community drop-in sessions were held on the 25th and 27th November 2025 to present the proposed development and discuss issues with local community members. A survey has also been distributed to local residents and businesses requesting feedback on the perceived impacts of the development.

An Engagement Report has been provided in **Attachment G**.

1.3.1 Identity: Referring party

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	29001584612
Organisation name	SLR CONSULTING AUSTRALIA PTY LTD
Organisation address	2060 NSW

Referring party details

Name	Matthew Freeman
Job title	Principal Ecologist
Phone	0437 857 375
Email	matt.freeman@slrconsulting.com
Address	202 Submarine School, Sub Base Platypus, High Street, North Sydney, NSW, Australia 2060

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	Level 25, 133 Castlereagh Street, Sydney, NSW 2000

Person proposing to take the action details

Name	Marcus Meadows
Job title	Project Manager - Industrial
Phone	0418 408 717
Email	marcus.meadows@stockland.com.au
Address	Level 25, 133 Castlereagh Street, Sydney NSW 2223

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

Yes

Joint Venture Name	Business Address	ABN/ACN	Responsible Person	Email
John Boyd Properties	21 3-9 Terminus St Castle Hill NSW 2154	19079009260	Peter Bettridge	Peter@boydproperties.com.au

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The Joint Venture has a satisfactory record of responsible environmental management, with regular reporting. Contractors that are engaged are required to have appropriate ISO certified Environmental Management Plans during the duration of the construction works.

The Joint Venture have no history of proceedings/prosecutions under the Commonwealth or State law in relation to matters regarding the protection of the environment or conservation and sustainable use of natural resources.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Stockland have developed a suite of documents that seek to implement best industry practice as it relates to Environmental, Social and Governance practices. Underpinning the strategy, the FY25 ESG Management Approaches outline how Stockland respond to, manage and evaluate material ESG matters.

Please refer to Stockland's "Management Approaches FY25" report in **Attachment B**.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	Level 25, 133 Castlereagh Street, Sydney, NSW 2000

Proposed designated proponent details

Name	Marcus Meadows
Job title	Project Manager - Industrial
Phone	0418 408 717
Email	marcus.meadows@stockland.com.au
Address	Level 25, 133 Castlereagh Street, Sydney NSW 2223

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	29001584612
Organisation name	SLR CONSULTING AUSTRALIA PTY LTD
Organisation address	2060 NSW
Representative's name	Matthew Freeman
Representative's job title	Principal Ecologist
Phone	0437 857 375
Email	matt.freeman@slrconsulting.com
Address	202 Submarine School, Sub Base Platypus, High Street, North Sydney, NSW, Australia 2060

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	Level 25, 133 Castlereagh Street, Sydney, NSW 2000
Representative's name	Marcus Meadows
Representative's job title	Project Manager - Industrial
Phone	0418 408 717
Email	marcus.meadows@stockland.com.au
Address	Level 25, 133 Castlereagh Street, Sydney NSW 2223

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

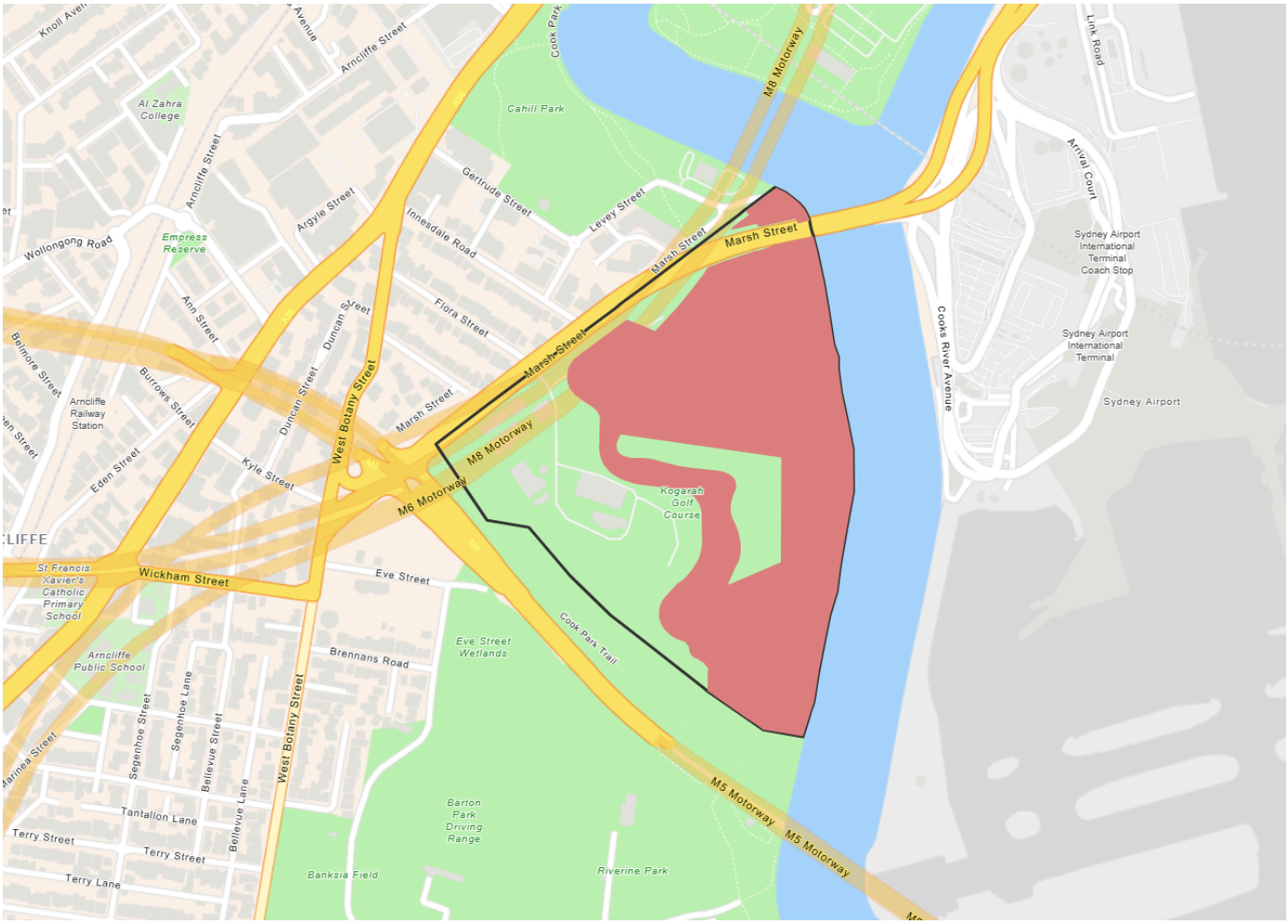
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 36.28 Ha **Disturbance Footprint:** 21.79 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

The project footprint is located at 19A Marsh Street, Arncliffe NSW 2205

2.2.2 Where is the primary jurisdiction of the proposed action? *

New South Wales

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The tenure of the entire project footprint is Freehold land, with the owner for Lot 100 DP 1231954 being Stockland and John Boyd Properties, whilst the owner of Lot 31 DP 1231486 is John Boyd Properties.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area’s environment.

The project area is located to the north of the Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS) and is generally bound by the Cooks River to the east and Marsh Street to the north and west. The project area is approximately 36.27 ha and is owned and managed by a number of landowners, both public and private. Surrounding development includes the Sydney Airport International Terminal precinct, Mercure Sydney Airport, an area of low-density dwellings presently transitioning to medium-high density residential flat buildings, recreation and open space facilities and road and airport related infrastructure.

The majority of the project area comprises the Kogarah Golf Club. This is a highly modified environment, with relatively flat topography, gently moulded fairways and greens, separated by strips of planted vegetation and artificial water bodies. The golf course clubhouse, car park and maintenance facilities are located in the northern corner of the project footprint, adjacent the Cooks River.

The temporary construction compound for the WestConnex M8 and M6 Stage 1 Motorway tunnelling works occupies approximately 7.5ha of the southern central portion of the project area. In addition, the project area contains the existing RTA Frog Ponds, located in the south-west corner of the site, adjacent to Marsh Street and the SWSOOS. These are two fenced areas that contain ponds, constructed by the RTA as part of the M5 Motorway construction in 2002, as compensatory habitat for the Green and Golden Bell Frog.

The golf course has been highly modified, landscaped, and filled, and no original vegetation remains. The project area was mostly free of mature wooded vegetation in 1943 besides planted figs surrounding the golf club house. Since 1943 the eastern half of the golf course has been removed, assumedly during construction of Sydney Airport and the associated realignment of the lower reaches of the Cooks River, and fairways have been completely redeveloped to incorporate land to the south. Due to the substantial modification of the project area, it is highly unlikely that any of the existing wooded vegetation is regrowth of the original vegetation communities that occurred in the area. Vegetation mapping for the Sydney Metropolitan Area conducted by the former NSW Office of Environment and Heritage (OEH) has identified all the vegetation currently occurring in the project area as Urban Exotic/Native. This community is described by OEH as a non-native community. No native vegetation communities have been mapped within the project area in the Revised Eastern NSW Plant Community Type mapping.

A total of five vegetation communities are recognised and mapped in the project area by SLR according to the dominant life form of plants in each community (see **Attachment A Figure 4**). No remnant native vegetation occurs, though two vegetation types, mangroves and saltmarsh, are considered to be semi-natural having recolonised small low-lying areas. However, they comprise approximately 0.03 ha of the project area. Planted and exotic vegetation dominates almost 100% of the vegetated areas of the site. The vegetation communities present in the project area include:

Semi-natural Plant Communities

- Grey Mangrove-River Mangrove Forest (Mangroves) (PCT 4091) = 0.02 ha
- Samphire Saltmarsh (Saltmarsh) (PCT 4097) = 0.01 ha

Planted Native and Exotic Plant Communities

- Planted Native Vegetation = 7.94 ha
- Exotic Vegetation = 0.64 ha
- Lawns and other Exotic Grassland = 17.49 ha

Other

- Waterbodies with fringing Aquatic Vegetation = 0.58 ha
- Cleared Land = 9.60 ha

3.1.2 Describe any existing or proposed uses for the project area.

The project area was used as a golf course until recently, although as described in preceding sections, other areas are used as RTA Frog ponds for the Green and Golden Bell Frog, and a temporary West Connex Construction compound is also present.

The vision for the Kogarah Golf Club Redevelopment is to create a logistics focused precinct that leverages the site's strategic location adjacent to Sydney Airport and strong transport connections to facilitate a world-class multi-level logistics hub with supporting uses and public open space. It seeks to deliver state-of-the-art facilities that will redefine the logistics landscape in Australia, setting new benchmarks for scale, efficiency, sustainability and innovation.

The Concept & Early Works SSDA seeks consent for an overarching Concept Masterplan that establishes maximum building envelopes, land uses, and other parameters through Urban Design Guidelines and technical reporting. It also seeks consent for the carrying out of Early Works to facilitate the initial site preparation and infrastructure works to support future development and public open space. The Concept & Early Works SSDA will also seek approval for the flood contouring across the adjacent council owned land (see **Attachment A Figure 3**).

The Concept SSD provides flexibility of land uses and accommodates industrial, commercial, retail development up to 340,000m2 in lettable area. The buildings are anticipated to comprise single or multiple warehouse tenancies, ancillary office and staff amenities space, circulation and parking. Upper levels will be accessed by circular ramps providing truck access. Access will be via the two new roads in off Marsh Street. Each building will be up to 5-6 storeys in height with a typical floor to floor height of 8.5m. The buildings will have an overall height of approximately 70m for Warehouses 3A and 3B and up to 51m across Warehouse 3C (inclusive of an allowance for roof structures).

The Cooks River foreshore will be delivered under the Local VPA and provides a 1km active link, varying in width from 20m in the north to 40m in the south. The foreshore will be embellished and maintained by the proponent, subject to a public covenant. Embellishment will comprise landscaping, and general seawall and riverbank stabilisation.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The project area does not possess any outstanding natural features, and it mostly comprises land currently used as a golf course and land used as a temporary West Connex construction compound and the RTA frog ponds. The project area does however contain important and unique values associated with the fish habitat that is present in the form of mangroves and habitat for the Green and Golden Bell Frog, listed under the BC Act and EPBC Act. Saltmarsh is also listed as a TEC under the BC Act.

The Cooks River is present along the eastern border of the project area.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The project area is relatively flat with a topographic high of 6 metres above sea level (ASL), and a topographic low of 2 metres ASL.

This equates to a gradient of approximately 4m across the project area.

As part of the VPA works, the development will revitalise the existing foreshore through the delivery of a new seawall and associated landscape works. These works will enhance pedestrian and cycle connectivity to the wider network, provide a direct link to Council's open space park, and improve public access to the foreshore. A concept design has been prepared and submitted as part of the development's State Significant Development Application and will be subject to further design development.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The biodiversity values of the project footprint and wider project area are well documented as these areas have been extensively surveyed over the past 10 years. Cumberland Ecology (now part of SLR) has prepared several ecological assessments for the project area and surrounding land, and information from these reports was used in the preparation of the original Flora and Fauna Assessment (FFA) that accompanied the approved Planning Proposal (PP-2022-1748), as well as this referral.

The project area has a long history of development, which resulted in the degradation and clearing of native vegetation across the entire project area, and has been utilised as a golf course for many years. Historical aerial imagery showing the project area completely cleared in 1943 are shown in **Attachment A Figure 5**. Based on surveys undertaken to date by SLR Consulting, a total of five vegetation communities are recognised and mapped in the project area. No remnant native vegetation occurs, though two vegetation types, mangroves and saltmarsh, are considered to be semi-natural having recolonised small low-lying areas. However, they comprise approximately 0.03 ha from a total project area of approximately 36.27 ha. Planted and exotic vegetation dominates almost 100% of the vegetated areas of the project area. No ecological communities listed under the EPBC Act have been recorded within the project area.

Nearly 130 flora species have been recorded within the project area and surrounds during previous surveys by Cumberland Ecology. Over 60% of the species recorded were exotic species. During the surveys in 2025 by SLR consulting a total of 79 flora species were recorded within the project area with approximately 70% of these being exotic species including, Kikuyu Grass (*Cenchrus clandestinus*), *Panic Veldtgrass (Ehrharta erecta),* Mouse-ear Chickweed (*Cerastium glomeratum*), Chilean Whitlow Wort (*Paronychia brasiliana*), Bindi(*Soliva sessilis*), Common Chickweed (*Stellaria media*), Fleabane (*Conyza sumatrensis)* and Fireweed (*Senecio madagascariensis).* No threatened flora species known to occur within the local area were recorded during surveys in the project area. The vegetation present is too disturbed and is predominantly comprised of disturbed grassland, therefore no suitable habitat is present and threatened flora are considered unlikely to occur.

Nearly 100 fauna species have been recorded within the project area and surrounds during previous surveys by Cumberland Ecology, including 78 birds, 4 mammals, 3 amphibians and 8 fish. The majority of species recorded are native, however a number of feral species have been recorded including Common Myna (*Acridotheres tristis*), Common Starling (*Sturnus vulgaris),* Dog (*Canis lupus familiaris),* Fox (*Vulpes vulpes)* and Black Rat (*Rattus rattus*).

The following threatened species that are MNES have been recorded within the project area by SLR (previously Cumberland Ecology), during field surveys:

- Green and Golden Bell Frog (*Litoria aurea*). Areas of suitable habitat for the species, albeit sub-optimal, consists of grassed areas located near water bodies, and the water bodies themselves, primarily the existing artificial ponds in the current Kogarah Golf Course and the drainage line located along the southern boundary of the project area. The RTA ponds also provide known breeding habitat within the project area for the Green and Golden Bell Frog, despite having no recorded breeding events since January 2020.
- Grey-headed Flying-fox (*Pteropus poliocephalus*). The mature trees in the project area constitutes foraging habitat for this species as part of a broader foraging range. There is no breeding habitat present within the project area (i.e. no camps)

A further five threatened species have been historically recorded within the project footprint and on a precautionary basis have been considered as having potential to occur despite lack of suitable habitat. These species are also listed as migratory species and include:

- White-throated Needletail (*Hirundapus caudacutus*);
- Sharp-tailed Sandpiper (*Calidris acuminata*);
- Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*);

- Eastern Curlew (*Numenius madagascariensis*); and
- Crested Tern (*Thalasseus bergii*).

These five species were all recorded from a single location in March 2006 along the edge of the Cooks River in the south-eastern portion of the project footprint. The project footprint and wider project area are not considered to comprise preferred habitat for these five potentially occurring threatened/migratory species. The small wetlands within the project footprint are all artificial in nature and created for the golf course and do not provide favoured habitat for these migratory species. Furthermore, no suitable habitat in the form of intertidal sandflats or mudflats and/or bare wet mud or sand known to be favoured by the species for foraging, roosting or breeding is available within the project footprint.

In addition to the migratory species listed above, a further 32 migratory species listed under the EPBC Act have been recorded within the locality (5km radius of the project area), however given the lack of suitable habitat and absence of previous records held in the NSW BioNet as well as the absence during targeted surveys, these species are considered unlikely to occur.

The location of threatened and migratory species recorded within the project area held within the NSW BioNet are shown in **Attachment A Figure 6**.

In addition to the SLR survey results, monitoring undertaken of the Green and Golden Bell Frog population in Arncliffe by AMBS Ecology and Heritage (AMBS) in the 2023-2024 season, identified over 600 records of the Green and Golden Bell Frog (see **Attachment C**). Of these the majority were located within the M8 Marsh Street Habitat Area, which is an artificially constructed area of habitat located between Marsh Street and Eve Street to the west of the project area. However, 42 individual observations of the species were made within the project area across five locations. Most of these observations (33) were in the two RTA ponds which were constructed by the RTA as part of the M5 Motorway construction in 2002, as compensatory habitat for the Green and Golden Bell Frog in the western corner of the project area. Only nine observations across three locations were made within the project footprint which are shown on page 21 of **Attachment C**.

Based on annual monitoring surveys from 2020-2024, AMBS concluded that the overall Arncliffe population estimate of adult Green and Golden Bell Frogs in 2023-2024 was approximately 288, however the population is a very challenged artificial population that is currently reliant on the ongoing captive breeding program given there has been no confirmed breeding events in the RTA ponds since January 2020. This is evidenced by previous monitoring results. As such, the records of the Green and Golden Bell Frog within the project footprint, and immediately adjacent ponds, are considered to have arisen from the 5,050 tadpoles that were released in 2023-2024 into the artificial ponds at Marsh Street (3,370) and the RTA ponds (1,680) as part of the captive breeding program. Therefore, the habitat within the project footprint and wider project area is considered to provide shelter and foraging resources for the Green and Golden Bell Frog, however is not considered to comprise breeding habitat.

Due to the disturbed nature of the project area, with a long history of management for the purposes of a golf course, there is no native understorey of the vegetation that occurs in the project area. As a result, it is unlikely that the project area is important habitat for any other potentially occurring threatened fauna species that are MNES.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Soil

The project area is relatively flat and the soils have been highly modified in association with the realignment of the Cooks River, landfill operations, and the creation of the golf course and other recreation facilities. The geology underlying the project area is described as peat, sandy peat and mud overlaying medium to coarse-grained quarts sandstone, very minor shale and laminate lenses of the Wianamatta Group.

The soils of the project area currently consist of a thin topsoil layer, overlaying a modified sand profile. The Soil Landscapes of the Sydney 1:100 000 Sheet Map indicates that the project area is underlain by 'disturbed terrain'. The landscape and soil characteristics of this soil landscape are described as terrain being disturbed by human activity, often landscaped and artificially drained, with original vegetation completely cleared and replaced with turf or grassland. It is likely that large amounts of dredged material fill the project area due to the diversion of the Cooks River.

Vegetation

The project area was previously cleared of native vegetation (prior to 1943) and the majority of the woody vegetation present was planted. A total of five vegetation communities are recognised and mapped in the project area by SLR, according to the dominant life form of plants in each community. No remnant native vegetation occurs, though two vegetation types, mangroves and saltmarsh, are considered to be semi-natural having recolonised small low-lying areas. However, they comprise approximately 0.03 ha from a total project area of approximately 36.27 ha and planted and exotic vegetation dominates almost 100% of the vegetated areas of the project area. The following vegetation communities have been recorded within the project area:

- Mangroves;
- Saltmarsh;
- Planted Native Vegetation;
- Exotic Vegetation;
- Lawns and other Exotic Grassland; and
- Waterbodies with fringing Aquatic Vegetation.

None of the vegetation communities occurring within the project area conform to any ecological communities listed under the EPBC Act, although Saltmarsh is listed as a TEC under the BC Act.

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

The following Commonwealth Heritage Places have been identified as occurring within the locality of the project area:

- Botany Post Office
- Marrickville Post Office
- Sydney Airport Air Traffic Control Tower

No Commonwealth Heritage Places occur within the project area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

Based on the available evidence, it is unlikely that any intact archaeological deposits are present within the project area. Based on the geotechnical data gathered to date, it appears that the fill which forms the current ground surface within the project area overlies either disturbed or imported sand and clay soil layers. If in situ soil deposits are present, they are located beneath the current groundwater level, and have a low potential to contain archaeological deposits. There is a low potential for any Aboriginal sites to be encountered during works within the project area and as part of the Concept Masterplan SSDA additional Aboriginal Cultural Heritage site investigation was undertaken in Nov/Dec 2025 by Biosis Pty Ltd, with no findings identified.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The original hydrology of the project area has been changed by the various historical works including the construction of the golf course. The project area generally drains from Marsh Street towards the Cooks River. There is a drainage channel across the existing golf course which is within the project footprint. This drainage line is ephemeral. There are also several small dams/ponds within the project area, which have been constructed for the golf course.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No World Heritage place occurs in or near the project area.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No National Heritage place occurs in or near the project area.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	Towra Point Nature Reserve

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar Wetlands in or near the project area. The Towra Point Nature Reserve is more than 6km south of the project area and is unlikely to be impacted by the project.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Acacia pubescens	Downy Wattle, Hairy Stemmed Wattle
No	No	Acacia terminalis subsp. Eastern Sydney (G.P.Phillips 126)	Sunshine Wattle (Sydney region)
No	No	Anthochaera phrygia	Regent Honeyeater
No	No	Ardenna grisea	Sooty Shearwater
No	No	Balaenoptera musculus	Blue Whale
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Caladenia tessellata	Thick-lipped Spider-orchid, Daddy Long-legs
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
No	No	Callocephalon fimbriatum	Gang-gang Cockatoo
No	No	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
No	No	Carcharias taurus (east coast population)	Grey Nurse Shark (east coast population)
No	No	Carcharodon carcharias	White Shark, Great White Shark
No	No	Caretta caretta	Loggerhead Turtle
No	No	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat
No	No	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
No	No	Chelonia mydas	Green Turtle
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Cryptostylis hunteriana	Leafless Tongue-orchid

Direct impact	Indirect impact	Species	Common name
No	No	Dasyornis brachypterus	Eastern Bristlebird
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
No	No	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea antipodensis gibsoni	Gibson's Albatross
No	No	Diomedea epomophora	Southern Royal Albatross
No	No	Diomedea exulans	Wandering Albatross
No	No	Diomedea sanfordi	Northern Royal Albatross
No	No	Epinephelus daemelii	Black Rockcod, Black Cod, Saddled Rockcod
No	No	Eretmochelys imbricata	Hawksbill Turtle
No	No	Erythrotriorchis radiatus	Red Goshawk
No	No	Eubalaena australis	Southern Right Whale
No	No	Eucalyptus camfieldii	Camfield's Stringybark
No	No	Falco hypoleucos	Grey Falcon
No	No	Fregetta grallaria grallaria	White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian)
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Genoplesium baueri	Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid
No	No	Grantiella picta	Painted Honeyeater
No	No	Hippocampus whitei	White's Seahorse, Crowned Seahorse, Sydney Seahorse
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Hoplocephalus bungaroides	Broad-headed Snake
No	No	Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)
No	No	Lathamus discolor	Swift Parrot

Direct impact	Indirect impact	Species	Common name
No	No	Leucopogon exolasius	Woronora Beard-heath
Yes	Yes	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
Yes	Yes	Litoria aurea	Green and Golden Bell Frog
No	No	Macquaria australasica	Macquarie Perch
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	No	Melaleuca deanei	Deane's Melaleuca
No	No	Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)
No	No	Natator depressus	Flatback Turtle
No	No	Neophema chrysogaster	Orange-bellied Parrot
No	No	Neophema chrysostoma	Blue-winged Parrot
No	No	Notamacropus parma	Parma Wallaby
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Pachyptila turtur subantarctica	Fairy Prion (southern)
No	No	Persicaria elatior	Knotweed, Tall Knotweed
No	No	Petauroides volans	Greater Glider (southern and central)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
No	No	Prototroctes maraena	Australian Grayling
No	No	Pseudomys novaehollandiae	New Holland Mouse, Pookila
No	No	Pterodroma leucoptera leucoptera	Gould's Petrel, Australian Gould's Petrel
No	No	Pterodroma neglecta neglecta	Kermadec Petrel (western)
Yes	Yes	Pteropus poliocephalus	Grey-headed Flying-fox
No	No	Pycnoptilus floccosus	Pilotbird

Direct impact	Indirect impact	Species	Common name
No	No	Rhincodon typus	Whale Shark
No	No	Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood
No	No	Rhodomyrtus psidioides	Native Guava
No	No	Rostratula australis	Australian Painted Snipe
No	No	Seriolella brama	Blue Warehou
No	No	Sphyrna lewini	Scalloped Hammerhead
No	No	Stagonopleura guttata	Diamond Firetail
No	No	Sternula albifrons	Little Tern
No	No	Sternula nereis nereis	Australian Fairy Tern
No	No	Syzygium paniculatum	Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry
No	No	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	No	Thalassarche bulleri platei	Northern Buller's Albatross, Pacific Albatross
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche eremita	Chatham Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
No	No	Thesium australe	Austral Toadflax, Toadflax
No	No	Tringa nebularia	Common Greenshank, Greenshank

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community
No	No	Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
No	No	Coastal Upland Swamps in the Sydney Basin Bioregion
No	No	Eastern Suburbs Banksia Scrub of the Sydney Region
No	No	River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

A likelihood of occurrence assessment was undertaken for threatened species listed as MNES that were identified in the report generated from the Protected Matters Search Tool as well as additional species records from the NSW BioNet Atlas within a 5 km radius of the project area. Note that marine species were excluded from the assessment given no suitable habitat is available within the project footprint or wider project area. The likelihood of occurrence assessment is provided in **Attachment D**. Of the species identified as potentially occurring, only the following threatened species are considered likely to occur having been recorded within the project area by Cumberland Ecology (now SLR), during field surveys and having suitable habitat available:

- Green and Golden Bell Frog (*Litoria aurea*). Areas of suitable habitat for the species, albeit sub-optimal, consists of grassed areas located near water bodies, and the water bodies themselves, primarily the existing artificial ponds in the current Kogarah Golf Course.
- Grey-headed Flying-fox (*Pteropus poliocephalus*). The mature trees in the project area constitutes foraging habitat for this species as part of a broader foraging range. There is no breeding habitat present within the project area (i.e. no camps).

Four additional threatened species historically recorded from the project footprint have been considered as potentially being impacted by the project, although are generally considered unlikely due to the absence of preferred habitat.

A brief summary is provided for each impacted entity below while their locations within the project area are provided in **Attachment A Figure 6**.

FAUNA

Grey-headed Flying-fox (***Pteropus poliocephalus*****)** - potential direct and indirect impact.

Potential foraging habitat occurs in all of the suitable mature trees in the project area. The direct impact to potential foraging habitat for this species will occur in the permanent removal of 5.52 ha of potential foraging habitat from the project footprint, which is represented by blossom-producing trees within the planted native vegetation. Several trees are proposed to be retained within the project footprint, including five large Moreton Bay Fig trees (*Ficus macrophylla*) which will require transplantation, while approximately 2.42 ha of existing tree cover will be retained within the project area beyond the project footprint. Furthermore, additional plantings of native trees and shrubs are likely to be undertaken within the project area as part of the Pemulwuy Park embellishment works to be delivered by Bayside Council.

Indirect impacts have the potential to occur in the retained vegetation of the project area. These are primarily edge effects such as weed incursions, light, and noise.

Green and Golden Bell Frog (***Litoria aurea)*** - potential direct and indirect impact.

The Arncliffe population that occurs within the project area was previously the subject of major road works and infrastructure development associated with the M5 East motorway construction. A referral was submitted in 2015 for the M5 East motorway construction which deemed the project not a controlled action. In accordance with the approval conditions for the M5 East motorway construction, GGBF compensatory habitat was created in the form of two breeding ponds in the north-western corner of Kogarah Golf Course on Roads and Maritime land, referred to as ‘RTA Ponds’, and a frog underpass connecting the new breeding ponds with Marsh St wetlands. Habitat enhancement works in the RTA ponds have combined regular interventions to manipulate the water levels to manage vegetation and GGBF predators, namely Plague Minnow (*Gambusia holbrooki*), and management of chytrid through salt water flushing.

While the RTA ponds were created specifically for the Green and Golden Bell Frog and form the primary breeding habitat for the species within the project area, it is considered that the majority of the overall population relies on the M8 Marsh Street Habitat located to the north-west of the project area and individuals have largely dispersed from this location. Nevertheless, annual monitoring has concluded that there have been no confirmed breeding events in the RTA ponds since January 2020. The Arncliffe

population is regarded as a very challenged artificial population reliant on the captive breeding program at Symbio Wildlife Park which has successfully released 5,050 tadpoles, including 3,370 tadpoles into the M8 Marsh Street Habitat and 1,680 tadpoles into the RTA ponds. Given the artificial breeding ponds are not located within the project footprint, the proposed action is unlikely to have a direct or indirect impact on breeding habitat for the Green and Golden Bell Frog.

Additional areas of suitable habitat for the species, albeit sub-optimal, consists of grassed areas located near waterbodies, and the waterbodies themselves, primarily the existing artificial ponds in the current Kogarah Golf Course and the drainage line located along the southern boundary of the project area. These form part of the species foraging and dispersal habitat within the project area. Based on the distribution of historical records as well as more recent records documented by AMBS Ecology and Heritage as part of their Green and Golden Bell Frog monitoring surveys, the south-western portion of the project area represents the habitat that is mostly utilised by the species for foraging and dispersal within the site.

The direct impact to Green and Golden Bell Frog will occur in the permanent removal of approximately 0.47 ha of potential foraging habitat, in the form of waterbodies and aquatic vegetation, as well as 13.53 ha of potential dispersal habitat, in the form of exotic dominated grasslands, for this species within the project footprint. Potential mortality of frogs from heavy machinery movements within the construction zone may also occur. Approximately 0.12 ha of suitable foraging habitat and 3.95 ha of potential dispersal habitat will be retained within the project area.

The RTA ponds form the primary breeding habitat on site for the Green and Golden Bell Frog and are the only areas known to be used for breeding within the project area. However, recent monitoring by AMBS have concluded that the Green and Golden Bell Frog population is highly artificial and heavily reliant on the captive breeding program with no confirmed breeding events within the RTA ponds since January 2020. Nevertheless, the RTA breeding ponds will not be impacted by the proposed actions and as such there will be no impact to breeding habitat in the project footprint or wider project area.

Potential indirect impacts have the potential to occur to the RTA ponds without appropriate mitigation measures, leading to reduction in the capacity of the ponds to function as habitat. This includes:

- Increase in dust from heavy vehicle movements;
- Increase in noise by vehicle movements;
- Increase in light from construction operation;
- Reduction of water quality through sedimentation and contaminants originating from construction zone;
- Accidental introduction of predatory fish;
- Introduction of frog pathogen by construction personnel and construction equipment and machinery;
- Temporary reduction or disruption of habitat connectivity to other habitat areas within the project area;
- Reduction in foraging and dispersal habitat;
- Reduction in breeding success; and

Potential mortality of individuals as a result of habitat modification.

White-throated Needletail (*Hirundapus caudacutus*)

the White-throated Needletail is an almost exclusively aerial species, which may forage aerially above the project footprint however would not rely on habitats within the project footprint. As such, the project is not considered to likely to impact the White-throated Needletail.

Sharp-tailed Sandpiper (*Calidris acuminata*), Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*), Eastern Curlew (*Numenius madagascariensis*)

These threatened species all share similar habitat requirements. Potential habitat for these threatened species is limited to the very small area of saltmarsh and mangrove vegetation as well as the existing waterbodies. The proposed action will encroach on two very small patches (0.01 ha) of Saltmarsh

vegetation and one small patch (0.02 ha) of Mangroves. Due to the small size of these patches, their isolated location within the existing golf course and their artificial nature, this habitat is not considered to be important habitat for these species. Furthermore, the small ponds with fringing aquatic vegetation within the project footprint are all artificial in nature, having been created for the golf course, and only offer a very small area of potential foraging habitat. The habitat within these ponds is of low quality for the species with only a very small area of emergent and fringing vegetation. More suitable foraging and roosting habitat is available within the protected wetlands at Towra Point as well as the Landing Lights wetlands to the south of the project area, which are likely to function as suitable foraging habitat.No suitable habitat in the form of intertidal sandflats or mudflats and/or bare wet mud or sand is available within the project footprint.

As such, the small area of saltmarsh, mangroves and waterbodies that are proposed to be removed within the project footprint are considered to provide a very small area of potential, albeit marginal, foraging habitat for these species. Larger areas of more suitable habitat are available within the locality. Nevertheless, approximately 0.49 ha of potential habitat for these species will be removed within the project footprint and remaining habitat within the project area may be subject to indirect impacts.

FLORA

No EPBC Act listed flora species occur in the project area and no impacts to such are predicted to occur.

ECOLOGICAL COMMUNITIES

No EPBC Act listed ecological communities occur in the project area and no impacts to such are predicted to occur.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

An assessment against the Commonwealth Significant Impact Guidelines for each of the seven subject MNES is provided in the **Attachment E**. As outlined within the impact assessments, the impacts on threatened fauna species are not considered to be a significant impact as detailed below.

Green and Golden Bell Frog

The activities associated with the proposed action are likely to impact on the Green and Golden Bell Frog within the project area, resulting in a range of direct and indirect impacts as identified above. However, although some areas of foraging and dispersal habitat will be removed, no known breeding habitat will be removed. The only previously known breeding habitat within the project area is located within the RTA ponds approximately 400 m from the project footprint which will be retained (under separate approval conditions from this proposal). Furthermore, embellishment works within Pemulwuy Park to be delivered by Bayside Council to the east of the project footprint, including restoration works within the M8 and M6 construction compound, will improve foraging and breeding habitat for the species within the project area in the long term.

A Green and the Golden Bell Frog Management Plan is proposed to be prepared for the proposed action, which will apply to the project area. The management plan will incorporate active management with the aim to improve the condition of the habitat present and conserve the Arncliffe population in the long term. Any potential residual impacts following the implementation of the mitigation measures will be offset in accordance with the Biodiversity Offset Scheme, through the purchase and retirement of species credits and/or through additional habitat creation as part of the Pemulwuy Park embellishment works. Given the proposed action will not result in impacts on the only known breeding habitat in the project area within the RTA ponds and in consideration of the highly artificial nature of the population which is reliant on the captive breeding program, the proposed action is unlikely to have a significant impact on the species.

Grey-headed Flying-fox

Although the ongoing loss of foraging habitat is a threatening process to the species, the foraging habitat within the project area is likely utilised as part of a much broader foraging range. The species is known to travel upwards to 50 km to forage, but more commonly commutes less than 20 km. Furthermore, additional areas of suitable foraging habitat within the locality will be retained within reserves in perpetuity. **Attachment A Figure 7** shows potential foraging habitat within a 20 km radius of the Wolli Creek camp, based on broad scale vegetation mapping. In addition to substantial areas of suitable forest and woodland vegetation, there is also a considerable amount of street and garden vegetation within the known foraging range for the Grey-headed Flying-fox, as seen in **Attachment A Figure 7**, which may also be utilised for foraging by the species. The habitat to be removed is therefore unlikely to be important for the long-term survival of a local population in the locality, and the proposed development is considered unlikely to have a significant impact on the Grey-headed Flying-fox.

White-throated Needletail

This species does not breed in Australia and is almost exclusively aerial. While it may forage above the project footprint on occasion, it is not considered to rely on the habitat resources within the project footprint. While the removal of native vegetation within the project footprint may reduce the abundance of invertebrate prey for the species, however given the location within a highly developed area of Sydney, it is unlikely that this would be significant. Accordingly, the project is unlikely to have a significant impact on the White-throated Needletail.

Sharp-tailed Sandpiper (*Calidris acuminata*), Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*), Eastern Curlew (*Numenius madagascariensis*)

While these species are considered to have the potential to occur, they are not likely to rely on the habitat within the project footprint. As outlined within the impact assessments, the potential habitat that will be removed for these species is very limited, degraded and generally of poor quality. Larger areas of suitable

habitat will be protected and conserved in the wider locality, including the protected wetlands at Towra Point and the nearby Landing Lights wetlands.

A suite of measures will be implemented for the conservation and rehabilitation of flora and fauna habitat within the project area. The ecological significance of the Cooks River will be improved due to the proposed plantings of mangroves along sections of the river bank. Currently, exotic grassland adjoins the western bank of the Cooks River in the majority of places within the site, with the bank itself consisting of a rock wall. This will be replaced with native woodland plantings extending approximately one kilometre along the waterfront, which will provide a vegetated riparian buffer. The vegetated riparian buffer will be a minimum of 20m wide along the northern portion of the foreshore, increasing to a minimum width of 40 m along the southern portion of the foreshore.

It is considered that the mitigation measures proposed will increase the availability of habitat for these species in the long term and no significant impact is considered likely.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

As per the assessment against the Commonwealth Significant Impact Guidelines, no significant impact is expected to MNES and therefore it is not expected that the proposed action will be a controlled action.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Green and Golden Bell Frog

The most ecologically significant area for the Green and Golden Bell Frog within the project area is the RTA ponds located in the south-western corner of the project area, which provides the primary habitat for the species within the project area in the form of the only known breeding habitat, as well as adjacent areas within the southern portion of the site that provides foraging and dispersal habitat. To conserve the primary Green and Golden Bell Frog habitat, the project has been designed to avoid impacts to the south-western corner of the site. The Master Plan prepared for the Planning Proposal involves a development scheme that is set back significantly further away from the RTA ponds compared to the approved plans included in Eastern Precincts SEPP (formerly SREP 33). As a result, the habitat that is in closest proximity to the RTA ponds will be retained. Furthermore, the wider south-western portion of the project area will facilitate a 14-hectare community park delivered by Bayside Council and will therefore be utilised much the same as within the current golf course under an open space plan. In addition to this, the areas comprising the RTA ponds and surrounding land have been proposed to be zoned as C2 Environmental Conservation. Within this area of the project area, in accordance with requirements for the approved major projects SSI 6788 New M5 Motorway and SSI 8931 F6 Extension Stage 1, the existing Green and Golden Bell Frog habitat will be subject to maintenance and enhancement. Habitats that have been temporarily removed or altered will also be reinstated to conditions consistent to that prior to construction.

Key avoidance measures undertaken during the development of the Master Plan for the Planning Proposal that are specific to the Green and Golden Bell Frog habitat in the project area include a reduced overall gross development footprint of zoned land compared to the present situation and positioning of the development precinct to avoid the primary Green and Golden Bell Frog habitat in the form of the immediate surrounding foraging and dispersal habitat areas surrounding the RTA ponds.

To manage and minimise the potential impacts to the Green and Golden Bell Frog as a result of the project, a Green and Golden Bell Frog Management Plan will be prepared. The overall objectives of this Management Plan will be to ensure that the current population of the Green and Golden Bell Frogs in Arncliffe is maintained, to minimise threatening processes at the site and to improve habitat and connectivity for the species to support successful breeding and on-going population viability. The GGBF Management Plan will complement the plan prepared under the major project SSI 6788 M5 Motorway, and will apply specifically to the project area.

Specific management measures that will be undertaken to achieve these objectives include the following:

- Manage existing frog populations during construction by erecting frog exclusion fencing and conducting pre-clearance surveys;
- Retention, where possible of existing aquatic fringing vegetation;
- Development of a stop work procedure and chance find strategy if Green and Golden Bell Frogs are observed within the project footprint;
- Continuation of population monitoring and reporting within the project area;
- Provide for long-term habitat protection and management; and
- Address other Key Threatening Processes.

This plan will provide general plans for the management of the GGBF and its habitat in the project area, but a detailed management protocol and contingency plan (referred to here as the GGBF Construction Plan) will also be produced at the detailed design phase of the project to deal with the detailed management of the Green and Golden Bell Frog prior to and during construction.

In order to prevent mortality of Green and Golden Bell Frogs as a result of construction activities, a frog-proof fence will be erected around the boundary of the project footprint. Further details in relation to the frog-proof fencing protocol, and the timing and duration of the confinement of the frog population, will be provided within the Green and Golden Bell Frog Management Plan.

Pre-construction clearance frog surveys will be conducted prior to each stage of the construction process in the project footprint. The purpose of these surveys will be to remove any Green and Golden Bell Frogs from the construction area. Any Green and Golden Bell Frogs found during pre-clearance surveys will be placed outside the construction area where suitable foraging and shelter habitat occurs. Where freshwater ponds/channels occur within construction zones, Green and Golden Bell Frog spawn and tadpole searches will take place prior to and during pre-clearance surveys and spawn/tadpoles moved from construction zones to adjacent freshwater ponds outside. A tadpole and spawn protocol will be prepared and outlined within the Green and Golden Bell Frog Construction Plan, which will include guidelines for the relocation of tadpoles and spawn. Further site inspections will take place during construction to ensure that the Green and Golden Bell Frog are not colonising the project footprint. The frequency and duration of such additional surveys will be determined as required according to the weather conditions and data available from the pre-clearance surveys. Any Green and Golden Bell Frogs located in the project footprint will be transferred back to the RTA breeding ponds. Further details of the proposed pre-construction procedures relevant to the Green and Golden Bell Frog will be provided within the Green and Golden Bell Frog Management Plan.

It is proposed that the Green and Golden Bell Frog Management Plan will be prepared for the detailed design stage associated with the project, to include further details relevant to the project area. It is anticipated that this plan will be updated and adapted progressively, in response to new information and any potential changes in the project layout.

Grey-headed Flying-fox

Allowance has been made in the design for the proposed project to retain and incorporate native species within the project site and wider project area, to reduce the impacts on native fauna such as the Grey-headed Flying-fox, that potentially utilise these trees as habitat. Favoured feed trees including Broad-leaved Paperbark (Melaleuca quinquenervia) will be replanted along the foreshore as part of the landscape design package which will provide suitable foraging habitat adjacent to the Cooks River in the long term (see **Attachment F**). Scattered planted trees will be retained where possible and incorporated into future open space areas, while five large Moreton Bay Fig trees are proposed to be translocated which will provide favoured foraging habitat for the species in the long term. Furthermore retained trees within the project area will continue to provide foraging habitat for the species in the long term.

In order to minimise impacts on the species during the construction phase, vegetation clearing is proposed to be undertaken outside of the key flowering periods of the Broad-leaved Paperbark. As such, vegetation removal will be undertaken at a time of year when the species is not utilising areas of suitable habitat within the project footprint.

White-throated Needletail

While this species has the potential to occur aerially above the project footprint, it is not considered to use the habitat provided within the project footprint. As such no avoidance or mitigation measures are proposed specifically for this species.

Sharp-tailed Sandpiper (*Calidris acuminata*), Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*), Eastern Curlew (*Numenius madagascariensis*)

A number of general mitigation measures will be implemented to minimise impacts on native fauna species which are applicable to these threatened species. Pre-clearance surveys and clearing supervision will be undertaken to ensure that these species are not present during clearing works, including both the removal of native vegetation and the decommissioning of existing waterbodies. Nevertheless, these species are all highly mobile and any individuals that may be present are likely to self-relocate in responds to the disturbance.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The residual impacts of the project, following the implementation of the mitigation measures discussed in the previous section, will be compensated for to offset what would otherwise be a net loss of habitat resulting from construction of the project. The residual impacts of the proposed project are predicted to mainly be focussed on the loss of Green and Golden Bell Frog foraging habitat, comprised of mainly foraging and dispersal habitat in the form of water bodies and associated fringing vegetation and lawns.

As the project is being assessed as a State significant development, the project automatically triggers entry into the Biodiversity Offset Scheme (BOS). In accordance with the offsetting rules of the BOS, any residual impact on biodiversity in general, and the Green and Golden Bell Frog in particular, will be offset through the purchase and retirement of biodiversity credits in accordance with the offsetting rules under the BC Act. The offsetting liability will be determined in the Development Application stage, through the preparation of a Biodiversity Development Assessment Report under the BAM (based on the current legislation in NSW). The assessment of the planted native vegetation will consider the implementation of Appendix D of the BAM, which is the module that assesses planted native vegetation specifically.

The calculation of offsetting in the BDAR will include consideration of the prescribed impacts, which for this project is mainly focused on removal of non-native vegetation that represents threatened species habitat for the GGBF, and, similarly the removal of water bodies. Although prescribed impacts do not automatically generate an offsetting liability in the form of biodiversity credits under the BAM, Section 8.6 of the BAM outlines the use of biodiversity credits to mitigate or offset indirect or prescribed impacts. As stated in this section of the BAM "*where part of or all of the indirect or prescribed impacts cannot be avoided, minimised or mitigated, the assessor can propose offsets or other measures that benefit threatened entities and their habitat. The approach to calculating any proposed offsets must be documented in the BDAR or BCAR".* Under the BC Act and BC Regulation, the consent authority can also require the retirement of additional biodiversity credits for prescribed impacts.

The following strategies for compensatory measures will be implemented for the proposed project for a future development:

- Compensation in accordance with the BC Act:
- Payment into the Biodiversity Conservation Fund; and/or
- Purchase of GGBF species credits.

If the above options are not available or suitable at the DA stage, as determined by the consent authority, the following strategies will be implemented:

- On-site habitat creation within the C2 Conservation Areas, which fall within the project footprint; or
- Off-site habitat creation within Pemulwuy Park or a combination of locations, which may be set out in a Local Voluntary Planning Agreement letter of offer, including monetary provision for ongoing maintenance.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Anous stolidus	Common Noddy
No	No	Apus pacificus	Fork-tailed Swift
No	No	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
No	No	Ardenna grisea	Sooty Shearwater
No	No	Balaenoptera edeni	Bryde's Whale
No	No	Balaenoptera musculus	Blue Whale
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Calonectris leucomelas	Streaked Shearwater
No	No	Caperea marginata	Pygmy Right Whale
No	No	Carcharhinus longimanus	Oceanic Whitetip Shark
No	No	Carcharias taurus	Grey Nurse Shark
No	No	Carcharodon carcharias	White Shark, Great White Shark
No	No	Caretta caretta	Loggerhead Turtle
No	No	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
No	No	Chelonia mydas	Green Turtle
No	No	Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo
No	No	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	No	Diomedea antipodensis	Antipodean Albatross

Direct impact	Indirect impact	Species	Common name
No	No	Diomedea epomophora	Southern Royal Albatross
No	No	Diomedea exulans	Wandering Albatross
No	No	Diomedea sanfordi	Northern Royal Albatross
No	No	Dugong dugon	Dugong
No	No	Eretmochelys imbricata	Hawksbill Turtle
No	No	Eubalaena australis	Southern Right Whale
No	No	Fregata ariel	Lesser Frigatebird, Least Frigatebird
No	No	Fregata minor	Great Frigatebird, Greater Frigatebird
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Gallinago megala	Swinhoe's Snipe
No	No	Gallinago stenura	Pin-tailed Snipe
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Lagenorhynchus obscurus	Dusky Dolphin
No	No	Lamna nasus	Porbeagle, Mackerel Shark
Yes	Yes	Limosa lapponica	Bar-tailed Godwit
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	No	Megaptera novaeangliae	Humpback Whale
No	No	Mobula alfredi	Reef Manta Ray, Coastal Manta Ray
No	No	Mobula birostris	Giant Manta Ray
No	No	Motacilla flava	Yellow Wagtail
No	No	Natator depressus	Flatback Turtle
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Numenius minutus	Little Curlew, Little Whimbrel
No	No	Pandion haliaetus	Osprey
No	No	Phaethon lepturus	White-tailed Tropicbird

Direct impact	Indirect impact	Species	Common name
No	No	Phaethon rubricauda	Red-tailed Tropicbird
No	No	Rhincodon typus	Whale Shark
No	No	Sternula albifrons	Little Tern
No	No	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
No	No	Thalassarche cauta	Shy Albatross
No	No	Thalassarche eremita	Chatham Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	No	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
No	No	Tringa nebularia	Common Greenshank, Greenshank

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

A PMST Report generated for the project indicates that there are 60 migratory species identified with potential habitat within the project area. Of these 19 species are marine species such as whales, dolphins, sharks and turtles which have been excluded from further assessment as the project footprint and wider project area do not comprise marine habitats. The remaining 41 migratory species, as well four additional migratory species only identified within the NSW BioNet Atlas with records within the locality, were subject to a likelihood of occurrence assessment for the project footprint. The likelihood of occurrence assessment is provided in **Attachment D**. While none of these species have been recorded during previous surveys, the NSW BioNet atlas holds a single record of each of the following five species within the project footprint. This includes:

- White-throated Needletail (*Hirundapus caudacutus*);
- Sharp-tailed Sandpiper (*Calidris acuminata*);
- Bar-tailed Godwit (*Limosa lapponica*);
- Eastern Curlew (*Numenius madagascariensis*); and
- Crested Tern (*Thalasseus bergii*).

These five species have all been recorded from a single location in March 2006 along the edge of the Cooks River in the south-eastern portion of the project footprint. The project footprint and wider project area are not considered to comprise suitable habitat for any potentially occurring migratory species. As such, the project is not considered to impact on any migratory species. Nevertheless, a test of significance for migratory species previously recorded within the project footprint is provided in **Attachment E.**

Of the species previously recorded within the project footprint, the White-throated Needletail is an almost exclusively aerial species, which may forage aerially above the project footprint however would not rely on habitats within the project footprint. The remaining species predominantly favour fresh and brackish wetlands, and intertidal sandflats or mudflats.

The proposed action will encroach on and remove a trace (0.01 ha) of Saltmarsh vegetation comprising two very small patches that occur within two open sections of a drainage line which is piped underground for the rest of its extent in the project footprint. Due to the small size of these patches, their isolated location within the existing golf course and their artificial nature, this habitat is not considered to be important habitat for the migratory species known or potentially occurring. Furthermore, the small ponds within the project footprint are all artificial in nature, having been created for the golf course, and only offer a very small area of potential foraging. The habitat within these ponds is of low quality for migratory species with only a very small area of emergent and fringing vegetation. More suitable foraging and roosting habitat is available within the protected wetlands at Towra Point which offer extensive habitat for migratory waders as well as the Landing Lights wetlands to the south of the project area, which are likely to function as suitable foraging habitat. No suitable habitat in the form of intertidal sandflats or mudflats and/or bare wet mud or sand is available within the project footprint.

As such, the small area of saltmarsh, mangroves and waterbodies that are proposed to be removed within the project footprint are considered to provide a very small area of potential, albeit marginal, foraging habitat for potentially occurring migratory species. Larger areas of more suitable habitat are available within the locality. Nevertheless, approximately 0.49 ha of potential habitat for these species will be removed within the project footprint and remaining habitat within the project area may be subject to indirect impacts.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

As assessment against the Commonwealth Significant Impact Guidelines for migratory species previously recorded within the project footprint is provided in **Attachment E**. As outlined within the impact assessments, the impacts on migratory fauna species are not considered to be a significant impact based on the assessment indicating the proposed action is:

- unlikely to substantially modify, destroy or isolate an area of important habitat for the species;
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the species, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of the species.

The potential habitat that will be removed for these species is degraded and generally of poor quality. Larger areas of suitable habitat will be protected and conserved in the wider locality, including the protected wetlands at Towra Point and the nearby Landing Lights wetlands.

A suite of measures will be implemented for the conservation and rehabilitation of flora and fauna habitat within the project area. The ecological significance of the Cooks River will be improved due to the proposed plantings of mangroves along sections of the river bank. Currently, exotic grassland adjoins the western bank of the Cooks River in the majority of places within the site, with the bank itself consisting of a rock wall. This will be replaced with native woodland plantings extending approximately one kilometre along the waterfront, which will provide a vegetated riparian buffer. The vegetated riparian buffer will be a minimum of 20m wide along the northern portion of the foreshore, increasing to a minimum width of 40 m along the southern portion of the foreshore.

It is considered that the mitigation measures proposed will increase the availability of habitat for these species in the long term and no significant impact is considered likely.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

Based on the assessment against the Commonwealth Significant Impact Guidelines for Migratory Species indicating a significant impact is unlikely to occur, the proposed action is not considered to represent a controlled action for these species.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Several ponds including a patch of mangrove vegetation have been avoided within the project area and will be retained by the project. These areas will continue to provide potential foraging habitat for migratory species. Additionally, the project will include a suite of measures to conserve and rehabilitate habitat for native fauna and flora within the project area which will benefit migratory fauna species. This includes rehabilitation and revegetation of mangroves along sections of the Cooks River as well as the overland flow flood pathway along the western boundary of the project footprint.

Furthermore, several mitigation measures will be implemented including the preparation of environmental management plans, including but not limited to a Green and Golden Bell Frog Management Plan, Vegetation Management Plan and Construction Environment Management Plan. Between these plans mitigation measures will be identified to reduce impacts on biodiversity values within the project area. The following mitigation measures relevant to migratory fauna species will be identified with the relevant management plans:

- Timing of clearing – timing should aim to align with migration patterns and be undertaken when migratory species are not present;
- Pre-clearance Surveys – to identify locations where migratory species are present or considered most likely to occur prior to the commencement of clearing;
- Clearing Supervision – to ensure an ecologist is present to supervise the clearing of vegetation or habitat that is known or likely to be used by migratory fauna species; and
- Rehabilitation, revegetation and habitat restoration works – to re-establish suitable habitat for native fauna and flora species and provide guidelines for management.

Environmental management plans are proposed to be prepared for the detailed design stages associated with the project.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

There are no proposed offsets specific to migratory species, though offsetting for the removal of the habitat associated with these species is incorporated into the broader offset strategy. Embellishment works within the project footprint along the Cooks River foreshore and within Pemulwuy Park, including the construction and enhancement of frog ponds will improve habitat for migratory species in the long-term.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No nuclear action is proposed.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Commonwealth Marine Area does not occur in or near the project area.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Great Barrier Reef does not occur in or near the project area.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The project is not a large coal mining or coal seam gas development and will not impact on a water resource.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Commonwealth land area
Yes	Yes	Sydney Airport

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No Commonwealth Land occurs within the project area. The Sydney Airport is separated from the project area by the Cooks River which is approximately 150m wide.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No Commonwealth Heritage place overseas occurs in or near the project area.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

There are no feasible alternatives for the proposed action. A planning proposal was submitted and subsequently approved to enable development within the project area and a number of avoidance and mitigation measures were identified to minimise impacts of the project on biodiversity values. Overall, the most ecologically significant areas of the project area, including the RTA ponds in the western corner and immediately adjacent areas which provide habitat for the Green and Golden Bell Frog have been avoided.

A range of mitigation measures will be implemented for the proposed project. These measures will be implemented to minimise impacts to biodiversity values, and to provide ongoing management of native fauna species and retained and replanted vegetation, and to guide the overall management of the open space corridors and other landscape elements. The following mitigation measures will be implemented to minimise any adverse effects of the project on biodiversity:

- Implementation of a Green and Golden Bell Frog Management Plan
- Vegetation clearance and fauna management protocols
- Weed control measures
- Nest Box installation
- Revegetation, particularly along the Cooks River foreshore;
- Habitat creation; and
- Preparation of a Landscape Management Plan.

In addition to these measures, inductions for contractors and visitors are proposed to address the locations of sensitive flora and fauna and outline their roles and responsibilities for the protection and/or minimisation of impacts to biodiversity values.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Figures.pdf Figures	02/02/2026	No	High

1.2.5 Information about the staged development

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Figures.pdf Figures	01/02/2026		High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att G - Engagement Report.pdf Kogarah Golf Club Redevelopment Engagement Report	16/12/2025	Yes	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation’s environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Stockland Managment Approaches FY25 Report.pdf Stockland FY25 Environmental Management Approach	30/06/2025	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Figures.pdf Figures	01/02/2026		High

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Figures.pdf Figures	01/02/2026		High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Figures.pdf Figures	01/02/2026		High
#2.	Document	Att C - 2023-2024 AMBS GGBF Monitoring Report.pdf	14/03/2025	No	High

Green and Golden Bell Frog Monitoring, Arncliffe, Annual Report for 2023-2024

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Figures.pdf Figures	01/02/2026		High
#2.	Document	Att D - MNES Likelihood of Occurrence Assessment.pdf MNES Likelihood of Occurrence Assessment	01/02/2026	No	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att E - EPBC Act Assessments of Significance.pdf EPBC Act Assessments of Significance	01/02/2026	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att F - Landscape Design Report.pdf Landscape Concept and Early Works SSDA Report	19/12/2025	Yes	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D - MNES Likelihood of Occurrence Assessment.pdf MNES Likelihood of Occurrence Assessment	31/01/2026		High
#2.	Document	Att E - EPBC Act Assessments of Significance.pdf EPBC Act Assessments of Significance	31/01/2026		High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att E - EPBC Act Assessments of Significance.pdf EPBC Act Assessments of Significance	31/01/2026		High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	29001584612
Organisation name	SLR CONSULTING AUSTRALIA PTY LTD
Organisation address	2060 NSW
Representative's name	Matthew Freeman
Representative's job title	Principal Ecologist
Phone	0437 857 375
Email	matt.freeman@slrconsulting.com
Address	202 Submarine School, Sub Base Platypus, High Street, North Sydney, NSW, Australia 2060

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ By checking this box, I, **Matthew Freeman of SLR CONSULTING AUSTRALIA PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	000064835
Organisation name	STOCKLAND DEVELOPMENT PTY LIMITED
Organisation address	Level 25, 133 Castlereagh Street, Sydney, NSW 2000
Representative's name	Marcus Meadows

Representative's job title	Project Manager - Industrial
Phone	0418 408 717
Email	marcus.meadows@stockland.com.au
Address	Level 25, 133 Castlereagh Street, Sydney NSW 2223

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Marcus Meadows of STOCKLAND DEVELOPMENT PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Marcus Meadows of STOCKLAND DEVELOPMENT PTY LIMITED**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.