

The Botanic Loop (Grey-headed Flying-fox viewing experience)

Application Number: **02555**

Commencement Date:
19/08/2024

Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

The Botanic Loop (Grey-headed Flying-fox viewing experience)

1.1.2 Project industry type *

Tourism and Recreation

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

31/03/2025

1.1.4 Estimated end date *

30/03/2055

1.2 Proposed Action details

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

Nature Based Experience Group Pty Ltd (the Proponent) proposes to construct The Botanic Loop, an elevated boardwalk experience in Botanic Park, Adelaide, South Australia (the Proposed Action; Attachment: Figure 1 Project area and disturbance footprint; Attachment: Figure 3 Camp extent). The Botanic Loop (the Proposed Action) has been proposed in response to an expression of interest in nature-based tourism projects from the Adelaide Botanic Gardens. It is intended to provide an engaging and educational tourist attraction to observe and promote Adelaide's Nationally Important camp of Grey-headed Flying-fox (GHFF;

Pteropus poliocephalus), listed as Vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. The Proposed Action will involve the construction and operation of a boardwalk, which will be raised to a height of up to 10 m from ground level, with the maximum height of any structure being the constructed piers (anchoring poles), reaching up to 13.08 m. The boardwalk will incorporate 11 constructed piers and 11 existing, planted exotic trees in and around Adelaide's GHFF camp. The Project Area encapsulates a 4.68-hectare area. This includes a construction zone (Disturbance Footprint) of 4.02 ha and a wider area of potential direct and indirect impacts regarding the GHFF camp of 4.68 ha. (Attachment: Figure 1 Project area and disturbance footprint). Up It is expected that the impact footprint will not exceed a 15-m radius around each tree or constructed pier.

Proposed activities of the Proposed Action are detailed below, regarding pre-construction, construction, post-construction and operational stages. Decommissioning works are not planned for this development. The potential direct or indirect impacts of each stage of the development are summarised below and detailed in section 4.1 and in accompanying documentation (Attachment: CEMP.pdf, Section 2.3 Work stages, pages 14-15; OEMP.pdf Section 2 Operation details, page 12; Preliminary document.pdf, Section 6.3 Proposed Action impacts, 28-36; Grey-headed Flying-fox management plan.pdf, Section 4 Project activity, page 22-31):

- Pre-construction activities:
 - Site survey and Pre-construction marking.
 - Erecting temporary perimeter fencing.
 - Establish temporary construction site office and storage/laydown zones.
- Construction
 - Excavation for pile cap sections.
 - Drilling of bored piers.
 - Form work for pile caps.
 - Preformed pier cages inserted and tied.
 - Concrete poured to footings.
 - Poles erected by cranes.
 - Secondary platforms attached (includes works on up to 11 confirmed or potential roosting trees).
 - Steel cables laid and tied (includes works on 11 confirmed or potential roosting trees).
 - Pathway joists fixed (Includes works on 11 confirmed or potential roosting trees).
 - Timber pathway planks fixed (Includes works on 11 confirmed or potential roosting trees).
 - Stainless steel balustrades fitted (Includes works on 11 confirmed or potential roosting trees).
 - Balustrade rails installed (Includes works on 11 confirmed or potential roosting trees).
 - Fall arrester base net fitted under walk (Includes works on 11 confirmed or potential roosting trees).
 - Services connected to check-in zone.
 - Sure foots installed.
 - Pre-made check in delivered and installed.
 - Entry ramp frame delivered and installed.
 - Zoo side check in delivered and installed.
 - Elevator delivered and installed.
 - Entry ramps and balustrade delivered and installed.
 - Check in zones cladding and seating installed.
 - Check in zones fitted and signage installed.
- Post-construction
 - Commissioning and testing.
 - Safe Work Compliance Inspections.
- Operation and Maintenance
 - Public daytime guided and unguided tours (Year-round; daily; 09:00 to 17:00).
 - Dusk independent tours (Year-round; daily; 17:00 – 19:00).
 - Quite/distant maintenance from GHFF roost.
 - Loud maintenance/ close to GHFF roost.

Construction and operation activities listed above pose a number of direct and indirect impacts to GHFF and their roosting habitat (listed below). Details about the potential direct and indirect impacts of construction and operation are presented below, together with mitigation strategies for managing those impacts.

Direct impacts

- Habitat disturbance due to construction works on roosting trees and contamination to surrounding environment
- Disturbance to GHFF or due to noise, vibration, light emissions, dust emissions, entanglement
- Avoidance of roosting habitat due noise, increased anthropogenic activity
- Avoidance of foreign structure, altering flight path
- Increased fire risk
- Negative Bat-Human, or Human-Bat interaction (Zoonotic disease transmission, human injures bat)

Indirect impacts

- Loss of fitness and increase in stresses due to direct impacts
- Reputational impacts from facilitation of zoonotic disease transmission into local public population

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

No

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

This section details the South Australian and Federal legislation that guides and mandates processes, applications and actions the Proponent must abide by legally.

This legislation is relevant to guide the decisions made within the Construction Environmental Management Plan, Operational Environmental Management Plan and Grey-headed Flying-fox Management Plan, which have been prepared by Succession Ecology on behalf of the Proponent (Attachment: OEMP.pdf; Section: Legislative framework and approval; Page: 18-20 ; Attachment: CEMP.pdf; Section: 5 Legislative framework and approval ; Page:21-24 ; Attachment: Grey-headed Flying-fox management plan.pdf; Section: 1.7 Legislation and Regulatory Framework; Page: 9-10). These mitigation measures have been detailed under section 4 of the portal application.

State Legislation (South Australia)

- **Aboriginal Heritage Act 1988 – Amended 2016:**
 - *‘An Act to provide for the protection and preservation of the Aboriginal heritage;’*
 - The Proponent must ensure that they identify any protected aboriginal heritage that may occur within the Project Area and put in place processes to protect that heritage, in consultation with the relevant Traditional Owner organisation.
- **Botanic Gardens and State Herbarium Act 1978:**
 - *‘An Act to provide for the establishment and management of public botanic gardens and herbaria; and for other purposes.’*
 - The land of which the Project Area is located is managed by the Board of Botanic Gardens and State Herbarium, the management and removal of vegetation and the Proposed Action itself must be approved by the Board.
- **Dangerous Substances Act 1979:**
 - *‘An Act to regulate the keeping, handling, transporting, conveyance, use and disposal, and the quality, of dangerous substances; and for other purposes.’*
 - The Proponent must ensure the safe storage, handling, transport and use of all fuels and other dangerous substances within the project area and comply with regulations.
- **Environment Protection Act 1993:**

- *'An Act to provide for the protection of the environment; to establish the Environment Protection Authority and define its functions and powers; and for other purposes.'*
- The Proponent will be subject to a number of regulations including sedimentation management, soil erosion, construction noise impacts, air quality, water quality, waste management, etc. The Proponent must follow the requirements set out by the act and gain necessary approvals.
- **Heritage Places Act 1993:**
 - *'An Act to make provision for the identification, recording and conservation of places and objects of non-Aboriginal heritage significance; to establish the South Australian Heritage Council; and for other purposes.'*
 - The Proponent must identify any heritage places, assess the impacts it will have on that heritage place, put in place management processes to preserve the heritage's significance and obtain the correct permits for construction.
- **Landscape South Australia Act 2019:**
 - *'An Act to promote sustainable and integrated management of the State's landscapes, to make provision for the protection of the State's natural resources, and for other purposes.'*
 - The Proponent will consult with Green Adelaide to gain any necessary permissions, manage the construction impacts to water ways and manage regulated pest plants and animals.
- **National Parks and Wildlife Act 1972:**
 - *'An Act to provide for the establishment and management of reserves for public benefit and enjoyment; to provide for the conservation of wildlife in a natural environment; and for other purposes.'*
 - This state legislation provides for threatened species management. The Proponent will abide by the Act and gain necessary permissions required by the state.
- **Planning Development & Infrastructure Act 2016:**
 - *'An Act to provide for matters that are relevant to the use, development and management of land and buildings, including by providing a planning system to regulate development within the State, rules with respect to the design, construction and use of buildings, and other initiatives to facilitate the development of infrastructure, facilities and environments that will benefit the community'*
 - The Proponent received Planning Consent by the Adelaide City Council on 1 December 2023 (Attachment: DecisionNotification.pdf; Pages 1-3.). Development Approval is pending final building consent.
- **South Australian Public Health Act 2011**
 - *'An Act to promote and to provide for the protection of the health of the public of South Australia and to reduce the incidence of preventable illness, injury and disability; and for other purposes.'*
 - The Proponent must follow any health advice set out by the Chief Public Health Officer and must take all reasonable steps to prevent or minimise any harm to public health caused by, or likely to be caused by, anything done or omitted to be done by the Proponent.

Commonwealth legislation

- **Aboriginal and Torres Strait Islander Heritage Protection Act 1984 – Amended 2016:**
 - *'The purposes of this Act are the preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters, being areas and objects that are of particular significance to Aboriginals in accordance with Aboriginal tradition.'*
 - The Proponent must do their due diligence to inform themselves of the requirements set by the act to protect Aboriginal heritage; any unexpected finds will follow the required process for reporting and management of remains and artefacts.
- **Biosecurity Act 2015:**
 - *'This Act is about managing diseases and pests that may cause harm to human, animal or plant health or the environment.'*
 - The Proposed Action will be located within an active camp of GHFF. The Proponent will follow the requirement set out in the Act for managing the risks of disease outbreak into human populations and the facilitation of disease into the GHFF population.

- **Environment Protection and Biodiversity Conservation Act 1999:**

- '(1) The objects of this Act are: (a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and (b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and (c) to promote the conservation of biodiversity; and (ca) to provide for the protection and conservation of heritage; and (d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples; and (e) to assist in the co-operative implementation of Australia's international environmental responsibilities; and (f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and (g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge'
- The Proponent was subject to a Self-assessment (Attachment: EBPC Self Assessment.pdf) in April 2023, in accordance with published guidelines (Attachment: MNES Significant impact guidelines 1.1.pdf). The self-assessment results found the Proposed Action may possibly have a significant impact on two Protected Matters – GHFF. (Attachment: EBPC Self Assessment.pdf; Section: 4.1 Referral Requirement for the Proposed Action; Page: 36) which has triggered a referral under the *EPBC Act*. The second Protected Matter present within the Project Area is the 'Adelaide Park Lands and City Layout', National Heritage site (Attachment: Heritage Self Assessment.pdf; Section: Executive Summary; Page: 1). No significant impacts were determined for the National Heritage place.

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. *

The Proponent has identified the important local, regional community, and governmental stakeholders. These stakeholders were approached to either inform, consult or seek approval for the process (See Attachment "Botanic Loop Updated Stakeholder Engagement 2024 10 18.pdf"). Below is a list of stakeholders that have been engaged:

Stakeholders – Consulted

- The Board of the Botanic Gardens and State Herbarium – The Board solicited commercial site activation proposals for Botanic Park. The Board supports the current proposal.
- City of Adelaide (Council) – Planning consent has been granted by Adelaide City Council (Attachment: DecisionNotification.pdf; Pages 1-3.)
- Deputy Premier's Office – Deputy Premier was supportive
- Friends of the Botanic Gardens Association – Executive committee was supportive
- Kurna Yerta Aboriginal Corporation (KYAK) – KYAK was contacted. To date no response has been received.
- Threatened Species Unit- Department of Environment and Water – Feedback was provided regarding the regulatory process.
- SA Health – Consultation regarding public health.
- Fauna Rescue of SA Inc – Fauna Rescue
- SA Grey-headed Flying-fox working group - Group was positive about the project.
- WOMADelaide - Supportive, consultation conducted to avoid operational interference.
- Adelaide Park Lands Association - Consulted
- Tourism Minister's Office - Minister very supportive of project.
- Department of Environment and Water - Consultation and site visit.
- SA Police - Consultation
- Adelaide Economic Development Agency - Consultation
- SA Power Networks - Consultation
- Australasian Bat Society - Consultation

Stakeholders – Informed

- Royal Adelaide Hospital
- Adelaide Botanic High School
- Moonlight Cinema
- St Peter’s College
- University of South Australia
- National Wine Centre
- Diggers Shop
- Salvation Army
- Green Adelaide
- City of Norwood Payneham & Saint Peters
- Adelaide Botanic Garden's Foundation
- University of Adelaide

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint.

Alternatively, email us at privacy@awe.gov.au.

Confirm that you have read and understand this Privacy Notice *

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	56605880028
Organisation name	SUCCESSION ECOLOGY PTY LTD
Organisation address	5042 SA
Referring party details	
Name	C. E. Timothy Paine
Job title	Ecology Team Manager
Phone	0444502228
Email	glenn.smyth@successioneology.com.au
Address	1/938 South Rd, Edwardstown SA 5039

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	48672161045
Organisation name	NATURE BASED EXPERIENCE GROUP PTY LTD
Organisation address	5034 SA

Person proposing to take the action details

Name	Carmine Gallarello
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Job title	Project manager
Phone	0427939502
Email	carmine@treeclimb.com.au
Address	Cnr Greenhill Road &, Unley Rd, Adelaide SA 5000

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

No

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

Yes

1.3.2.16 Describe the nature of the trust arrangement in relation to the proposed action. *

Nature Based Experience Group Pty Ltd (ABN: 48672161045) trades through Tree Climb Pty Ltd (ABN: 62612016145), which is registered for GST. The following Environmental Management Policy refers to TreeClimb but is representative of both companies.

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. *

Nature Based Experience Group Pty Ltd has maintained a satisfactory record of environmental management since its establishment, through evidence of its development of Adelaide Tree Climb and Kuitpo Forest Tree Climb locations.

Nature Based Experience Group Pty Ltd has never been the subject of any enforcement proceedings, fines, penalties or investigations in regards to its environmental management.

Succession Ecology, the Referring Party and entity preparing the application for Nature Based Experience Group Pty Ltd, are passionate about developing effective site-specific methods for site restorations/recovery. We aim to inspire the broader industry to change and embrace the use of natural, successional processes for site recovery. A copy of Succession Ecology's environmental management policy is attached (Attachment: SEPOL-02 Environmental Management Policy_FY24-25.pdf).

Succession Ecology has prepared or is currently preparing a number of referrals under the EPBC Act for other clients. Details of these referrals can be provided if required.

Succession Ecology is not, nor has been subject to 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 Succession Ecology. Succession Ecology is committed to providing sound and robust environmental assessment and management services with the aim to advise and work with development companies to protect and enhance environmental resources as far as practicable.

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

See Nature Based Experience Group Pty Ltd environmental management policy (Attachment: NBEG Environmental Management Policy.pdf)

Nature Based Experience Group Pty Ltd do not have a documented framework for environmental planning. However, all project planning works are governed by the Environmental Policy and are carried out through an Environmental Management System. The project planning process includes all steps required to obtain planning and other approvals required at a State and National level and includes community and other stakeholder consultation as an integral part of this process. Project design iterations are carried out in response to site assessment results and environmental management actions and aim to employ best practice methodology to in order to minimise environmental impacts as far as practical.

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	48672161045
Organisation name	NATURE BASED EXPERIENCE GROUP PTY LTD
Organisation address	5034 SA

Proposed designated proponent details

Name	Carmine Gallarello
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Job title	Project manager
Phone	0427939502
Email	carmine@treeclimb.com.au
Address	Cnr Greenhill Road &, Unley Rd, Adelaide SA 5000

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	56605880028
Organisation name	SUCCESSION ECOLOGY PTY LTD
Organisation address	5042 SA
Representative's name	C. E. Timothy Paine
Representative's job title	Ecology Team Manager
Phone	0444502228
Email	glenn.smyth@successioneecology.com.au
Address	1/938 South Rd, Edwardstown SA 5039

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	48672161045
Organisation name	NATURE BASED EXPERIENCE GROUP PTY LTD
Organisation address	5034 SA
Representative's name	Carmine Gallarello
Representative's job title	Project manager
Phone	0427939502
Email	carmine@treeclimb.com.au

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

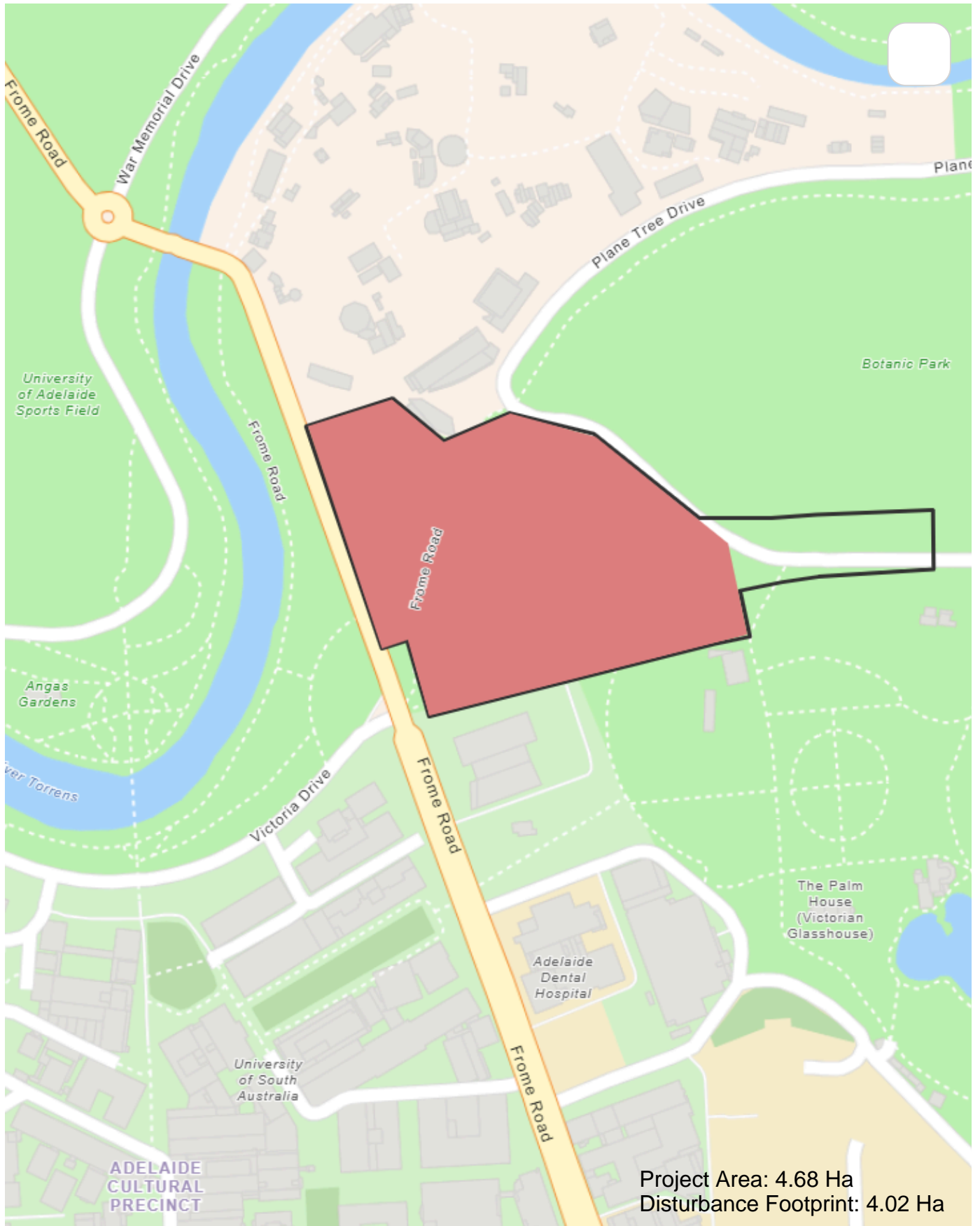
1.4 Payment details: Payment allocation

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

Proposed designated proponent

2. Location

2.1 Project footprint



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Botanic Park, Plane Tree Dr, Adelaide SA 5000

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

South Australia

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? *

Botanic Park within the Adelaide Parklands is owned by the South Australian State Government and is managed by the board of the Botanic Gardens and State Herbarium.

Parcel Identifier: D121055AL55

Street Name: HACKNEY

Street Type: RD

Suburb: ADELAIDE

Hundred: ADELAIDE

Title Ref: CR6302/312

Plan Parcel: D121055 A55

Property St No.: LOT55

3. Existing environment

3.1 Physical description

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

The Proposed Action will be located in Botanic Park, which is in the Adelaide Park Lands. The Project Area lies directly north of the Adelaide Central Business District and abuts the Adelaide Botanic Gardens to the south-east. The Proposed Action is proposed to occur within the site of a Grey-Headed Flying-fox (*Pteropus poliocephalus*, GHFF) camp, located in the south-western corner of Botanic Park (Attachment: Figure 3 Camp extent.pdf).

Historically, the land now known as Botanic Park was used for brickwork production, and later underwent tree planting in 1866 and 1984. Since the late 1800's, the land has facilitated sporting, cultural and social activities and has been open for public use since 1891. Currently, the Project Area is accessible to the public for recreational and community use (for additional information refer to Heritage Self Assessment.pdf, section 4.0: Overview History of National Heritage Place, pages 22-29; CEMP.pdf, section 1.3 Construction history, page 11).

Botanic Park is highly modified, containing planted exotic and native plant species, with a ground covering of exotic grasses (turf). Prior to European settlement, the area consisted of native woodland, although currently there is little to no native remnant vegetation present at the site (Additional information can be sourced under Preliminary Document.pdf, section 1.2: Natural History, page 6). A GHFF camp was established in 2010 within Botanic Park. That camp is now classified as a Nationally-important GHFF camp.

Adjacent land uses are varied and include institutional (Adelaide Zoo to the north and Adelaide Botanic High School to the south), and recreational (Adelaide Botanic Gardens abuts the eastern boundary). Broader land use within 1 km of the Proposed Action includes commercial (Adelaide CBB to the south), educational (University of Adelaide located south-west), recreational (the River Torrens spanning north and west of the broader project area), and residential (numerous locations within 5 km).

The project area is accessible from the local road network via Frome Road and Plane Tree Drive, which border Botanic Park on its western and eastern boundaries, respectively. (For additional information please refer to attachment: CEMP.pdf, Section 6.1: Site Access, Page 26).

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

Currently the Project Area is accessible to the public for recreational use such as walking, picnicking, commuting (via established paths) and general enjoyment of the public space. Botanic Park hosts social and cultural events such as WOMAdelaide in early March, and Moonlight Cinema from late November through late March, adjacent to the Project Area. Foot traffic in Botanic Park increases substantially during these events. (Attachments: CEMP.pdf, section 1.3 Construction history, page 11).

The Proposed Action is intended to provide an engaging and educational tourist attraction to observe and promote Adelaide's nationally important camp of GHFF. Guided and unguided tours will be available daily throughout the year between the hours of 09:00 and 17:00. In addition, dusk tours will be available from October through April from 17:00 to 21:00.

The Proponent developed the Proposed Action as a response to an initiative of the South Australia's State Government (Department of Environment and Water) and the Botanic Gardens and State Herbarium to increase nature-based tourism activities. The Proposed Action will provide economic and environmental benefits including:

- Local employment – construction and operation phases of the Proposed Action will support employment for a diverse range of individuals with a variety of skills.
- Visitor attraction – the development will attract local, interstate and international visitors.
- Environmental education and community engagement – the design of the Proposed Action will provide opportunities for environmental engagement and potential research avenues. A webpage will be established to provide public access to the GHFF Surveillance Shield, Camp Weather Station data and general information about GHFF's significance.

(Additional information can be sourced under Attachment: Preliminary Document.pdf, Section 1.3: Proposed Action background and site description, Page 9).

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

The Proposed Action is located within the Adelaide Metropolitan Area. Little to no remnant native vegetation remains in the immediate or surrounding areas. The Project Area and surrounding parklands consist of open spaces and planted native and exotic tree species, with little to no understory. With regards to conservation reserves, the project area is located 20 km from Black Hill Conservation Park (north-east), Morialta Conservation Park (east), and Horsnell Gully and Giles Conservation Park (east). (Attachment: Preliminary Document.pdf, Section 1.3: Proposed Action background and site description, Page 9).

The Project Area is located within Botanic Park, which forms part of the Adelaide Park Lands, which encircle the central business district of the City of Adelaide. The Adelaide Park Lands and City Layout was inscribed on the National Heritage list in 2008 and is protected under the *EPBC Act*. The Adelaide Park Lands and City Layout was inscribed as a National Heritage Place because of its significance as a turning point in the settlement of Australia. Adelaide was the first city established by free settlers, in contrast to those established as penal settlements or military outposts. The historical layout was conceived prior to settlement. Adelaide is the only city in Australia, and one of very few world-wide, to be completely enclosed by parklands. The values that are protected under inscription are the nineteenth-century city planning design, which includes a defined boundary, streets in a grid pattern, wide streets, public squares, spacious rectangular blocks and expansive public open spaces for commons and public domains. The expression of these features with their generous open space reflects the early theories and ideas of the Garden City movement of an urban area set in publicly accessible open space with plantings, gardens, designed areas and open bushland. Further detail can be found within the Heritage assessment (Attachment: Heritage Self Assessment.pdf; Sections: 3.0 National Heritage Place Details, 6.0 Key Attribute Discussion and 8.0 National Heritage Impact Self-Assessment; pages: 14-21, 39-40, 50-58). The Heritage assessment found the Proposed Action to not require a referral to the EPBC, as it was deemed to pose no significant impact to the heritage status.

The Proposed Action is designed around Adelaide's nationally important GHFF camp. GHFF are listed as Vulnerable under the *EPBC Act* and are listed as Rare under the *National Parks and Wildlife Act 1972 (SA)*. The Adelaide camp was first established with in 2010 and is was estimated in March 2024 to have over 60,000 individuals. Therefore, the camp meets requirements to be recognised as nationally important GHFF camp (Attachment: Grey-headed Flying-fox management plan.pdf, section 10.2: History of the Camp, page 25).

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 located on relatively flat terrain. A statewide digital elevation model (Attachment: Adelaide Metro LiDAR 2022_Metadata, downloaded from: <https://elevation.fsdf.org.au/>) shows the site sits at 28 meters above sea level, with a slight depression 26 m above sea level, running Southeast to Northwest where a tributary of First Creek runs into the River Torrens. There will be negligible impacts from the Proposed Action to this slight depression, as this creek is a dry ephemeral creek, and the project will be an elevated boardwalk amongst the trees. Dust and erosion will be managed through the construction and operation phase to protect the bats and contain the spread of pollutants. Further details of erosion and dust management can be found in the Construction Environmental Management Plan and Operational Management Plan (Attachment: CEMP.pdf; Section: 6 Environmental control measures; Pages: 25-41; Attachment: OEMP.pdf; Section: 6 Environmental control measures; Pages: 21-36)

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.

An ecological assessment and an Arborist report assessed tree viability for infrastructure in relation to the Proposed Action. The Arborist assessment was conducted in July 2023 (Attachment: Arborist report.pdf). They inspected trees with a height greater than three meters to recommend risk management strategies. The arborist assessed 23 trees, which were either indigenous (one species), native (one species) or exotic (five species), and all of them planted. Assessment results found that all trees assessed were either in good to fair condition, with all trees being suitable for inclusion in the Proposed Action development.

A baseline vegetation and fauna assessment was carried out in March 2024 by Succession Ecology (Attachment: EBPC Self Assessment.pdf) It assessed the native vegetation and potential GHFF habitat within the Project Area. The baseline assessment identified GHFF roosting in 17 species of trees, with no evidence of preferential use of certain species. *Pinus halepensis* trees had the greatest number of roosting GHFF compared to any other tree species. The majority of *P. halepensis* trees that were assessed were taller than 10 m. Three *Ficus macrophylla* trees were recorded and each held roosting GHFF. One *Eucalyptus camaldulensis* was assessed during the preliminary field survey and contained approximately 500 roosting GHFF. It is expected that GHFF will roost on any part of the canopy that has suitable branches, and their preference in roosting height will vary depending on time of day, climatic conditions and season (Attachment: Preliminary Document.pdf; section 4.1.2; page 18).

The following paragraphs summarise national and local information about Grey-headed Flying-fox (*Pteropus poliocephalus*; GHFF). Detail about the species is presented in the Grey-headed Flying-fox management plan (Attachment: Grey-headed Flying-fox management plan.pdf).

General information

The Grey-headed Flying-fox is one of seven *Pteropus* species in Australia and is endemic to Australia. The species can be found from Ingham in Queensland, down through the southern tablelands of Queensland and northern tablelands of New South Wales, along the coastal belt of New South Wales and Victoria and, as of 2010, in Adelaide, South Australia. GHFF are a highly mobile species that frequently travels between camps and roost sites, searching for and following preferred flowering foraging resources. Because individual GHFF are highly mobile, they are considered to exist as one large interconnected population across their entire geographic range (Attachment: Recovery-plan-grey-headed-flying-fox.pdf; Section: Biological information; Page: 7-9).

GHFF is one of the world's largest species of bats, with a wingspan of up to 1 m. GHFF are differentiated from other Flying-fox species by the orange fur that encircles their collar and neck. The species typically roost in tall, dense trees located near a water source and can fly 20 to 80 km in a night to forage. Typical roosting habitat for GHFF includes dense forests, woodlands, and urban environments containing sufficient roosting trees. GHFF are increasingly observed roosting in urban areas and establishing roosting colonies, also referred to as camps. The urbanisation of GHFF camps is likely spurred by anthropogenic destruction of roosting and feeding habitats. Additionally, suburban areas offer a stable and plentiful food source to GHFF, because they tend to be reliably and consistently watered by humans (Attachment: Preliminary Document.pdf; section 5 Matters of National Environmental significance; page: 21-22.).

GHFF forage nocturnally on flowering and fruiting vegetation from native woodlands, suburban gardens, and fruit farms. They can travel long distances to feed, typically from the fruit of *Ficus* species (figs) and nectar from the flowers of genera including *Angophora*, *Corymbia* and *Eucalyptus*. Additionally, GHFF feed on fruits from fruit crops and suburban trees, including apples, cherries, dates, figs, and pears (Attachment: Preliminary Document.pdf; section 5 Matters of National Environmental significance; page: 21-22.).

Among mammals, GHFF have one of the slowest reproductive rates relative to their body size. One breeding cycle occurs annually; the time from conception to independent juvenile takes an entire year.

Mating occurs between March and May, with peak conception (in South Australia) occurring in April and May.

Following conception and a six-month gestation period a one pup is born. For the first four to five weeks after birth the pup is carried by the mother at all times, including on foraging flights. During summer, as the pup becomes more independent, it is left at camp while its mother forages nearby. After approximately 20 weeks, juveniles become independent of their mothers. Each GHFF has a distinctive call, which is used for identification by mothers and pups. During roost, GHFF interact, socialise, and rest before foraging begins at dusk (Attachment: Preliminary Document.pdf; section 5 Matters of National Environmental significance; page: 21-22.).

GHFF are very sensitive to environmental stressors, including heat, storm events, low food availability, and some anthropogenic activities. Signs of severe stress, if it occurs during gestation, can include foetal abortion and premature births. Mass abortions can occur in a camp if the environmental stressor is significant (Attachment: Preliminary Document.pdf; section 5 Matters of National Environmental significance; page: 21-22.).

GHFF was listed as vulnerable in 2001, due to an estimated decline of 30 % in the population over a 10-year period. This decline likely resulted from the loss and degradation to roosting and foraging habitat since European settlement and from increasing conflicts with humans. GHFF have increased foraging within commercial fruit crops as preferred resources are cleared or degraded, resulting in camp disturbances or mortality. Electrocutation from powerlines and entanglement in fencing and barbed wire has also increased as the species continues to increase occupation within urban environments. Future impacts of climate change such as increasing temperatures and the increasing severity and frequency of stochastic events are likely to further exacerbate degradation of roosting and foraging habitat. This may further increase the impact of heat stress events, in which large portions of the population experience severe stress resulting in mortality (Attachment: Preliminary Document.pdf; section 5.1.3 Common threats to Grey-headed Flying-fox; page: 24-25.).

A recent analysis of ten years of data from the National Flying-fox Monitoring Program estimates the national GHFF population to be 600,000 individuals and suggests that the population has stabilised and may be increasing slightly (Vanderduys et. al 2024). Nevertheless, effects from climate change are likely to impact GHFF in the future. Attachment: Vanderduys et. al (2024).pdf; Section: Discussion, The Future of GHFF; Page: 14-16).

Local information

Adelaide hosts the only Nationally Important GHFF camp in South Australia. A handful of minor camps have recently been recorded in Port Augusta and Mount Gambier. Adelaide's camp has grown significantly since 2010. Current estimates place the population around 60,000 individuals, or 10 % of the estimated national population. The camp's population fluctuates seasonally as foraging resources fluctuate, with fewer residents in winter than summer. The future movements and size of the camp is difficult to predict. However it is unlikely that the camp will move further than a few hundreds of metres from its current location. Growth is unlikely to be limited by roosting habitat; it is more likely that foraging opportunities will limit population size (Attachment: Preliminary Document.pdf; section 5.1.2 Adelaide's Nationally Important GHFF Camp; page: 23-24.). In Adelaide, GHFF forage in the urban and suburban areas, as well as the national parks and developed areas of the Adelaide Hills (Attachment: Meeting_Minutes_Linda Collins.pdf; Attachment: Meeting_Minutes_Linda Collins redacted.pdf). At dusk, GHFF fly out of Adelaide camp primarily to the east, but then forage in all directions in the surrounding landscape (Attachment: Figure 2 Flyout direction).

The increase in population size provides concrete evidence of the habituation of GHFF to urbanised Adelaide (Attachment: Meeting_Minutes_Linda Collins.pdf). In contrast to microbats, they are relatively insensitive to anthropogenic noises, especially low-frequency continuous sound, such as traffic noise. GHFF actively exploit suburban gardens and fruit orchard farms for foraging. Evidence of the Adelaide's camp habituation includes their tolerance of the annual WOMA Adelaide music festival, which began in 1992 and has grown significantly since then. As well, Adelaide Botanic High School increased student capacity from 1,200 to almost 2,000 students. The Adelaide Zoo has also developed infrastructure near Adelaide's GHFF Camp. The persistence and population growth of Adelaide's GHFF camp provides evidence of their ongoing habituation to the urban environment. It is also likely a consequence of the decrease in roosting and foraging habitat available in along the east coast of Australia (Attachment: Preliminary Document.pdf; section: 6 Proposed action impacts; page: 28).

Excluding GHFF, no other threatened flora or fauna species was detected on-site, nor are any considered likely to occur there. This is due to the site being highly modified, with little to no native remnant vegetation present, or suitable habitat present for the species (Attachment: Preliminary Document.pdf, section 14.3.1: Proposed Action impact summary to MNES, page 36). Other fauna species that use Botanic Park include (but are not limited to) the Common Ringtail Possum (*Pseudocheirus peregrinus*) and common urban bird species (Attachment: CEMP.pdf, section 11: Environmental Receptors and Factors, page 21).

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

The Project Area is highly modified, with little to no native remnant vegetation. The site contains very little understory and includes mostly planted exotic species of trees, shrubs and grasses, with a range of *Pinus sp.* and *Eucalyptus sp.* present within the area of the Proposed Action. Additionally, *Platanus x acerifolia* trees line Plane Tree Drive (Attachment: Arborist report.pdf, Tree Assessment, Page 4; Appendix B- Tree Assessment Findings).

The soil characteristics of the Flinders Lofty Block in the Mount Lofty Ranges of the Interim Biogeographic Regionalisation for Australia Subregion are neutral loamy soils over red clay subsoils. In the Project Area, soils are likely to be highly modified from intensive anthropogenic use. The Project Area occurs within the Adelaide Metropolitan Area, which has been highly modified since European settlement and is unlikely to support remnant native vegetation, like the majority of the surrounding urbanised area (Attachment: Preliminary Document.pdf, Section 1.3: Proposed Action background and site description, Page 9).

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 Proposed Action is situated in Botanic Park within the Adelaide Parklands. The 'Adelaide Park Lands and City Layout' was inscribed on the National Heritage List by the Commonwealth of Australia in 2008 under the *EPBC Act*. As such, the entirety of the Proposed Action lies within the boundaries of the 'Adelaide Park Lands and City Layout'. The heritage assessment conducted by DASH Architects is summarised below. (Attachment: Preliminary Document.pdf; Section 4.1.4 Heritage Impact Assessment; Pages: 19-20; Attachment: Preliminary Document.pdf; Section: 5.2 Adelaide Park Lands and City Layout; Pages: 25-27; Attachment: Heritage Self Assessment.pdf)

In 1836, Surveyor-General Colonel William Light commenced the survey for the City of Adelaide, whereby the 1837 plan (Light's Plan) divided the land into North and South Adelaide. Eventually, Light's Plan was further divided into 1042 town acres that were surrounded by Park Lands. Despite many developments and modifications to the Adelaide Park Lands and City Layout since Light's 1837 Plan, it has remained mostly discernible and therefore warrants a National Heritage Place listing under the *EPBC Act* (Attachment: Preliminary Document.pdf; Section 4.1.4 Heritage Impact Assessment; Pages: 19-20; Attachment: Preliminary Document.pdf; Section: 5.2 Adelaide Park Lands and City Layout; Pages: 25-27).

The Adelaide Park Lands and City Layout was inscribed on the National Heritage list in 2008. The National Heritage Place was found to meet six of the eight significance criteria under Division 2 Section 10.01A (2) of the *Environment Protection Biodiversity and Conservation Regulations 2000* (Cth; EPBC Regs). The six significance criteria that apply to the Adelaide Park Lands and City Layout are:

- Criterion (a): *The place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.*

- Criterion (b): *The place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.*
- Criterion (d): *The place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places; or (ii) a class of Australia's natural or cultural environments.*
- Criterion (f): *The place has outstanding heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period.*
- Criterion (g): *The place has outstanding heritage value to the nation because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.*

The City of Adelaide and various State Government agencies and authorities protect and manage the Adelaide Park Lands for all South Australians. The City of Adelaide is responsible for the administrative report of National Heritage impacts to Kadaltilla / Park Lands Authority, formerly known as the Adelaide Park Lands Authority. Kadaltilla / Park Lands Authority was established as Adelaide Park Lands Authority in 2005 as a subsidiary of the City of Adelaide under the *Local Government Act 1999* (SA). Kadaltilla / Park Lands Authority is the principal advisor to both City of Adelaide and the State Government on the protection, management, enhancement and promotion of the Adelaide Park Lands (Attachment: Preliminary Document.pdf; Section 4.1.4 Heritage Impact Assessment; Pages: 19-20; Attachment: Preliminary Document.pdf; Section: 5.2 Adelaide Park Lands and City Layout; Pages: 25-27).

The 2023 Draft Heritage Management Plan established a list of heritage attributes that contribute to the place's overall National Heritage values. These attributes include general and park specific. All 'general' heritage attributes and relevant 'park specific' heritage attributes form the basis of the heritage self-assessment (Attachment: Preliminary Document.pdf; Section 4.1.4 Heritage Impact Assessment; Pages: 19-20; Attachment Preliminary Document.pdf; Section: 5.2 Adelaide Park Lands and City Layout; Pages: 25-27).

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

Kaurna Yerta Aboriginal Corporation (KYAC) are the Traditional Owner organisation for the Project Area. The BGS Deputy Director, Public Engagement, wrote to KYAC in March 2023 informing them of the project, offering engagement, and asking whether there were any concerns or objections. To date no response has been received.

DASH Architects conducted a National Heritage Impact assessment of the Proposed Action, in which it was measured against the SIG 1.1 Guidelines for National Heritage Places. The heritage attributes of the Project Area do not include cultural heritage. On these grounds, no cultural heritage report has been provided as part of this referral.

It is therefore our understanding that no indigenous heritage values are present.

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. *

A detailed hydrology report has not been prepared for the Proposed Action at this stage. One may be performed at a later stage to support geotechnical investigations.

A review of data available through NatureMaps (<http://spatialwebapps.environment.sa.gov.au/naturemaps/?locale=en-us&viewer=naturemaps>) and Water Connect SA (<https://www.waterconnect.sa.gov.au/Pages/Home.aspx>), identifies the River Torrens 50 m to the west of the Project Area, with an ephemeral tributary of First Creek traversing the Project Area from South East to North West, where it then runs into the River Torrens. The Adelaide Plains Prescribed Wells Areas most recent factsheet (2020-2021) shows that 94 % of the wells within the central Adelaide area classified the aquifer capacity as average or higher. The topography of Botanic Park where the Proposed Action is located is relatively flat except for a slight depression where an ephemeral tributary of First Creek runs through to the River Torrens (Attachment: Adelaide-Plains-Water-Allocation-Plan_2022.pdf; Section: 4.4 impacts on surface water; Page: 36; Attachment: Adelaide_Plains_2020-21_WRA_Factsheet.pdf; Section: Groundwater levels; Page: 1). (Attachment: Figure 4 Surrounding land uses and First creek)

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	Yes	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	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.

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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. *

The Proposed Action does not occur within, or in the vicinity of, a World Heritage Area.
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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.

Direct impact	Indirect impact	National heritage
Yes	No	Adelaide Park Lands and City Layout

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

Yes

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

DASH Architects conducted a National Heritage Impact assessment of the Proposed Action, in which it was measured against the SIG 1.1 Guidelines for National Heritage Places.

The following section details the heritage attributes of the Project Area, followed by a summary of the significant impact assessment for National Heritage Places.

Light's 1837 Adelaide Plan

Heritage attributes

- Overall plan including layout of North and South Adelaide incorporating gridded street pattern (including hierarchy of roads), six town squares separated by the Karrawirra Parri/River Torrens and encircled by Park Lands (often referred to as figure-of-eight form)
- Encircling Park Lands – public open space
- Defined outer boundary of city edges and corresponding inner boundary of Park Lands
- Defined outer boundary of Park Lands
- Six public squares – public open landscaped space
- Form and defined outer boundary of the squares
- Overall rectilinear gridded street form and block pattern defined by town acre property boundaries
- Hierarchy of road widths
- Designed response to topography
- Supporting archival records

Use and Accessibility

Heritage Attributes

- Allowance for civic, public, cultural, institutional buildings and domains in the Park Lands
- Publicly accessible diverse landscaped open space and connectedness to the city
- Venue for social and cultural interactions and gathering

Landscape Character

Heritage Attributes

- The Adelaide Botanic Garden and its botanically important living plant collection
- Evidence of successive landscape design and planting characteristics
- Views and vistas developed over time (consequential and intentional)
- Tainmunda/Park 11 – Landscape design, which reflects the landscape design of John Ednie Brown and August Pelzer, and the Directors of the Adelaide Botanic Garden and Botanic Park

The Proposed Action is located primarily in the south-west corner of Botanic Park with a small portion located along the northern edge of Adelaide Botanic Garden. One new building is proposed at the entry to the proposed action, which will have a small footprint, and its location is behind and set back from the North Lodge in the Botanic Garden.

The Proposed Action has been designed with a sympathetic material and colour palette to its Park Lands context (See attachment: Preliminary Document.pdf; Appendix: Appendix E: Botanic Loop Materials and Colours). Excavation works for the new development will be limited to construction of the new poles that will be used in conjunction with existing trees to support the Proposed Action. The elevated design of the walkway will not impact on any open space in the Park Lands. No trees are proposed to be removed, and the existing landscape character will be retained with its formal and informal spaces.

Light's 1837 Adelaide Plan, including its various attributes, will remain clearly legible. Designed views and vistas within Botanic Park and the Adelaide Botanic Garden are not considered to be affected. All the elements of the new development are contained within the eastern area of the encircling park lands, and do not cross over any major or minor roads.

The proposed use will add to the place's National Heritage values. As a tourism experience of a recreational nature, it is compatible with both the place's National Heritage values, and the Botanic Park generally, which includes spaces and venues for social and cultural recreation, meetings and events. Other areas of Botanic Park

and the Adelaide Botanic Garden will continue to be used as places for social and cultural recreation, meetings and events.

This National Heritage Impact Assessment concluded that the Proposed Action will not have any impacts on the National Heritage values of the 'Adelaide Park Lands and City Layout'. Details of the National Heritage Impact Assessment are provided in Attachment: Heritage Self Assessment.pdf; Section: 8.0 National Heritage Impact Self-Assessment; Pages: 50 – 59; and Attachment: Heritage Self Assessment.pdf; Section: 9.0 Summary and Recommendations; Pages: 59 – 60.

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

No

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

As the Proposed Action will be located in the context of Light's 1837 Adelaide Plan, it may be conceived to have a direct impact on the place's National Heritage values. However, due to its limited scale and carefully designed nature, is not considered to have any significant adverse impact on National Heritage values. All together, although the Proposed Action may slightly impact on National Heritage values, there will be no significant impact.

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

No

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

Because the Proposed Action will not have a Significant Impact on National Heritage values, it will not be a controlled action on this ground.

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

Actions taken in the design stage of the Proposed Action have avoided all possible impacts to National Heritage values.

The Proposed Action is located primarily in the south-west corner of Botanic Park with a small portion located along the northern edge of Adelaide Botanic Garden. One new building is proposed at the entry to the proposed action, which will have a small footprint, and its location is behind and set back from the North Lodge in the Botanic Garden.

Moreover, the Proposed Action has been designed with a sympathetic material and colour palette to its Park Lands context (See attachment: Preliminary Document.pdf; Appendix: Appendix E: Botanic Loop Materials and Colours). Excavation works for the new development will be limited to construction of the new poles that will be used in conjunction with existing trees to support the Proposed Action. The elevated design of the walkway will not impact on any open space in the Park Lands. No trees are proposed to be removed, and the existing landscape character will be retained with its formal and informal spaces.

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

No offset is proposed on for National Heritage values, as no significant impact to them is expected as a result of the Proposed Action.

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.

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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. *

The Proposed Action does not occur within, or in the vicinity of, a Ramsar listed Wetland.

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	<i>Aphelocephala leucopsis</i>	Southern Whiteface
No	No	<i>Aprasia pseudopulchella</i>	Flinders Ranges Worm-lizard
No	No	<i>Botaurus poiciloptilus</i>	Australasian Bittern
No	No	<i>Caladenia tensa</i>	Greencomb Spider-orchid, Rigid Spider-orchid
No	No	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
No	No	<i>Calidris canutus</i>	Red Knot, Knot
No	No	<i>Calidris ferruginea</i>	Curlew Sandpiper
No	No	<i>Falco hypoleucos</i>	Grey Falcon
No	No	<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
No	No	<i>Grantiella picta</i>	Painted Honeyeater
No	No	<i>Hirundapus caudacutus</i>	White-throated Needletail
No	No	<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin, Hooded Robin (south-eastern)
No	No	<i>Neophema chrysostoma</i>	Blue-winged Parrot
No	No	<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
No	No	<i>Prasophyllum pallidum</i>	Pale Leek-orchid

Direct impact	Indirect impact	Species	Common name
Yes	Yes	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox
No	No	<i>Rostratula australis</i>	Australian Painted Snipe
No	No	<i>Senecio macrocarpus</i>	Large-fruit Fireweed, Large-fruit Groundsel
No	No	<i>Stagonopleura guttata</i>	Diamond Firetail
No	No	<i>Sternula nereis nereis</i>	Australian Fairy Tern
No	No	<i>Swainsona pyrophila</i>	Yellow Swainson-pea
No	No	<i>Tringa nebularia</i>	Common Greenshank, Greenshank

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia

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. *

This section describes potential impacts from the Proposed Action to Grey-headed Flying-fox (*Pteropus poliocephalus*; GHFF). It does not consider mitigation actions.

The slow reproduction rate and low environmental stress tolerance of GHFF makes them susceptible to environmental and anthropogenic threats. The most significant threats include habitat clearance, camp disturbance and heat stress. A detailed discussion on threats and key impacts are presented in the Preliminary Documentation (Attachment: Preliminary Document.pdf; section 5.1.3, page 24-25). The Referral Guideline for Management Actions in Grey-headed and Spectacled Flying-fox Camps (Attachment: Referral-guideline-flying-fox-camps.pdf) details actions that are likely to have a significant impact on GHFF camps. The Guideline distinguishes between disturbance activities, which are intended to displace GHFF camps, and routine camp management. Potential impacts to GHFF that may occur to GHFF from the Proposed Action are summarised below.

Habitat Disturbance – Direct Impact

The Proposed Action is located within a Nationally important GHFF camp (Attachment: Grey-headed Flying-fox management plan.pdf, Figure 1, page 7). No trees within the camp are proposed to be removed as part of the Proposed Action. However, 11 trees are included in the development; five of which (T7-T11) are known to provide roosting habitat, and six of which (T1-T6) may provide roosting habitat (Attachment: The Botanic loop designs 2.pdf, Drawing No. PC-01A, page 2).

The trees included in the Proposed Action will serve as anchors for the suspended boardwalk. They have been assessed as suitable by a certified arborist (Attachment: Arborist report.pdf, Section: Conclusion, Page: 6). Works to be carried out on the trees include the installation of secondary platforms, steel cables, balustrades, rails, and netting. These works may require minor pruning or removal of lower branches in order to install required infrastructure. Maintenance works may require minor pruning of any vegetative growth that inhibits, or causes a safety hazard to the operation of the facility. Works on the trees may cause temporary disturbance to roosting habitat during construction.

Construction works may cause impacts to roosting habitat. The level of activity and nature of the works could exceed 'routine camp management' and require the application of Mitigation Standards to reduce impacts to non-significant levels.

Contamination – Indirect Impacts

Contamination of the surrounding environment from spills or leakage of hazardous chemicals during construction or operation could reduce roosting habitat quality by affecting soils that support roosting trees. Major contamination events could lead to impacts that could present that which is more than 'routine camp management'. Contamination risks therefore require the application of Mitigation Standards to reduce impacts to acceptable levels.

Noise and vibration – Direct and Indirect Impacts

Grey-headed Flying-foxes are sensitive to short loud sharp high-pitched "impulsive" sound, such as that caused by metal on metal impacts. During the construction phase, there is the potential for negative impacts from construction noise, causing stress to individuals resulting in temporary or permanent avoidance of areas within the camp. Increased noise levels could disrupt mating, and increased stress levels during late gestation and birth could result in foetal abortion and pup abandonment (Attachment Preliminary Document.pdf, Section: 5.1 Grey-headed Flying-fox, Pages: 21-22). Noise caused through construction may also mask GHFF sound, affecting communication. It may also disturb sleep, thus reducing fitness for foraging and other activities. However, GHFF are somewhat tolerant of anthropogenic noise and urban areas in general, and do not exhibit changes in communication due to the loud volume of their vocalisations (Attachment: Grey-headed Flying-fox management plan.pdf; Section 2.2.11; page 18; section 2.3 page 18-19).

Some works required during construction have the potential to produce noise events which may have a disturbance impact on roosting GHFF. Such events therefore require the application of Mitigation Standards to reduce impacts to non-significant levels. In the operation phase of the Proposed Action, noise and vibration are not expected to impact GHFF.

Air quality and dust – Direct and Indirect Impacts

Dust production from construction works, when at high levels and toxic, could interfere with the GHFF olfactory senses which are heavily relied on for foraging, or cause illness to GHFF if ingested through grooming or ingesting from contaminated food. Increase in exhaust gasses could immediately negatively affect GHFF health decreasing their strength and fitness from exhaust gas inhalation (Attachment: Grey-headed Flying-fox management plan.pdf; Section 2.2.5; page 16).

Dust emissions will increase during construction works but will remain as per background levels during operation. Dust emission produced during construction may have the potential to affect roosting GHFF and will require the application of Mitigation Standards to reduce impacts to acceptable levels. In the operation phase of the Proposed Action, air quality and dust are not expected to impact GHFF.

Artificial Lighting – Direct and Indirect Impact

Artificial light at night can cause a range of responses from GHFF, particularly in naturally dark areas. Responses include slow emergence from roosting to forage, travelling further during foraging to avoid artificial light, alteration of flown routes, and abandonment of roost sites. However, GHFF are also known to roost in areas that receive artificial lighting, giving them a certain degree of tolerance to urban environments (Attachment: Grey-headed Flying-fox management plan.pdf; Section 2.2.1; page 14, Section 2.3 page 18-19).

Artificial lighting that is required to be used during the construction and operation stages has the potential to negatively impact roosting GHFF. As such, it requires the application of Mitigation Standards to reduce impacts to non-significant levels.

Entanglement – Direct Impact

GHFF can become entangled in barbed wire fencing and netting over commercial fruit crops. The Proposed Action does not include any elements of this type. Mesh balustrades will be installed along the boardwalk as a safety feature. The mesh used will be stable and constructed of twisted fine-gauge stainless steel cables. Single-line steel cables will be used above the boardwalk to enable suspension between anchor piers and trees. These infrastructure elements are unlikely to pose an entanglement hazard for GHFF and do not therefore require the application of Mitigation Standards.

Fire – Direct and Indirect Impact

Accidental fire during the construction or operation stage would cause direct mortality and loss of roosting habitat. This would cause a long-term negative impact to the camp (Attachment: Grey-headed Flying-fox management plan.pdf; Section 2.2.2; page 15). Fire events caused from construction or operation activities have the potential to seriously affect roosting GHFF and the camp and require the application of Mitigation Standards to reduce fire risk to acceptable levels.

Anthropogenic Infrastructure, Activity and Movement – Direct and Indirect Impact

It is evident that the GHFF in Adelaide's camp have some level of habituation to humans, given the location of the camp in Botanic Park. The construction and operation of the Proposed Action will result in the inclusion of a new built structure, increased vehicle and plant activity, and increased human activity around the camp.

Councils around Australia have developed viewing platforms near urban GHFF camps to promote and educate local communities. Such facilities typically include a viewing platform or trail. No reports of significant impacts to GHFF have arisen from the platforms currently in operation (Attachment: Grey-headed Flying-fox management plan.pdf; section 2.3; page 19). The Proposed Action presents a novel development with regards to proximity to an active GHFF camp. The infrastructure will be located within the camp and constructed to heights similar to those at which GHFF roost. The degree of impact the infrastructure will cause is unknown. However, it is considered possible that the Proposed Action will impact the GHFF camp. Infrastructure and humans may also impact the GHFF evening fly-out path. Such impacts may be more intense than 'routine camp management'. As such, they require the application of Mitigation Standards to reduce impacts to non-significant levels.

Human interaction and injury

The Proposed Action aims to facilitate the education and raising of awareness of the GHFF to visitors by facilitating an up-close experience with the camp. The Proposed Action facilitates the viewing of the GHFF colony from a 10 m high boardwalk, which is within roosting height for GHFF. Visitors may find themselves within close proximity (within 5 m) of individual GHFF. There may also be occasions where GHFF choose to roost on the Proposed Action. The proximity of humans to individual GHFF increases the chance of humans inflicting injury, intentionally or unintentionally, to individual GHFF. It may also result in an injury caused by GHFF to humans. Although the risk of zoonotic infection is low, bites and scratches could result in diseases, which would have direct health and well-being impacts to the affected humans and indirectly affect GHFF through damage to their public reputation (Attachment: Grey-headed Flying-fox management plan.pdf; section 2.2.12; page 18).

The degree of biosecurity impacts is unknown. However, given the increased human-GHFF proximity, it is considered to be at a level that may produce significant impacts. As such the application of Mitigation Standards is required to reduce impacts to non-significant levels.

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

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Significant Impact assessment – Grey-headed Flying-fox

The following summary of the Significant Impact Assessment carried out for the GHFF presents the criteria under which significant impacts were found to be Possible or Likely. Full details of the assessment (including those criteria for which no significant impacts were found) can be found in Attachment: Preliminary Document.pdf, section 6.3.1, Table 6, page 33-36.

The Significant Impact Assessment is based on published literature, including the relevant guidelines, GHFF Referral Guideline, and the Matters of National Environmental Significance: Significant Impact Guidelines 1.1 for species listed as Vulnerable (Attachment: MNES Significant impact guidelines 1.1.pdf; Section: Vulnerable species; Page: 10).

Mitigation Standards (as outlined in the referral guidelines document) will be employed to the extent possible. However, not all standards can be employed in full. As such, the guidance provides that the Proposed Action is likely to pose a significant impact. A discussion of such impacts with reference to the referral guidelines and significant impact guidelines 1.1 is provided below (Attachment: Referral-guideline-flying-fox-camps.pdf).

Important Population

Adelaide's GHFF camp can be considered is to be an Important Population due to:

- The camp belonging to a Nationally Important camp
- The camp occurring at the margins of its known range
- The camp being key source for breeding and dispersal.

It is also possible that the colony is important to maintain genetic diversity, however such studies have not been conducted and remain unknown.

Criterion A: 'Lead to a long-term decrease in the size of an important population of a species'

- Assessment result: **Possible**.
- The Adelaide GHFF camp will be subject to a number of potential impacts. There is a lack of data regarding how GHFF will respond to a nearby development. However it is considered likely that the impact for some factors has the potential to be greater than 'routine camp maintenance'. As such, the Proposed Action could negatively impact the population of the GHFF camp in the long term.

Criterion B: 'Reduce the area of occupancy of an important population'

- Assessment result: **Possible**.
- The construction of the Proposed Action will occur within the GHFF camp. It is possible that GHFF will avoid certain roosting trees during the construction and operational stages, ultimately reducing roosting habitat.

Criterion C: 'Fragment an existing important population into two or more populations'

- Assessment result: **Possible**.
- Construction or operation activities could cause population fragmentation as individuals move to avoid disturbance. Adelaide's GHFF camp is known to have spread out into the surrounding Parklands and Adelaide Botanic Gardens during adverse conditions, however it has then been observed to regroup to the Botanic Park (Attachment: Meeting_Minutes_Linda Collins.pdf). Major disturbances may result in a fragmentation of the colony.

Criterion D: 'Disrupt the breeding cycle of an important population'

- Assessment result: **Possible**.
- GHFF are prone to abortions if significantly stressed or disturbed, especially by anthropogenic activities. Activities associated with the Proposed Action may cause stresses that increase the risk of abortions or interfere with breeding communication. GHFF give birth to one pup each year, thus any abortion-inducing impact could impact the breeding cycle.

Criterion E: 'Interfere substantially with the recovery of the species'

- Assessment result: **Possible**.

The potential impacts from the Proposed Action to the GHFF, if realised in full, may result in interference with the recovery of the species. Further, should a negative interaction resulting in serious injury or zoonotic disease transmission to staff or guests occur, it would likely further decrease the public's perception of GHFF. This impact to the public reputation of GHFF has the potential to interfere with recovery efforts.

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. *

We acknowledge that, in the absence of mitigation actions, it is likely that the Proposed Action would have significant impacts to GHFF. In a risk assessment carried out by Succession Ecology for GHFF, the risk levels of direct and indirect impacts ranged for medium to very high. The Proponent has developed workable, practical, and effective mitigation strategies to decrease the likelihood of impacts to GHFF. Briefly put, we do not think that the Proposed Action is a controlled action because the mitigation strategies that have been and will be implemented will reduce risks to GHFF to less than significant levels.

The mitigation strategies to be implemented in the Proposed Action are discussed in detail below, and include reference to:

- the discussion of potential impacts discussed above (section 4.1.4.2: Briefly describe why your action has a direct and/or indirect impact on these protected matters.)
- the summary of the Significant Impact Assessment against relevant criteria (Attachment: EBPC Self Assessment.pdf).
- the Mitigation Standards published within the GHFF Referral Guideline (Attachment: Referral-guideline-flying-fox-camps.pdf). The Mitigation Standards are provided to guide management of GHFF camps, where the implementation of the Standards will assist in avoiding significant impacts.

The Mitigation Standards are:

A) The action must not occur if the camp contains females that are in the late stages of pregnancy or have dependent young that cannot fly on their own.

B) The action must not occur during or immediately after climatic extremes (heat stress event, cyclone event), or during a period of significant food stress.

C) Disturbance must be carried out using non-lethal means, such as acoustic, visual and/or physical disturbance or use of smoke.

D) Disturbance activities must be limited to a maximum of 2.5 hours in any 12-hour period, preferably at or before sunrise or at sunset

E) Trees are not felled, lopped or have large branches removed when flying foxes are in or near to a tree and likely to be harmed

F) The action must be supervised by a person with knowledge and experience relevant to the management of flying-foxes and their habitat, who can identify dependent young and is aware of climatic extremes and food stress events. This person must make an assessment of the relevant conditions and advise the Proponent whether the activity can go ahead consistent with these standards.

G) The action must not involve the clearing of all vegetation supporting a nationally important Flying-fox camp. Sufficient vegetation must be retained to support the maximum number of flying-foxes ever recorded in the camp of interest.

H) The mitigation standards are applicable to all actions at nationally important flying-fox camps other than routine camp management. In circumstances where mitigation standards are not applied, significant impacts are likely, and the proposed action is more likely to need to be referred for assessment and approval under the EPBC Act.

Note that Mitigation Standards C and D are not relevant to the Proposed Action as it does not include any 'Disturbance', which is defined as an intentional event to encourage the dispersal of GHFF.

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. *

The mitigation measures proposed to be implemented for the Proposed Action have been designed to avoid and mitigate risks and thereby ensure that impacts remain below significant levels. Key mitigation measures are outlined below, making reference to the relevant impact factor, Mitigation Standard, and Significant Impact criterion. These avoidance and mitigations measures are detailed in the Construction Environmental Management Plan (CEMP), Operational Environment Management Plan (OEMP) and Grey-headed Flying-fox Management Plan (GHFFMP (Attachment: Preliminary Document.pdf; Section: 7 Avoidance mitigation and management measures; Pages: 37-42; Attachment: OEMP.pdf; Section: 8 Environmental risk register; Page:46-59; Attachment: CEMP.pdf; Section: 6 Environmental Control Measures; 8 Environmental risk register; Page: 50-58; Attachment: Grey-headed Flying-fox management plan.pdf; Section: 4.2 Mitigation strategies, risk analysis and residual risks assessment; Page: 23-30).

Impact Factor: Habitat

Key Measures:

- Avoid clearance of roosting habitat.
- Avoid significant clearance of camp habitat and minimise vegetation clearance.
- Stop works if GHFF roost on equipment or in a tree where construction is to occur. Notify ecological consultant and fauna rescue members.
- Use construction fencing to mark root protection zones and avoid vehicle damage to the trees on site.
- Appropriately store and handle hazardous materials

Mitigation Standard addressed: E, G

Significant Impact Criterion Addressed: A, B, C, E

Impact Factor: Noise and Vibration

Key Measures:

- For works far from the GHFF camp (works ≥ 50 m from the nearest roosting GHFF): Limit construction activities that cause noise and vibration between 07:00 to 19:00.
- For works near the GHFF camp: Limit construction activities that cause noise and vibration to the period 1 hour after sunset to 1 hour before sunrise.
- Limit construction activities to outside key breeding periods for the GHFF including mating, gestation and birth periods of the GHFF reproductive cycle.
- Concentrate construction activities in one area at a time.
- Avoid leaving engines idling.
- Avoid using generators to supply artificial light.
- Monitor GHFF activity to ensure that noise and vibration do not cause significant stress to the camp

Mitigation Standard addressed: B, F

Significant Impact Criterion Addressed: A, B, C, D, E

Impact Factor: Air quality and dust

Key Measures:

- Minimise vegetation clearance where possible.
- Clear vegetation in stages.
- Adequately soil stockpiles that are unable to be covered with Jute mesh.
- Designate vehicle access routes, communicate to all contractors.
- Apply suitable emissions control mechanisms to vehicles.
- Monitor dust levels during construction. Generate a baseline air quality and dust report to measure against.
- Audit and report every six months during operation stage.

Mitigation Standard addressed: E, G, F

Significant Impact Criterion Addressed: A, B, C, D, E

Impact Factor: Artificial lighting

Key Measures:

- Minimise vegetation clearance where possible.
- Clear vegetation in stages.
- Adequately soil stockpiles that are unable to be covered with Jute mesh.
- Designate vehicle access routes, communicate to all contractors.
- Apply suitable emissions control mechanisms to vehicles.
- Monitor dust levels during construction. Generate a baseline air quality and dust report to measure against.
- Audit and report every six months during operation stage.

Mitigation Standard addressed: E, G, F

Significant Impact Criterion Addressed: A, B, C, D, E

Impact Factor: Entanglement

Key Measures:

- Design structure and select materials to avoid entanglement.
- Any GHFF on the structure to be removed by an approved expert with the relevant training and vaccinations.

Mitigation Standard addressed: F

Significant Impact Criterion Addressed: A, B, D

Impact Factor: Fire

Key Measures:

- Induct site personnel on fire and emergency response measures, including evacuation procedures, location of firefighting equipment, and emergency response equipment.
- Provide the Metropolitan Fire Service with information regarding access and the location of the equipment and measures implemented during construction and operation.
- Map appropriate and safe locations of building services and potentially dangerous plant, equipment, or materials.

- Induct visitors on emergency procedures.
- Train staff on emergency procedures.
- Maintain up to date emergency response procedures.
- Respond to all incidents and emergencies to limit harm to personnel, property, infrastructure, and GHFF.
- Checks BOM website daily to assess fire and natural disaster risks. Cease activities in high-risk climatic conditions.
- Monitor fire risk weekly during construction and six-monthly during operation.

Mitigation Standard addressed: B, E, G

Significant Impact Criterion Addressed: A, B, C, D

Impact Factor: Anthropogenic infrastructure, activity

Key Measures:

- Personnel are not to handle GHFF, unless trained and vaccinated.
- Establish a First Aid procedure if visitors or personnel come into contact with a GHFF.
- Provide induction material to all visitors and personnel and provide signage to reiterate the importance of avoiding contact with GHFF.
- Use of appropriate PPE for any personnel who must handle or otherwise interact with GHFF.
- Daily checks of all infrastructure plant and vehicles to identify and avoid potential for negative interactions.

Mitigation Standard addressed: E, G

Significant Impact Criterion Addressed: A, B, C, D

Impact Factor: Human interaction

Key Measures:

- Personnel are not to handle GHFF, unless trained and vaccinated.
- Establish a First Aid procedure if visitors or personnel come into contact with a GHFF.
- Provide induction material to all visitors and personnel and provide signage to reiterate the importance of avoiding contact with GHFF.
- Use of appropriate PPE for any personnel who must handle or otherwise interact with GHFF.
- Daily checks of all infrastructure plant and vehicles to identify and avoid potential for negative interactions.

Mitigation Standard addressed: F

Significant Impact Criterion Addressed: E

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

In addition to a comprehensive set of mitigation actions, the Proponent will implement a set of activities and infrastructure that will have indirect positive effects on Adelaide's GHFF camp specifically and Australia's GHFF more broadly.

The Proposed Action provides an opportunity to educate the public and increase participation in the recovery of GHFF. The Proponent plans to install 10 monitoring cameras as part of the Proposed Action to provide a “Grey-headed Flying-fox Surveillance Shield”. This system will monitor GHFF in the camp 24 hours per day. It will allow constant surveillance of camp movement, health and behaviour. This will be particularly useful for monitoring individual GHFF at risk of heat stress. The ongoing monitoring data thus obtained will supplement and complement the quarterly monitoring of Adelaide’s GHFF camp that is performed by local volunteer groups.

The Proposed Action will also include a Camp Weather Station, which will further support the GHFF camp through heat events by providing accurate local climatic data. Live monitoring of GHFF and local climatic data will be made available on the webpage of the Proposed Action, and will be accessible to the public for interest, promotion of the species and research. The constant monitoring of Adelaide’s GHFF camp, combined with education and public awareness of the species, will benefit the recovery of GHFF. Additionally, the public availability of the monitoring footage can allow Government Departments, wildlife rescue groups, and researchers across Australia to learn and publish information about GHFF that will benefit their recovery.

Moreover, a cooling system with ten sprinkler heads will be installed and utilised throughout the operation phase to ameliorate heat events. The sprinklers will extend and amplify the existing sprinkler system, which has already been shown to reduce heat-induced mortality rates. (Attachment: Preliminary Document.pdf; Section: 8 Compensatory measures; Page: 43). The new sprinklers will be mounted on trees within the main section of the camp, or on the constructed piers. The “Colony Cooling System” will be controlled by the Adelaide Botanic Gardens with water accessed via the existing large-capacity pump system that they maintain. The utilisation of the Colony Cooling System and the Camp Weather Station will provide an immediate action to reduce stress of GHFF during heat stress events (Attachment: Preliminary Document.pdf; Section: 7 Avoidance mitigation and management measures; Pages: 37-42; Attachment: OEMP.pdf; Section: 8 Environmental risk register; Page: 46-59; Attachment: CEMP.pdf; Section: 8 Environmental risk register; Page: 50-58; Attachment: Grey-headed Flying-fox management plan.pdf; Section: 4.2 Mitigation strategies, risk analysis and residual risks assessment; Page: 23-30).

Finally, the explicit intention of the Proposed Action is to promote the welfare of GHFF through education and the provision of a unique viewing experience. It is the goal of the Proponent to contribute significantly and positively to the recovery of GHFF and improve their perception to the public.

The compensatory measures to be included in the Proposed Action align with and enact the Recovery Objectives and Action points outlined in the National Recovery Plan for the Grey-headed Flying-fox (Attachment: Recovery-plan-grey-headed-flying-fox.pdf; Section: ‘Recovery objectives and performance criteria and actions’ and “Priority actions”; Page: 26-32 and 33). A summary of the specific action points and objectives and how the Proposed Action will contribute to the recovery of the GHFF is provided in the Preliminary Document (Attachment: Preliminary Document.pdf; Section: 8 Compensatory measures; Page: 43).

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	<i>Actitis hypoleucos</i>	Common Sandpiper
No	No	<i>Apus pacificus</i>	Fork-tailed Swift
No	No	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
No	No	<i>Calidris canutus</i>	Red Knot, Knot

Direct impact	Indirect impact	Species	Common name
No	No	<i>Calidris ferruginea</i>	Curlew Sandpiper
No	No	<i>Calidris melanotos</i>	Pectoral Sandpiper
No	No	<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
No	No	<i>Hirundapus caudacutus</i>	White-throated Needletail
No	No	<i>Motacilla cinerea</i>	Grey Wagtail
No	No	<i>Motacilla flava</i>	Yellow Wagtail
No	No	<i>Myiagra cyanoleuca</i>	Satin Flycatcher
No	No	<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
No	No	<i>Tringa nebularia</i>	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? *

No

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

The Proposed Action does not impact any Migratory species; the site does not provide significant habitat to the listed species.

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. *

The Proposed Action does not occur within, or in the vicinity of any land associated with nuclear action.

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 Proposed Action does not occur within, or in the vicinity of a Commonwealth Marine 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 Proposed Action does not occur within, or in the vicinity of the Great Barrier Reef.

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 Proposed Action does not constitute a coal mining or coal seam gas action.

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
No	No	Commonwealth Land -

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. *

The Proposed Action does not occur within, and will not impact any of Commonwealth land in the vicinity.

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. *

The Proposed Action does not occur within, or in the vicinity of Commonwealth Heritage Places Overseas.

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:

- Threatened Species and Ecological Communities (S18)

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)
- 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. *

The Proponent considered a wide range of alternative timings, activities, and locations for the Proposed Action. However, none of them were considered viable. On guidance from the Validation Team, we have indicated that no viable alternatives for the Proposed Action were possible. We detail the considered

alternative timings, locations, and activities, and the factors that made them inviable, in the following paragraphs.

TIMELINE

Shifts to the timeline of the Proposed Action were considered. Shifting the timing of the project into the future would not reduce the environmental impacts that it can reasonably be expected to cause. Rather, the Proponent has considered alternative staging plans for the Proposed Action.

The construction timeline of the Proposed Action will be strongly constrained by the sensitive periods in the reproductive cycle of GHFF (Attachment: Preliminary Document.pdf; section 5.1.1; page 22). Alternative timings have already been implemented by the Proponent into the construction timeline, which consists of varying when potentially impactful construction activities occur, and the duration, frequency and intensity of potentially impactful construction activities. Alternative construction timings were deemed inviable owing to the potential for increased risks posed to mating GHFF, pregnant female GHFF, and/or juvenile GHFF.

In the operational stage, it is expected that the Proposed Action will operate year-round. The impacts to GHFF during the operational phase of the Proposed Action are considered to be minor enough as to pose little substantial risk. However, the extent of operations will vary over the course of the day. Namely, evening tours will be limited to the western side of the Proposed Action so as to avoid impacts to GHFF during their flyout from the camp, which is predominantly to the east. Alternative timings for evening tours are considered inviable as they would unacceptably increase the potential for impacts to GHFF and biosecurity risks to humans.

LOCATION

The Proposed Action is intended to offer a unique opportunity for education and observation of Grey-headed Flying-Fox (GHFF). Adelaide's GHFF camp is the largest and longest-standing in South Australia, with a population orders of magnitude greater than the camps that have recently established in regional South Australia. As such, it is the most suitable location for the Proposed Action, and therefore large-scale shifts to the location of the Proposed Action are considered inviable.

Nevertheless, the siting of the Proposed Action within Botanic Park has been carefully considered to balance objectives and risks. Several pieces of built infrastructure constrain the envelope within which the Proposed Action could be constructed. To the west and east, Frome Rd and Plane Tree Drive, respectively, place hard limits on its position. Installing walkways over a public road would cause Heritage impacts, increase construction costs, and increase safety concerns. The Adelaide Zoo constrains the Proposed Action to the north, as it limits the potential positions of the elevator that is intended to connect with the Zoo and to provide an alternative egress route. To the south, the Adelaide Botanic High School and Adelaide Botanic Garden restrict the potential positions of the Proposed Action. The multiple built constraints mean that any shift to the location of the Proposed Action would have a greater impact on the heritage values of the place, and was deemed inviable.

Within the Proposed Action, the positions of individual trees constrain the potential route of the canopy walkway. Early designs included the utilisation of more trees, whereas refined designs rely more on constructed posts, thereby reducing impacts on trees and GHFF while improving safety and the user experience.

Other alternative designs included constructed platforms, rather than a single walkway. The alternative designs all would have had increased staffing requirements, for access control and visitor safety. Moreover, it was judged that the current design of the Proposed action, as a single loop walkway, would offer the most rewarding user experience. On these grounds, alternative designs were deemed inviable.

ACTIVITIES

The Proponent considered a wide range of construction methodologies for the Proposed Action, and elected to use those with the least impact to GHFF. Early plans included the on-site construction and assembly of engineered piers. That approach was discarded in favour of constructing the piers off-site, and erecting and assembling them on-site. This reduces the time and extent of heavy plant that will be required on site.

All activities considered for inclusion in the operational stage of the Proposed Action are of low intensity and pose relatively little risk to GHFF. As such, an in-depth assessment of alternative activities for the operational stage is not necessary.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	High	
#2.	Document	Figure 1 Project area and disturbance footprint.pdf A map of the project area and disturbance footprint and its relation to Adelaide	05/09/2024	High	
#3.	Document	Figure 3 Camp extent.pdf A map of the Proposed Action within the Grey-headed Flying-fox camp and its extent within Botanic Park	05/09/2024	High	
#4.	Document	Grey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	High	
#5.	Document	OEMP.pdf Operation Environment Management Plan for the Proposed Action	15/08/2024	High	
#6.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	High	

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	High	
#2.	Document	DecisionNotification.pdf Planning consent from City of Adelaide for the Proposed Action	30/11/2023	High	
#3.	Document	Grey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	High	
#4.	Document	OEMP.pdf Operation Environment Management Plan for the Proposed Action	15/08/2024	High	

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Botanic Loop Updated Stakeholder Engagement 2024 10 18.pdf A summary of stakeholder engagement meetings conducted to support the Botanic Loop Project.	17/10/2024	No	High
#2.	Document	DecisionNotification.pdf Planning consent from City of Adelaide for the Proposed Action		No	High

1.3.2.17 (Person proposing to take the action) Proposer's history of responsible environmental management

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	SEPOL-02 Environmental Management Policy_FY24-25.pdf Succession ecologies environmental management policy	31/05/2024	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	NBEG Environmental Management Policy.pdf Nature Based Experience Group Pty Ltd Environmental management policy	31/05/2024	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	High	
#2.	Document	Figure 3 Camp extent.pdf A map of the Proposed Action within the Grey-headed Flying-fox camp and its extent within Botanic Park	05/09/2024	No	High
#3.	Document	Heritage Self Assessment.pdf An assessment of Heritage attributes of the Project Area	25/07/2024	No	High
#4.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	High	

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	High	
#2.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	High	

3.1.3 Natural features, important or unique values that applies to the project area

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Type	Name	Date	Sensitivity	Confidence
#1.	Document Grey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	No	High
#2.	Document Heritage Self Assessment.pdf An assessment of Heritage attributes of the Proposed Action	25/07/2024	No	High
#3.	Document Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High

3.1.4 Gradient relevant to the project area

Type	Name	Date	Sensitivity	Confidence
#1.	Document Adelaide Metro LiDAR 2022_Metadata.pdf Digital Elevation Model of the Project Area	05/09/2024	No	High
#2.	Document CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	No	High
#3.	Document OEMP.pdf Operation Environment Management Plan for the Proposed Action	15/08/2024	No	High

3.2.1 Flora and fauna within the affected area

Type	Name	Date	Sensitivity	Confidence
#1.	Document Arborist report.pdf Arboricultural report about trees in the Project Area	20/07/2024	No	High
#2.	Document CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	No	High
#3.	Document EBPC Self Assessment.pdf Self Assessment of the Proposed Action against Significant Impact Guidelines 1.1	15/08/2024	No	High
#4.	Document Figure 2 Flyout direction.pdf Map of Project Area showing primary direction of evening GHFF flyout	05/09/2024	No	High
#5.	Document Grey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	No	High
#6.	Document Meeting_Minutes_Linda Collins redacted.pdf Redacted version of meeting minutes with local GHFF expert, Linda Collins	30/07/2024	No	High
#7.	Document Meeting_Minutes_Linda Collins.pdf Minutes from on-site meeting with Linda Collins, local GHFF expert	30/07/2024	Yes	High
#8.	Document			

	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High
#9.	Document Recovery-plan-grey-headed-flying-fox.pdf Recovery plan for Grey Headed Flying Fox	31/12/2020	No	High
#10.	Document Vanderduys et. al (2024).pdf Analysis of population trends in GHFF	20/03/2024	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Arborist report.pdf Arboricultural report about trees in the Project Area	20/07/2023	No	High
#2.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Heritage Self Assessment.pdf An assessment of Heritage attributes of the Project Area	25/07/2024		High
#2.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Adelaide_Plains_2020-21_WRA_Factsheet.pdf Adelaide Plains Prescribed Wells Areas Factsheet	31/12/2020	No	High
#2.	Document	Adelaide-Plains-Water-Allocation-Plan_2022.pdf Water Allocation Plan for the Adelaide Plains region	31/12/2021	No	High
#3.	Document	Figure 4 Surrounding land uses and First creek.pdf Map of Project Area showing watercourses	05/09/2024	No	High

4.1.2.2 (National Heritage) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Heritage Self Assessment.pdf An assessment of Heritage attributes of the Project Area	25/07/2024	No	High
#2.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High

4.1.2.3 (National Heritage) Why your action is unlikely to have a direct and/or indirect impact

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Type	Name	Date	Sensitivity	Confidence
#1.	DocumentHeritage Self Assessment.pdf An assessment of Heritage attributes of the Project Area	25/07/2024		High
#2.	DocumentPreliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High

4.1.2.10 (National Heritage) Avoidance or mitigation measures proposed for this action

Type	Name	Date	Sensitivity	Confidence
#1.	DocumentPreliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High

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.	DocumentArborist report.pdf Arboricultural report about trees in the Project Area	20/07/2023		High
#2.	DocumentGrey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	No	High
#3.	DocumentPreliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	No	High
#4.	DocumentReferral-guideline-flying-fox-camps.pdf Flying fox camp referral guidelines used to direct answering and formulation of questions and reports	05/09/2024	No	High
#5.	DocumentThe Botanic loop designs 2.pdf Concept design for the Proposed Action	05/08/2024	No	High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

Type	Name	Date	Sensitivity	Confidence
#1.	DocumentMeeting_Minutes_Linda Collins.pdf Minutes from on-site meeting with Linda Collins, local GHFF expert	30/07/2024	Yes	High
#2.	DocumentMNES Significant impact guidelines 1.1.pdf MNES significant impact guidelines	05/09/2024	No	High
#3.	DocumentPreliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024		High
#4.	DocumentReferral-guideline-flying-fox-camps.pdf Flying fox camp referral guidelines used to direct answering and formulation of questions and reports	05/09/2024	No	High

4.1.4.9 (Threatened Species and Ecological Communities) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	EBPC Self Assessment.pdf Self Assessment of the Proposed Action against Significant Impact Guidelines 1.1	15/08/2024	High	
#2.	Document	MNES Significant impact guidelines 1.1.pdf MNES significant impact guidelines	05/09/2024	High	
#3.	Document	Referral-guideline-flying-fox-camps.pdf Flying fox camp referral guidelines used to direct answering and formulation of questions and reports	05/09/2024	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	CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	High	
#2.	Document	Grey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	High	
#3.	Document	OEMP.pdf Operation Environment Management Plan for the Proposed Action	15/08/2024	High	
#4.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	High	

4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	CEMP.pdf Construction Environment Management Plan for the Proposed Action	15/08/2024	High	
#2.	Document	Grey-headed Flying-fox management plan.pdf Grey-headed Flying-Fox Management Plan for the Proposed Action	05/09/2024	High	
#3.	Document	OEMP.pdf Operation Environment Management Plan for the Proposed Action	15/08/2024	High	
#4.	Document	Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	High	
#5.	Document	Recovery-plan-grey-headed-flying-fox.pdf Recovery plan for Grey Headed Flying Fox	31/12/2020	High	

4.3.8 Why alternatives for your proposed action were not possible

Type	Name	Date	Sensitivity	Confidence
#1.	Document Preliminary Document.pdf Parent document summarising all management plans and subplans for the Proposed Action	05/09/2024	Low	High

5.2 Declarations

Completed Referring party's declaration

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

ABN/ACN	56605880028
Organisation name	SUCCESSION ECOLOGY PTY LTD
Organisation address	5042 SA
Representative's name	C. E. Timothy Paine
Representative's job title	Ecology Team Manager
Phone	0444502228
Email	glenn.smyth@successioneecology.com.au
Address	1/938 South Rd, Edwardstown SA 5039

- Check this box to indicate you have read the referral form. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *
- By checking this box, I, **C. E. Timothy Paine of SUCCESSION ECOLOGY 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. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *

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	48672161045
Organisation name	NATURE BASED EXPERIENCE GROUP PTY LTD

Organisation address	5034 SA
Representative's name	Carmine Gallarello
Representative's job title	Project manager
Phone	0427939502
Email	carmine@treeclimb.com.au
Address	Cnr Greenhill Road &, Unley Rd, Adelaide SA 5000

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

I would like to receive notifications and track the referral progress through the EPBC portal. *

I, **Carmine Gallarello of NATURE BASED EXPERIENCE GROUP PTY LTD**, 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. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

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. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

I, **Carmine Gallarello of NATURE BASED EXPERIENCE GROUP PTY LTD**, 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. *

I would like to receive notifications and track the referral progress through the EPBC portal. *