succession ecology

Native Vegetation Clearance

Ray White
Housing Development

Data Report

Clearance under the *Native Vegetation Regulations 2017*

6/07/2021

Prepared by Briony Horner & Lucy Wood

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1. Application information

1.1 Application details

Applicant:	Ray White		
Key contact:			
Landowner:			
Site Address:	64-74 Kittel Street, Port Augusta West		
Local Government Area:	Port Augusta City Council	**Hundred:**	Copley
Title ID:	CT6113/11	Parcel ID	D91500 A1

1.2 Summary of proposed clearance

Purpose of clearance	Clearance is required for a residential housing development in the town of Port Augusta West, South Australia.
Native Vegetation Regulation	Regulation 12, Schedule 1, clause 33, New dwelling or building
Description of the vegetation under application	This application includes two vegetation communities, one of which has been divided into two, with each area containing a very different vegetation condition. VA1.1: *Sclerolaena obliquicuspis* low chenopod shrubland with *Enneapogon nigricans* and emergent *Maireana pyramidata* VA1.2: Heavily degraded *Sclerolaena obliquicuspis* low shrubland with *Enneapogon nigricans* and exotic ground cover species. VA2: *Maireana pyramidata* low shrubland with chenopod and native grass understorey.
Total proposed clearance - area (ha) and number of trees	The proposed clearance is 3.1831 ha. VA1.1: 1.8626 ha VA1.2: 0.2811 ha VA2: 1.0394 ha
Level of clearance	Level 4
Overlay (Planning and Design Code)	N/A
Mitigation hierarchy	All cleared vegetation will be offset with an SEB payment into the Native Vegetation Fund.
SEB Offset proposal	A payment into the fund of $17,301.93 (+ $951.64 admin fee)

2. Purpose of clearance

2.1 Description

Ray White is planning a housing development at 64-74 Kittel Street, Port Augusta West. Vegetation clearance is required for the easement road into the development, with future clearances planned for the four sub-divisions. A total area of 3.1831 ha will be impacted by the proposed clearances. An entrance road will be cleared initially, followed by the development of multiple subdivisions (see Figure 3). It is unclear when the sub-division blocks will be cleared, however client is aware that clearance approvals expire after 5 years.

2.2 Background

The application area is located in Port Augusta West, just west of the township of Port Augusta. The site is a remnant chenopod shrublands with no known history of disturbance or infrastructure. Native vegetation remnancy within a 5 km radius of the site is very high at 77%. Three conservation parks occur within 25 km of the site: The Dutchman's Stern Conservation Park, Mount Brown Conservation Park and Winniowie Conservation Park.

2.3 General location map

The housing development will occur at 64-74 Kittel Street, Port Augusta West. The general location is shown in Figure 1, followed by a map of the impacted vegetation in Figure 2.

2.4 Details of the proposal

The works will include the construction of a housing development (5-6 new housing blocks surrounding an existing house) and require vegetation clearance prior to the commencement of building (Figure 3).

2.5 Design

The design is currently in the final stage and is not expected to change. Any changes will be supplied.

2.6 Approvals required or obtained

Approvals for fire safety and development approvals through the Port Augusta City Council.

2.7 Native vegetation regulation

The proposed clearance will be assessed under Regulation 12, Schedule 1, clause 33, New Dwelling or Building.

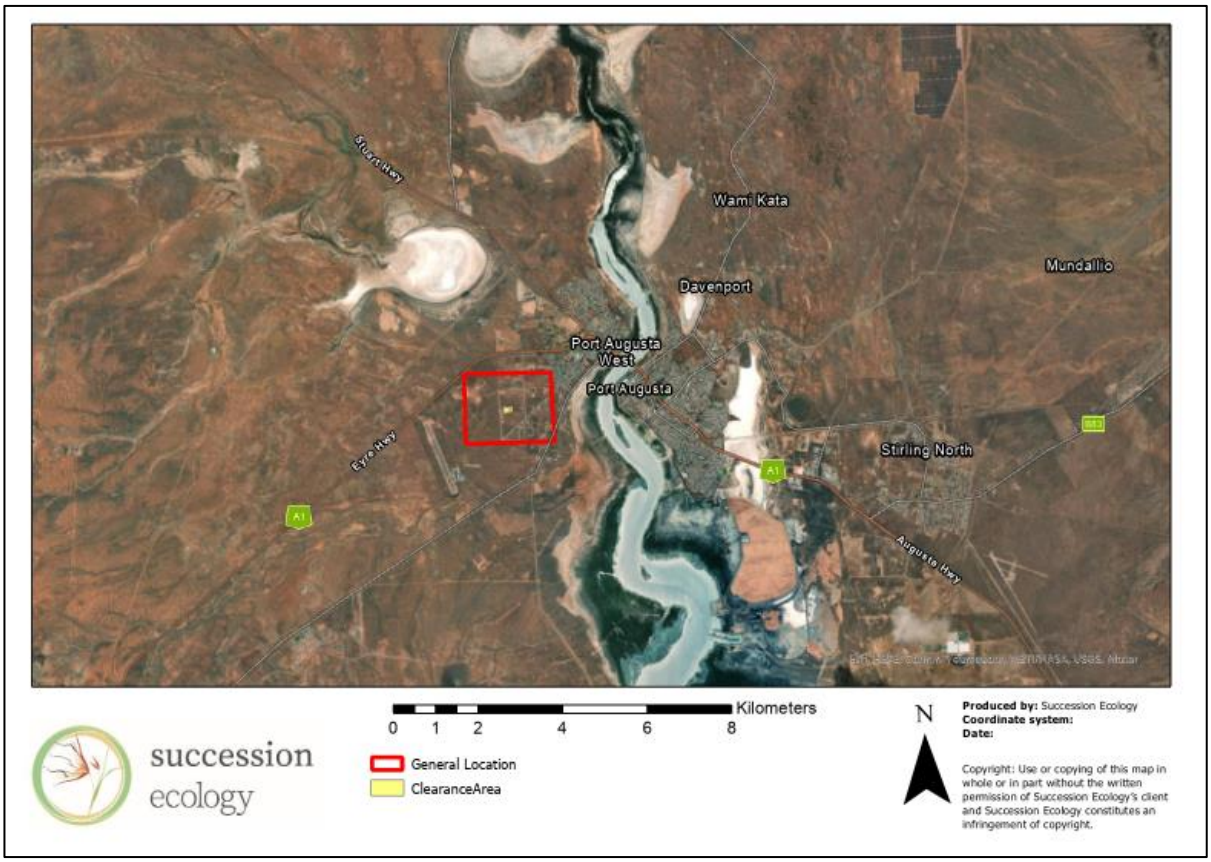

Figure 1: General location of the proposed clearance area in Port Augusta West.

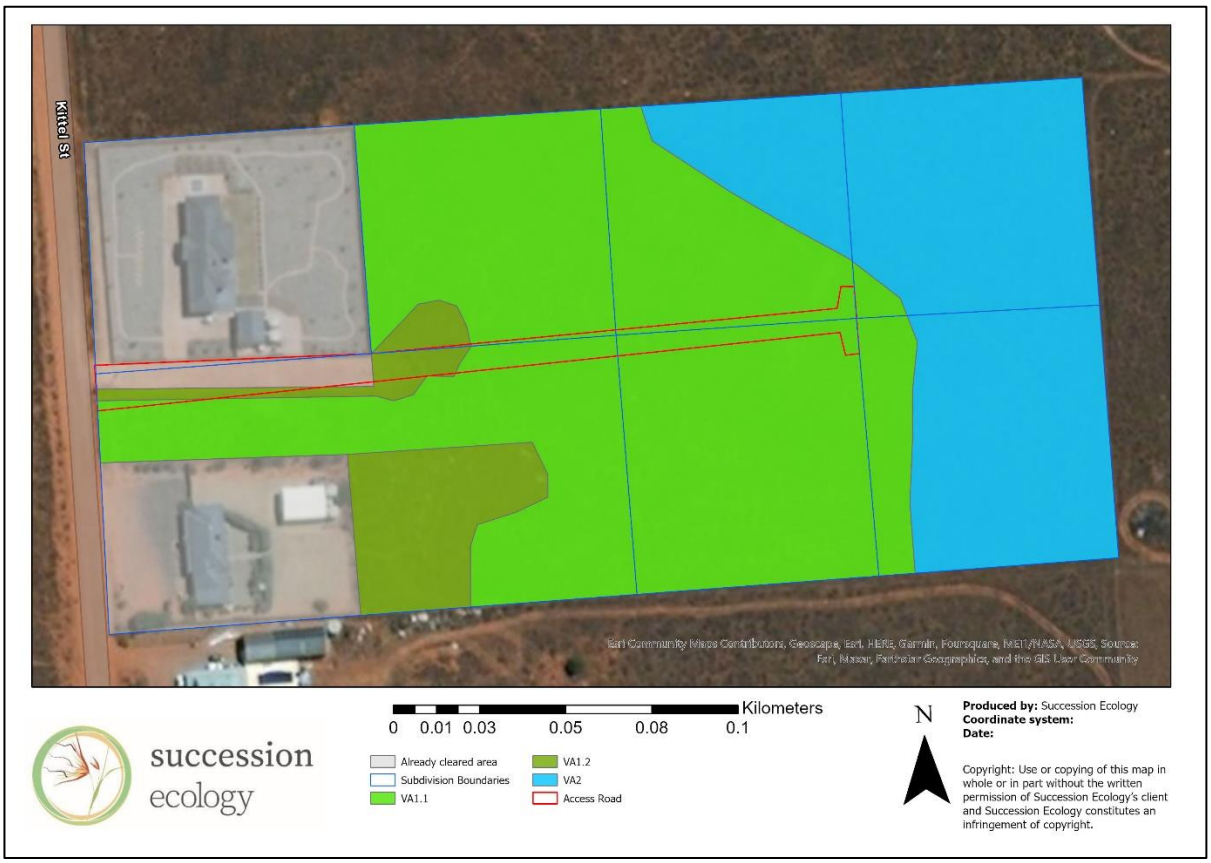

Figure 2: Clearance application Area (green and blue) and relevant road pathway (red line), subdivision boundaries (blue lines) and areas not requiring NVC approval (grey).

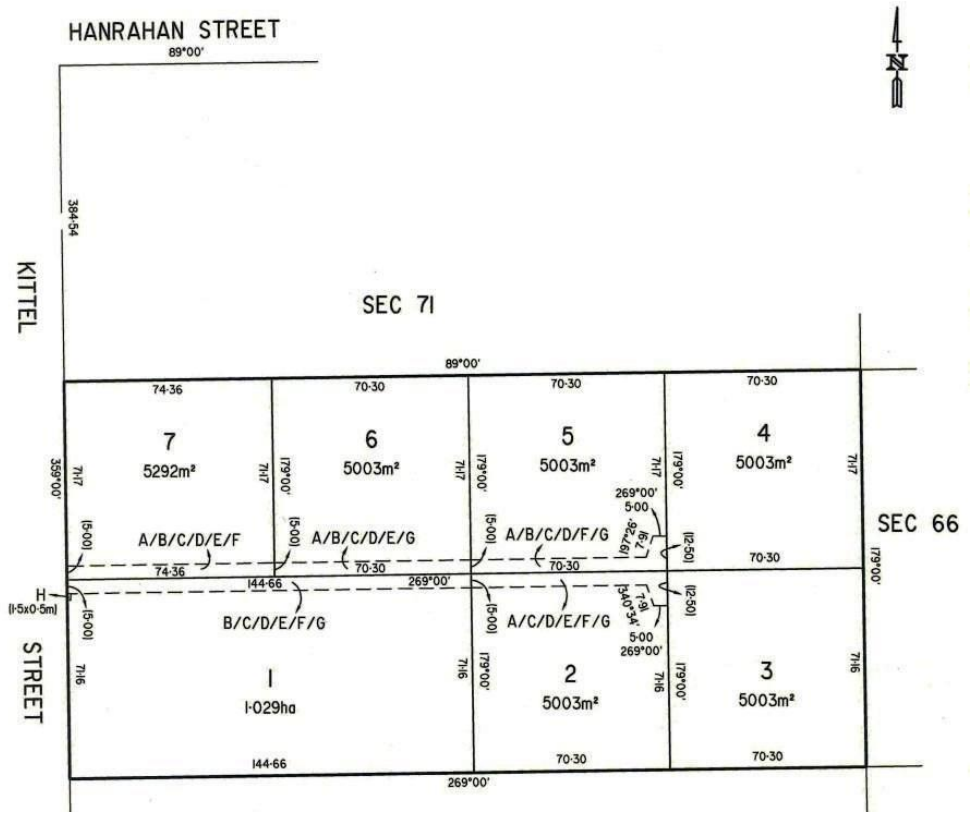

Figure 3: Subdivision plans for the housing development at 64-74 Kittel Street, Port Augusta West. The western end of parcel 1 and all of parcel 7 have already been developed.

3. Method

3.1 Flora assessment

3.1.1 Desktop assessment

Database searches were used to determine the range of threatened flora species and ecological communities, protected under the *Environment Protection and Biodiversity Conservation* (*EPBC*) *Act 1999* and *National Parks and Wildlife (NPW) Act 1972*, that are likely to occur in the area within a 5 km buffer. The search tools used include:

- A Protected Matters Search to identify matters of national significance under the *EPBC Act 1999,* including threatened species and ecological communities.
- A Biological Database of South Australia (BDBSA) search using NatureMaps and Atlas of Living Australia (ALA) to determine flora species recorded within a 5 km radius of the site and species listen under the *NPW ACT 1972*.
- Appendices in the NVC Bushland and Scattered Tree Assessment Manuals to determine scattered trees species that provide suitable habitat for threatened fauna and threatened Ecosystems protected under *NPW Act 1972*.
- DEH (in progress) unpublished and provisional list of Threatened Ecosystems to identify threatened and rare ecosystems.

Vegetation types were assessed using satellite imagery and vegetation community data obtained through NatureMaps. All maps were generated using ArcGIS Pro.

3.1.2 Field survey

Vegetation surveys were conducted on the 6th of July 2022. Vegetation was surveyed using the Bushland (>0.5 ha) Assessment Methodologies.

3.2 Fauna assessment

3.2.1 Desktop assessment

A Desktop Assessment was used to determine the range of fauna species that are likely to occur in the area (5 km buffer) and determine whether any threatened fauna may be present. Search tools included:

- A Protected Matters search to identify matters of national significance under the *EPBC Act 1999*, including threatened species.
- A BDBSA search using NatureMaps and ALA to determine fauna species recorded within 5 km radius of the site and species listed under the *NPW Act 1972*.

3.2.2 Field survey

An opportunistic observation-based survey was conducted to identify any fauna species using this vegetation as habitat. Opportunistic observations included incidental records of non-target species observed while conducting the specified survey technique, or while walking to or from a survey site.

4. Assessment outcomes

4.1 Vegetation assessment

4.1.1 General description of the vegetation, the site and matters of significance.

Block A has a slow slope, with highest elevations on the west and southwest end of the site (towards Kittel Street). Vegetation within the Block varies with the slope, with the lower lying areas having greater native plant diversity, dominated by large *Maireana pyramidata* shrubs (VA2), while higher elevations are dominated by *Sclerolaena obliquicuspis* and *Enneapogon nigricans* (VA1.1 and VA1.2). Vegetation condition decreases up the slope, with areas surrounding the existing track and house blocks having high weed density, and disturbance impacts from vehicles and dumping. As such, the heavily degraded areas (VA1.2) have been separated from the more intact vegetation (VA1.1). Buffel grass (*Cenchrus ciliaris*) (a Declared Weed) is particularly dense in the south-west corner of the block, at the back of an existing property where there has also been dumping impacts.

The area is part of a semi-continuous chenopod shrubland, interrupted only by fence lines and scattered house blocks. The closest conservation parks are The Dutchmans Stern Conservation Park (~23 km) and Mount Brown Conservation Park (~26 km), both of which are within the Flinders Ranges.

Figure 4: General site image, showing the ecotone between VA2 (left of red line) and VA1.1 (right of red line)

4.1.2 Details of the vegetation associations and scattered trees proposed to be impacted

Vegetation Association	**VA1.1: *Sclerolaena obliquicuspis* low chenopod shrubland with *Enneapogon nigricans* and emergent *Maireana pyramidata***

Figure 5: Bushland Assessment area for vegetation association 1.1.

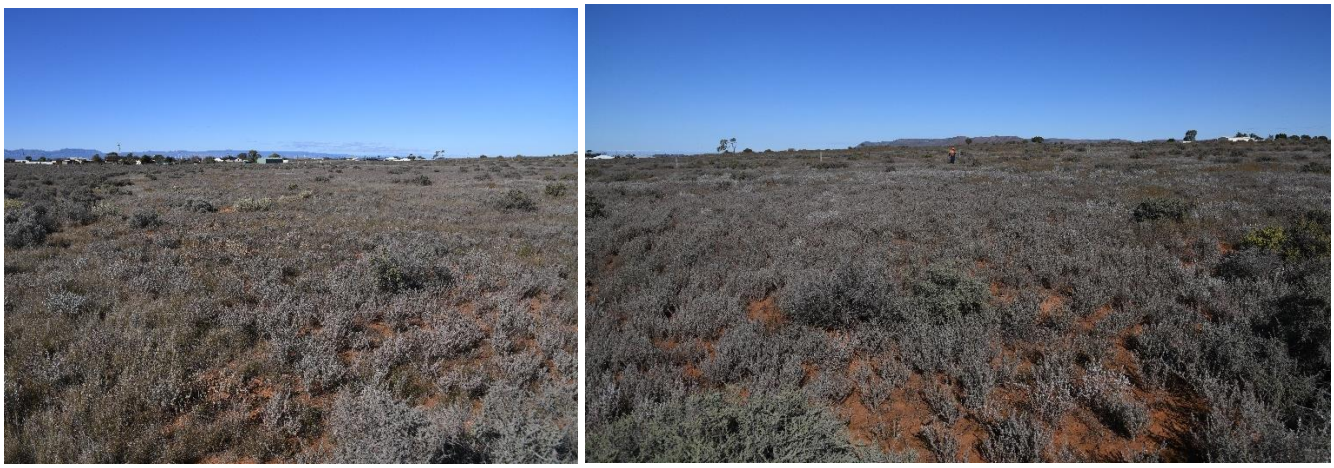

Figure 6: Broad site images of VA1.1 facing south-east (left) and south (right).

General description	This vegetation association is a low chenopod shrubland dominated by *Sclerolaena obliquicuspis* and *Enneapogon nigricans*, and scattered *Maireana pyramidata*. Weed incursion is low, with weeds only present around the perimeter of the block (edge effects from the existing house and fence lines). Multiple species were observed regenerating, with a range of age classes present. Buffel Grass was recorded only along the western perimeter of the block,

Vegetation Association	**VA1.1: *Sclerolaena obliquicuspis* low chenopod shrubland with *Enneapogon nigricans* and emergent *Maireana pyramidata***				
	in relatively low densities. Some disturbance was observed, such as old vehicle tracks and dumping, but at a much smaller scale than in VA1.2.				
Threatened species or community	Threatened Ecological Communities No threatened ecological communities were present within this habitat. Threatened Fauna A 5 km NatureMaps search of the block showed six threatened fauna species as being recorded within the area since 1995. Two of which are listed as Vulnerable under the *NPW Act 1972* (Australian Bustard and Banded Stilt) and four as Rare (Major Mitchell's Cockatoo, Little Egret, Black Falcon and Grey-headed Flying-fox). The Grey-headed Flying-fox is also protected under the *EPBC Act 1999,* listed as Vulnerable. A 5 km Protected Matters search identified a further four threatened fauna species protected under the *EPBC Act 1999* as being known, or having habitat known to occur within the area. These are the Red Knot (Endangered), Curlew Sandpiper (Critically Endangered), Far Eastern Curlew (Critically Endangered) and the Fairy Tern (Vulnerable). Threatened Flora Two threatened flora species have been recorded within 5 km of the site since 1995, as shown by a NatureMaps search. These species are *Acacia pendula* (Weeping Myall) and *Myoporum parvifolium,* (Creeping Boobialla) which are listed are Vulnerable and Rare (respectively) under the *NPW Act 1972*. No EPBC listed flora species were identified from NatureMaps or PMST searches.				
Landscape context score	1.05	**Vegetation Condition Score**	60.47	**Conservation significance score**	1.08
Unit biodiversity Score	68.57	**Area (ha)**	1.8626	**Total biodiversity Score**	127.72

Vegetation Association	**VA1.2: Heavily degraded *Sclerolaena obliquicuspis* low shrubland with *Enneapogon nigricans* and exotic ground cover species.**

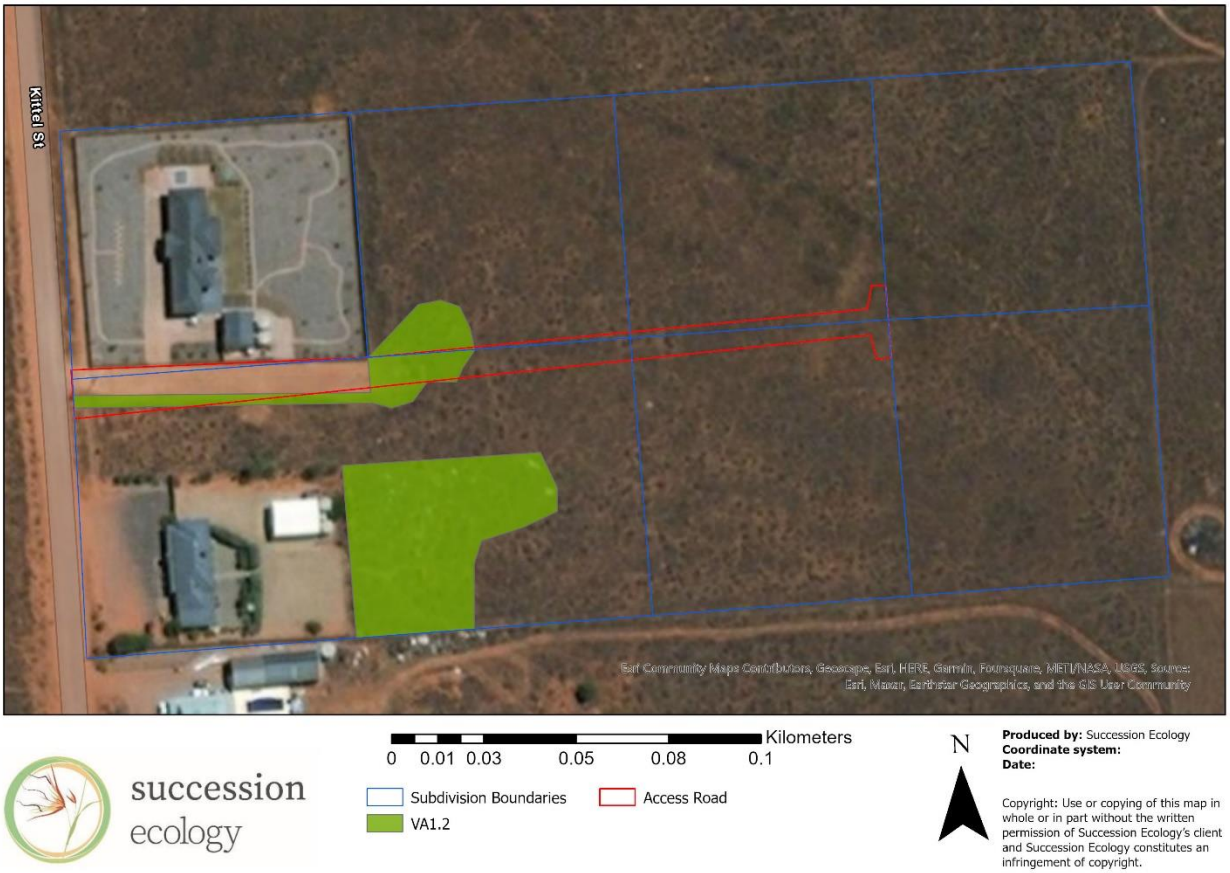

Figure 7: Bushland Assessment area for Vegetation Association 1.2

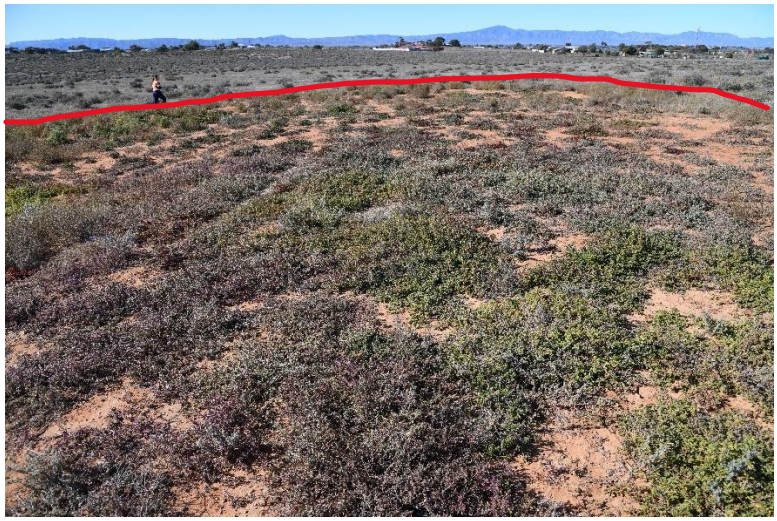

Figure 8: Broad site image of VA1.2, facing east and showing extensive weed cover. Red line indicates edge of VA1.1

Vegetation Association	**VA1.2: Heavily degraded *Sclerolaena obliquicuspis* low shrubland with *Enneapogon nigricans* and exotic ground cover species.**


Figure 9: VA1.2 is significantly degraded with dense Buffel Grass growth (left) and impacts from dumping (right)

General description	Site would have originally been a *Sclerolaena obliquicuspis* low shrubland with *Enneapogon nigricans* and emergent *Maireana pyramidata*. The area, however, is now heavily degraded, with high density of exotic plant species, including Declared Weed *Cenchrus ciliaris* (Buffel Grass; Figure 9). There is a history of disturbance, with dumping of rubbish, sheets of metal and soil (Figure 9). Minimal recruitment of native plants was observed.
Threatened species or community	Threatened Ecological Communities No threatened ecological communities were present within this habitat. Threatened Fauna A 5 km NatureMaps search of the block showed six threatened fauna species as being recorded within the area since 1995. Two of which are listed as Vulnerable under the *NPW Act 1972* (Australian Bustard and Banded Stilt) and four as Rare (Major Mitchell's Cockatoo, Little Egret, Black Falcon and Grey-headed Flying-fox). The Grey-headed Flying-fox is also protected under the *EPBC Act 1999,* listed as Vulnerable. A 5 km Protected Matters search identified a further four threatened fauna species protected under the *EPBC Act 1999* as being known, or having habitat known to occur within the area. These are the Red Knot (Endangered), Curlew Sandpiper (Critically Endangered), Far Eastern Curlew (Critically Endangered) and the Fairy Tern (Vulnerable). Threatened Flora Two threatened flora species have been recorded within 5 km of the site since 1995, as shown by a NatureMaps search. These species are *Acacia pendula* (Weeping Myall) and *Myoporum parvifolium,* (Creeping Boobialla) which are listed are Vulnerable and Rare (respectively) under the *NPW Act 1972*. No EPBC listed flora species were identified from NatureMaps or PMST searches.

Landscape context score	1.05	**Vegetation Condition Score**	37.15	**Conservation significance score**	1.08
Unit biodiversity Score	42.13	**Area (ha)**	0.2811	**Total biodiversity Score**	11.84

Vegetation Association	VA2: *Maireana pyramidata* low shrubland with chenopod and native grass understorey.

Figure 10: Bushland Assessment area for Vegetation Association 2.

Figure 11: General site image of VA2 facing west.

Vegetation Association	**VA2: *Maireana pyramidata* low shrubland with chenopod and native grass understorey.**

Figure 12: Dense native understorey cover (left) and biological soil crust (right).

General description	This vegetation association is dominated by *Maireana pyramidata* with an understorey of *Sclerolaena obliquicuspis, Eriochiton sclerolaenoides, Dissocarpus biflorus, Atriplex vesicaria, A. holocarpa* and *Enneapogon nigricans*. Vegetation is in good condition, with high species diversity, a range of age classes and low density of weed species. An intact biological soil crust is present across the entire site. There is very little disturbance, with the only recorded impacts being along the existing fence line, where area appears to be recovering well with dense recruitment of *D. biflorus*.
Threatened species or community	Threatened Ecological Communities No threatened ecological communities were present within this habitat. Threatened Fauna A 5 km NatureMaps search of the block showed six threatened fauna species as being recorded within the area since 1995. Two of which are listed as Vulnerable under the *NPW Act 1972* (Australian Bustard and Banded Stilt) and four as Rare (Major Mitchell's Cockatoo, Little Egret, Black Falcon and Grey-headed Flying-fox). The Grey-headed Flying-fox is also protected under the *EPBC Act 1999,* listed as Vulnerable. A 5 km Protected Matters search identified a further four threatened fauna species protected under the *EPBC Act 1999* as being known, or having habitat known to occur within the area. These are the Red Knot (Endangered), Curlew Sandpiper (Critically Endangered), Far Eastern Curlew (Critically Endangered) and the Fairy Tern (Vulnerable). Threatened Flora Two threatened flora species have been recorded within 5 km of the site since 1995, as shown by a NatureMaps search. These species are *Acacia pendula* (Weeping Myall) and *Myoporum parvifolium,* (Creeping Boobialla) which are listed are Vulnerable and Rare (respectively) under the *NPW Act 1972*. No EPBC listed flora species were identified from NatureMaps or PMST searches.

Landscape context score	1.05	**Vegetation Condition Score**	67.92	**Conservation significance score**	1.08
Unit biodiversity Score	77.02	**Area (ha)**	1.0394	**Total biodiversity Score**	80.05

Photo log

Photos of the vegetation community and scattered trees are provided in the descriptions above.

4.2 Threatened species assessment

4.2.1 Threatened ecological communities.

No threatened ecological communities were present at this site.

4.2.2 Threatened fauna

A Protected Matters search identified four fauna species listed under the *EPBC Act 1999,* as known to occur or having habitat known to occur within a 5 km radius of the site. A NatureMaps search found six species listed as threatened under the *NPW Act 1972* that have been observed within a 5km radius of this site. Out of these species, only five were terrestrial species, and as such these are the only species presented in Table 1 and in the bushland assessment scoresheets. The likelihood of these species using habitat has been assessed based on the metric presented in Table 2.

Marine/coastal species that have been removed from Table 1 and scoresheets due to the unsuitability of the habitat (area is outside of the intertidal zone) have been provided in Appendix 6.

Table 1: A summary of the fauna species observed on site or recorded within 5 km of the application area since 1995.

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Ardeotis australis (Australian Bustard)	V	-	3	2019	Dry plains, grasslands and in open woodland, favouring tussock and hummock grasslands (DEW, 2019).	Possible – recent recording and habitat is suitable.
Cladorhynchus leucocephalus (Banded Stilt)	V	-	3	1996	Banded Stilts are found mainly in saline and hypersaline (very salty) waters of the inland and coast, typically large, open and shallow (Birdlife Australia, 2021).	Unlikely – unsuitable habitat at this site and this species was last recorded over 20 years ago.
Falco subniger (Black Falcon)	R	-	3	2006	Nomadic, preferring sparse woodlands, scrubby grasslands and farmlands (Birds SA, 2021).	Possible – broad habitat preferences, may use the site for foraging but no recent records
Lophochroa leadbeateri mollis (Major Mitchell's Cockatoo)	R	-	2 & 3	2010	Wide range of inland habitats in close proximity to water, feeds on melons and seeds of saltbush, wattles and cypress pines. Requires hollows for nesting (DEW, 2021).	Possible – no trees in which they can nest in hollows, however may use the area for feeding on saltbush.
Pteropus poliocephalus (Grey-headed flying-fox)	R	VU	3	2018	Typically roost in tall dense trees next to a water source. They will move up to 20km	Unlikely – no trees available for them to roost in clearance area and habitat not suitable for foraging.

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
					from their roost site to forage (DEW, 2020).	
Source; 1- BDBSA, 2 - AoLA, 3 – NatueMaps, 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others NP&W Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable						

Table 2: Criteria for the likelihood of occurrence of species within the survey area.

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species. Recorded within 20 -40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provides no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20 -40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

4.2.3 Threatened flora

A 5 km Protected Matters Search did not find any EPBC listed flora species as known to occur within the area. A NatureMaps search identified two species listed under the NPW Act 1972, *Acacia pendula* (Weeping Myall) and *Myoporum parvifolium* (Creeping Boobialla), as having records within a 5km radius of the site. Table 3 provides a summary of the likelihood of the species occurring at the site using the metric described in Table 2.

Table 3: A summary of the flora species observed on site or recorded within 5km of the application area since 1995.

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments (Table 2)
Acacia pendula (Weeping Myall)	V	-	3	2019	Grows mainly on floodplains in fertile alluvial clay, sometimes dominant in woodland and open woodland (Flora of Australia, 2021).	Unlikely – unsuitable habitat
Myoporum parvifolium (Creeping Boobialla)	R	-	3	2009	Grows in a range of soils, including saline (Atlas of Living Australia, 2020).	Possible – broad habitat preferences, but a detailed

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments (Table 2)
						site assessment recorded no individuals.

Source; 1- BDBSA, 2 - AoLA, 3 – NatueMaps, 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others
NP&W Act; E= Endangered, V = Vulnerable, R= Rare

EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

4.3 Cumulative impact

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

Vegetation remnancy in the region is very high with 76% of vegetation remaining within 5 km of each site. The IBRA Subregion (Gawler Lakes) has 62% remaining native vegetation. The cumulative impact of clearing is the gradual reduction of remnants in the area, a loss of connectivity between remnant patches and the reduction of available habitat to threatened flora and fauna. As the entire housing subdivision has been assessed within this application no subsequence clearance (housing buffer zones etc.) will be required. The surrounding area has large patches of remnant chenopod shrublands but does appear to have multiple housing developments as the city of Port Augusta grows.

4.4 Address the mitigation hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimize, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NP&W Act.

a) Avoidance – outline measures taken to avoid clearance of native vegetation

The proposed clearance is for a housing development; as such there is not an option to avoid direct impacts. No threatened species were recorded on either site.

b) Minimization – if clearance cannot be avoided, outline measures taken to minimize the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

Full clearance is required for the relevant infrastructure. However, clearance works will be undertaken to ensure minimal indirect impacts from construction activities. This includes stormwater and sediment management, stockpiles to only be within permitted cleared areas and all construction waste to be removed from the site.

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimized, such as allowing for the re-establishment of the vegetation.

As the site will eventually be completely developed into residential blocks, it is not practical to rehabilitate or restore native vegetation. Landowners may choose to retain some areas of native vegetation within their

subdivision, but areas will most likely be small and isolated patches. Landowners may be able to contribute to the improvement of the remaining remnant vegetation surrounding through the control of Buffel Grass (*Cenchrus ciliaris*).

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimized should be offset by the achievement of a significant environmental benefit that outweighs that impact.

The applicant will contribute an SEB payment into the Native Vegetation fund to support restoration and conservation works in the region.*The NVC will only consider an offset once avoidance, minimization and restoration have been documented and fulfilled. The SEB Policy explains the biodiversity offsetting principles that must be met.*

4.5 Principles of clearance (*Schedule 1, Native Vegetation Act 1991*)

The Native Vegetation Council will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations. The Native Vegetation Council will consider all the principles of clearance of the Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act 2016*.

Principle of clearance	Relevant information	Assessment against the principles	Moderating factors that may be considered by the NVC
Principle 1b - significance as a habitat for wildlife	Threatened species identified in this area within the last 25 years that are likely to use the site: None Bushland Assessments Threatened Fauna Score: = 0.08 Unit Biodiversity Scores: = VA1.1: 69.84 VA1.2: 42.91 VA2: 78.45	Seriously at Variance All VA's (>0.05 fauna score)	The removal of this bushland is not expected to have a significant impact on these fauna species as: • No threatened fauna recorded within BDBSA searches were assessed as likely to use the vegetation within the clearance area The clearance is not expected to impact: • population size, extent, structure, continuity, or survivability • the area of occupancy of a species • habitat critical to the survival of a species • recovery of a species
Principle 1c - plants of a rare, vulnerable or endangered species	Threatened species identified in this area within the last 25 years that are likely to use the site: Threatened Flora Score = 0	Not at Variance	
***Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered*:**	Threatened communities None Threatened Community Score =1	Not at Variance	

4.6 Risk assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	N/A
	Area (ha)	3.183
	Total biodiversity Score	219.61
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

4.7 NVC guidelines

Provide any other information that demonstrates that the clearance complies with any relevant NVC guidelines related to the activity.

NA

5. Clearance summary

Clearance area(s) summary table

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
1	1.1	20	1	0	0.1	68.57	1.8626	127.72	1	-	-	134.11	$10,062.12	$553.42
1	1.2	20	1	0	0.1	42.13	0.2811	11.84	1	-	-	12.43	$933.00	$51.32
1	2	24	1	0	0.1	77.02	1.0394	80.05	1	-	-	84.06	$6,306.81	$346.87
						Total	**3.1831**	**219.61**				**230.6**	**$17,301.93**	**$951.61**

Total summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	219.61	230.6	$17,301.93	$951.61	$18,253.54

Economies of Scale Factor	0.11
Rainfall (mm)	255

NOTE: The minimum payment for this clearance will be $500.

6. Significant Environmental Benefit

A Significant Environmental Benefit (SEB) is required for approval to clear under Division 5 of the *Native Vegetation Regulations 2017*. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING AN SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

☐ Establish a new SEB Area on land owned by the proponent.

☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____

☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.

☐ Apply to have an SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.

☒ Pay into the Native Vegetation Fund.

Darren Sherriff would like to discuss the option of paying the SEB offset fee in the portions defined below as clearance is required.

7. Appendices

Appendix 1: Bushland assessment scoresheets associated with the proposed clearance.

Attached

Appendix 2: Site maps as shape files

Attached

Appendix 3: Threatened flora and fauna species searches

Attached

Appendix 4: Summary for clearance per subdivision:
A summary of clearance per subdivision is provided here for use by the Ray White, when allocating costs per subdivision component.

**Due to rounding of numbers in individual Bushland Assessment scoresheets, the total of payments by subdivision differ from the overall Block payment by <$1.00*
***Entrance road has been included as it's own subdivision, this can be removed if required.*

Subdivision	VA's	Species Diversity Score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	SEB Points required	SEB payment	Admin Fee	Subdivision Total Fee
1	1.1	20	1	0	0.1	68.57	0.454742	31.18	1	32.74	$2,456.37	$135.10	$3,354.48
	1.2	20	1	0	0.1	42.13	0.217894	9.18	1	9.64	$723.23	$39.78	
2	1.1	20	1	0	0.1	68.57	0.4910	33.67	1	35.35	$2,652.47	$145.89	$2,798.36
3	1.1	20	1	0	0.1	68.57	0.0967	6.63	1	6.96	$522.39	$28.73	$3,255.74
	2	24	1	0	0.1	77.02	0.4225	32.54	1	34.17	$2,563.62	$141.00	
4	1.1	20	1	0	0.1	68.57	0.0146	1.00	1	1.05	$78.87	$4.34	$2,951.07
	2	24	1	0	0.1	77.02	0.4480	34.50	1	36.23	$2,718.35	$149.51	
5	1.1	20	1	0	0.1	68.57	0.2687	18.43	1	19.35	$1,451.57	$79.84	$2,612.62
	2	24	1	0	0.1	77.02	0.1689	13.01	1	13.66	$1,024.84	$56.37	
6	1.1	20	1	0	0.1	68.57	0.4417	30.29	1	31.8	$2,386.15	$131.24	$2,612.29
	1.2	20	1	0	0.1	42.13	0.0271	1.14	1	1.2	$89.95	$4.95	
Road	1.1	20	1	0	0.1	68.57	0.0952	6.53	1	6.85	$514.29	$28.29	$669.34
	1.2	20	1	0	0.1	42.13	0.0362	1.53	1	1.6	$120.15	$6.61	
								211.57		**230.6**	**$17,302.25**	**$951.65**	**$18,253.90**

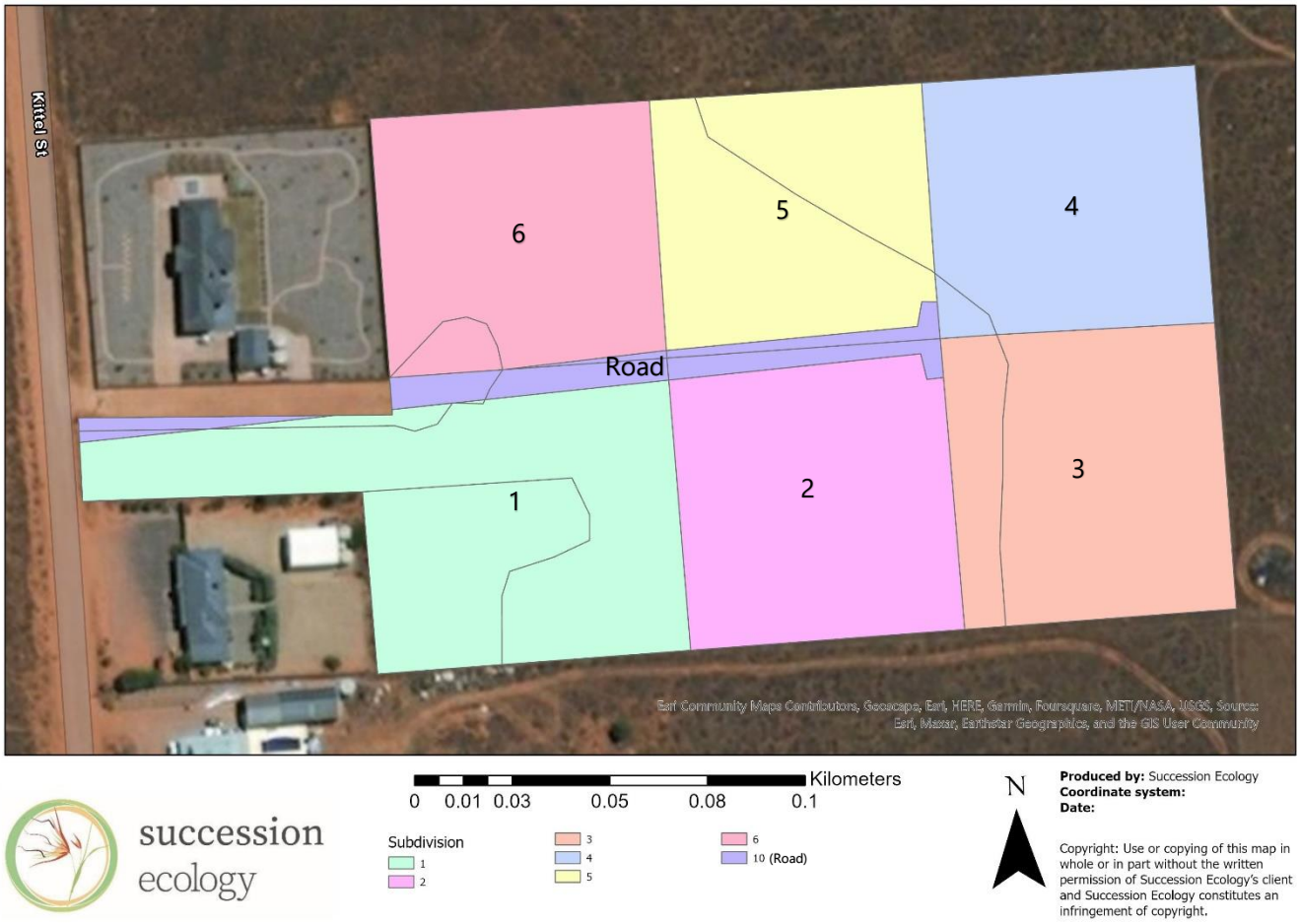

Figure 13: Subdivisions and entrance road (#10), with grey lines indicating boundaries of vegetation associations.

Appendix 5: Marine threatened fauna

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Calidris canutus (Red Knot)	E	EN	5	N/A	Mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, estuaries and inlets. Occasionally seen on terrestrial saline wetlands near the coast (DAWE, 2021).	Unlikely – unsuitable habitat
Calidris ferruginea (Curlew Sandpiper)	E	CR	5	N/A	Mainly occur on intertidal mudflats in sheltered coastal areas and non-tidal swamps. Also recorded inland around lakes and dams, but less often (DAWE, 2021).	Unlikely – unsuitable habitat
Egretta garzetta nigripes (Little Egret)	R	-	3	2010	Habitat varies widely, and includes the shores of lakes, rivers, canals, ponds, lagoons, marshes and flooded land, the bird preferring open locations to dense cover (Hancock & Kushland, 2010).	Unlikely – unsuitable habitat at this site.
Numenius madagascariensis (Calidris canutus)	E	CR	5	N/A	Occupies coastal lakes, inlets, bays and estuarine habitats. Mainly found in intertidal mudflats and sometimes saltmarsh (OE&H).	Unlikely – unsuitable habitat
Sternula nereis nereis (Australian Fairy Tern)	-	VU	5		Nests on sheltered sandy beaches, spits and banks above high tide and below vegetation. The subspecies may be found in embayment's of estuarine or lake islands and wetlands (DAWE, 2021).	Unlikely – unsuitable habitat at this site.