Native Vegetation Clearance

Waldorf School, Duck Ponds

Data Report

Clearance under the *Native Vegetation Regulations 2017*

May, 2023

Prepared by West Coast Revegetation, NVC Accredited Consultant Phil Landless

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1. Application information

Application Details

Applicant:	Eyre Peninsula Waldorf School Initiative Board		
Key contact:	Renee Perchard		
Landowner:	Michael Harris		
Site Address:	60 Kathai Drive, Duck Ponds, Port Lincoln SA		
Local Government Area:	District Council of Lower Eyre Peninsula	Hundred:	Lincoln
Title ID:	CT5149/26	Parcel ID	H510600SE1237

Summary of proposed clearance

Purpose of clearance	Clearance is required for the development of a Waldorf School with associated infrastructure.
Native Vegetation Regulation	Schedule 1; Regulation 12(33), New dwelling or building.
Description of the vegetation under application	0.674 ha of Coastal White Mallee *Eucalyptus diversifolia* Mallee in poor to medium condition due to being burned during a bushfire in February, 2023.
Total proposed clearance - area (ha) and number of trees	0.674 ha is proposed to be cleared.
Level of clearance	Level 4
Overlay (Planning and Design Code)	• Hazards (Bushfire – High Risk) • Hazards (Flooding – Evidence Required) • Limited Land Division • Native Vegetation • State Significant Native Vegetation • Water protection Area • Water Resources
Map of proposed clearance area	

Mitigation hierarchy	**Avoidance** The location, design, size or scale of the clearance cannot be adjusted in order to reduce the scale of the impact. The areas under application will be cleared to achieve a 40 m Asset Protection Zone, as requested by the CFS, around the Waldorf School's planned staged development. **Minimisation** The Eyre Peninsula Waldorf School Initiative Board seeks to clear the minimum area of native vegetation to achieve the 40 m Asset Protection Zone around the development stages of the school. All buildings in Stages 1 - 4 of their development plans are in areas that are already cleared of vegetation. This application is being submitted to achieve the minimum APZ around school development, as suggested by the local CFS. Development of the site requires removal of all vegetation. Extent, duration, and intensity of the impacts to the site will be minimized by the following: • Access to the proposed clearance sites will be from existing roads, • Cleared vegetation will be stored on-site before removal, minimizing impacts to surrounding vegetation, • All clearance activities necessary will be staged from within the application area, • Servicing, refueling and inspection for machinery contaminant leaks will be carried out on the worksite. **Rehabilitation** The proposed development of the site will be permanent. Rehabilitation will not be possible. Landscaping and planting of fire-retardant plants in some areas on the school site will be undertaken.
SEB Offset proposal	Payment of $17085.71 (SEB payment plus administration fee) into the Native Vegetation Fund.

2. Purpose of clearance

2.1 Description

Clearance is required for the development of a Waldorf School with related infrastructure and associated Asset Protection Zones, as suggested by the local CFS after a site inspection. The development will include administration buildings, toilets, library, gymnasium and performing arts hall, pedestrian walkways and a new driveway from Stamford Drive to a carpark.

2.2 Background

Port Lincoln is located on Boston Bay at the southern tip of the Eyre Peninsula, approximately 646 km from Adelaide by road. It is the largest city in the West Coast region with an estimated population of just over 16,000. The local economy is based on the large grain-handling facilities, the fishing and aquaculture industries, sheep, wool and beef. Port Lincoln is also a centre for tourism.

The Eyre Peninsula Waldorf School Initiative Board is working towards establishing a Waldorf School on the site. Waldorf education, also referred to as Steiner education, is holistic and is intended to develop pupils' intellectual, artistic and practical skills with a focus on imagination and creativity. The school's development will be completed in stages (Figures 6, 7, 8, 9). The Eyre Peninsula Waldorf School Initiative Board leases the land at present and plans to purchase in the future. This application takes into account future stages of development.

The site of the proposed clearance is situated on the western outskirts of the city on Kathai Drive, Duck Ponds, about 3.5 km from the city centre. The site is on farm land and has been grazed by sheep and cattle, and in the past by pigs.

In February of 2023 a fire burned areas of mallee on the site. The local CFS believes that the fire was caused by a power infrastructure failure. On assessing the development plans of the school the CFS have suggested that an Asset Protection Zone (APZ) of 40 m be maintained around all proposed buildings. This application seeks to remove areas of mallee from the site to facilitate this requirement in relation to the proposed development. All areas under application were burned and extensively damaged by the fire in February 2023.

2.3 General location maps

Figure 1. General location map.

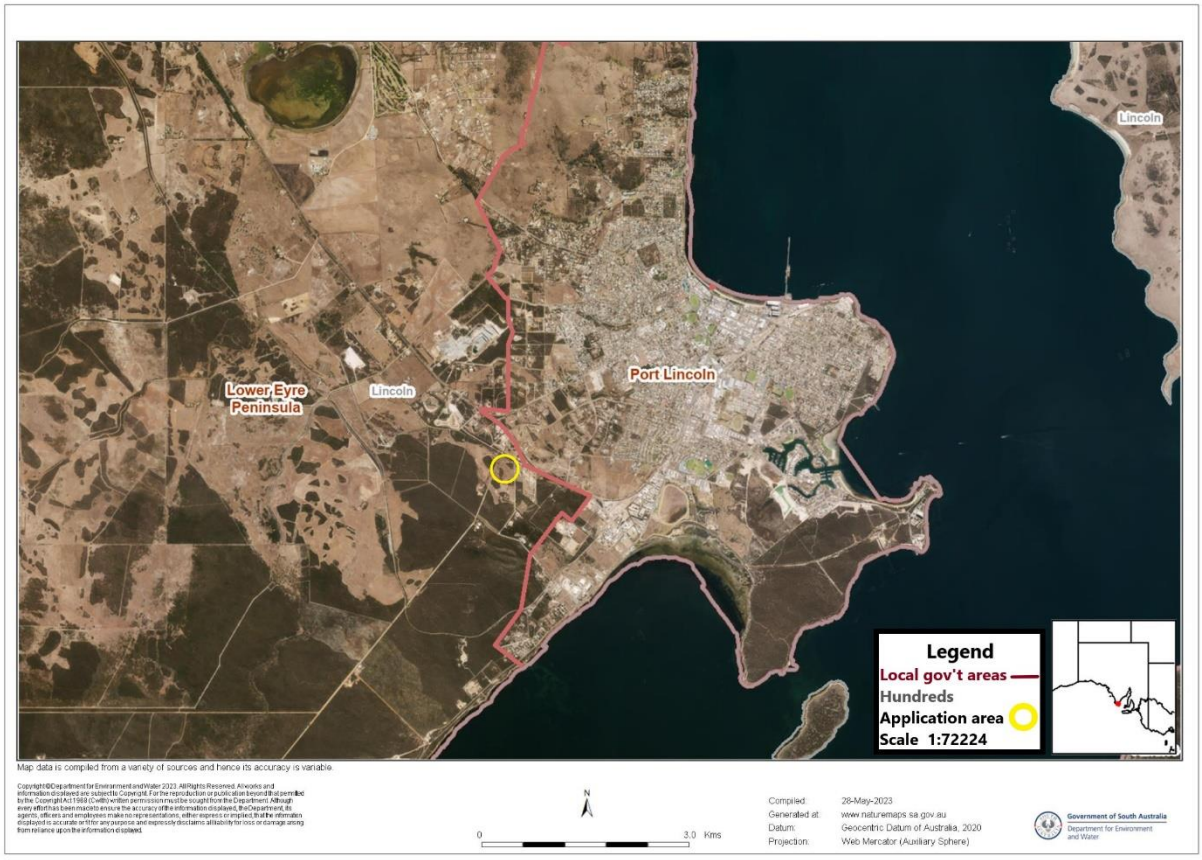


Figure 2. General location satellite image.

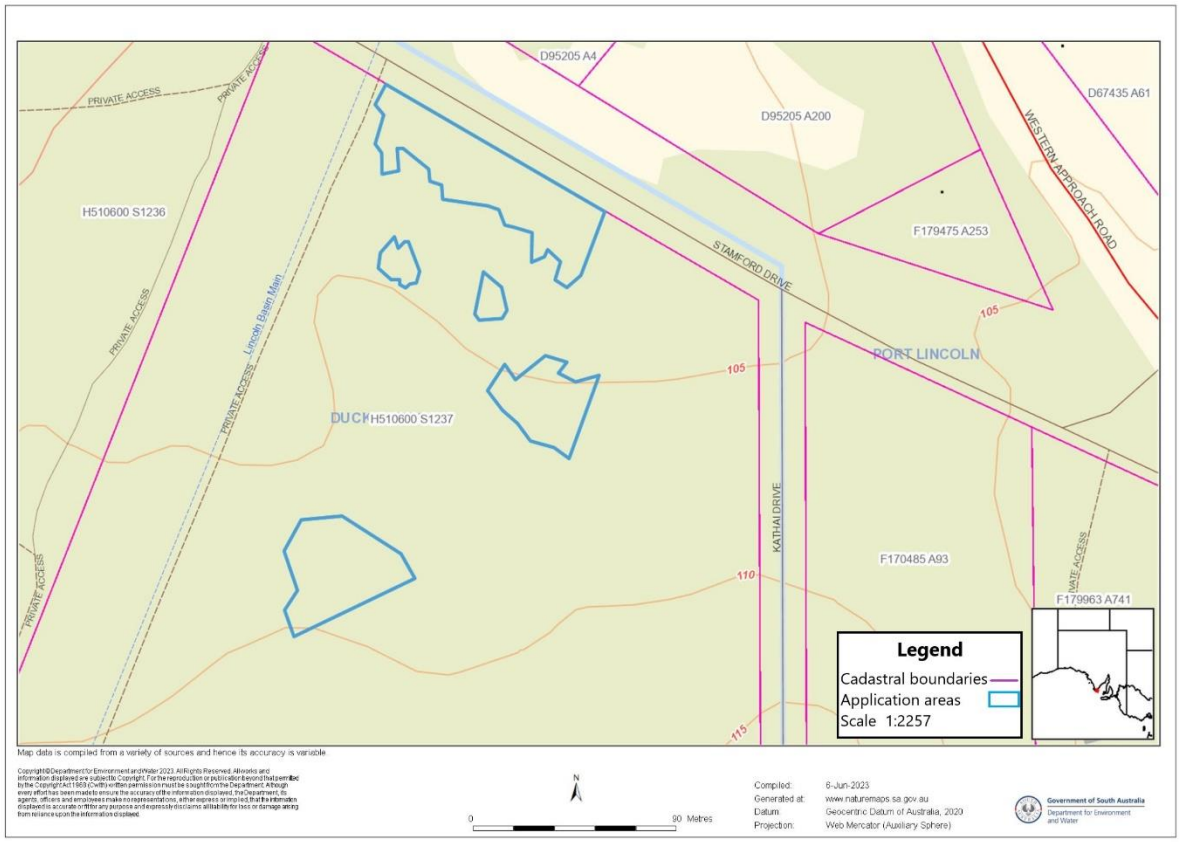


Figure 3. Site map.

Figure 4. Site satellite image.

2.4 Details of the proposal

The Eyre Peninsula Waldorf School Initiative Board proposes to develop a Waldorf School on the site. The development will include administration buildings, toilets, library, gymnasium and performing arts hall, pedestrian walkways and a carpark. Development will be achieved in stages. Clearing some areas of native vegetation is necessary so as to provide a 40 m APZ in relation to proposed buildings, and other infrastructure. Without clearing some native vegetation the limited area available for development is shown in Figure 5. The clearance application significantly enlarges the area available for development and will enable the development stages to be achieved (Figures 6, 7, 8, 9).

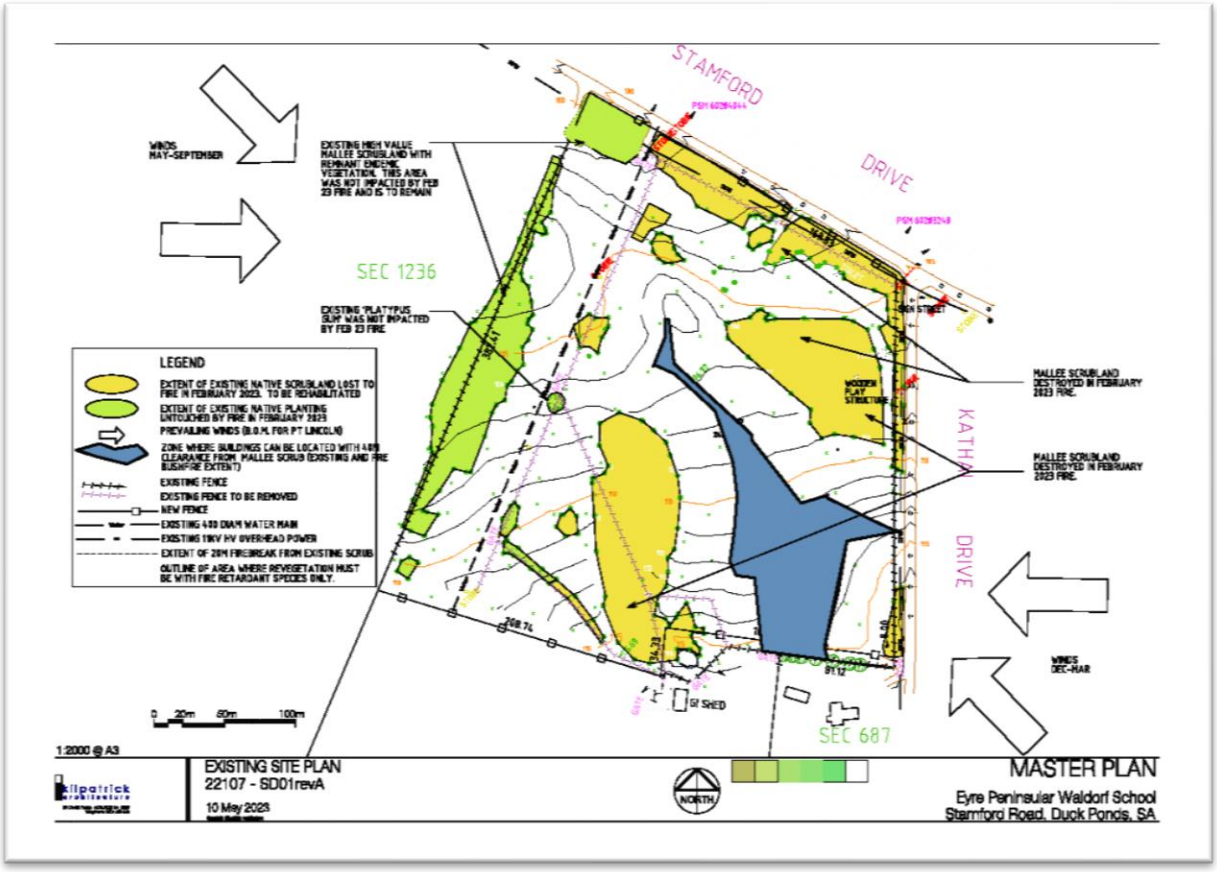


Figure 5. Area available to development without clearing vegetation.

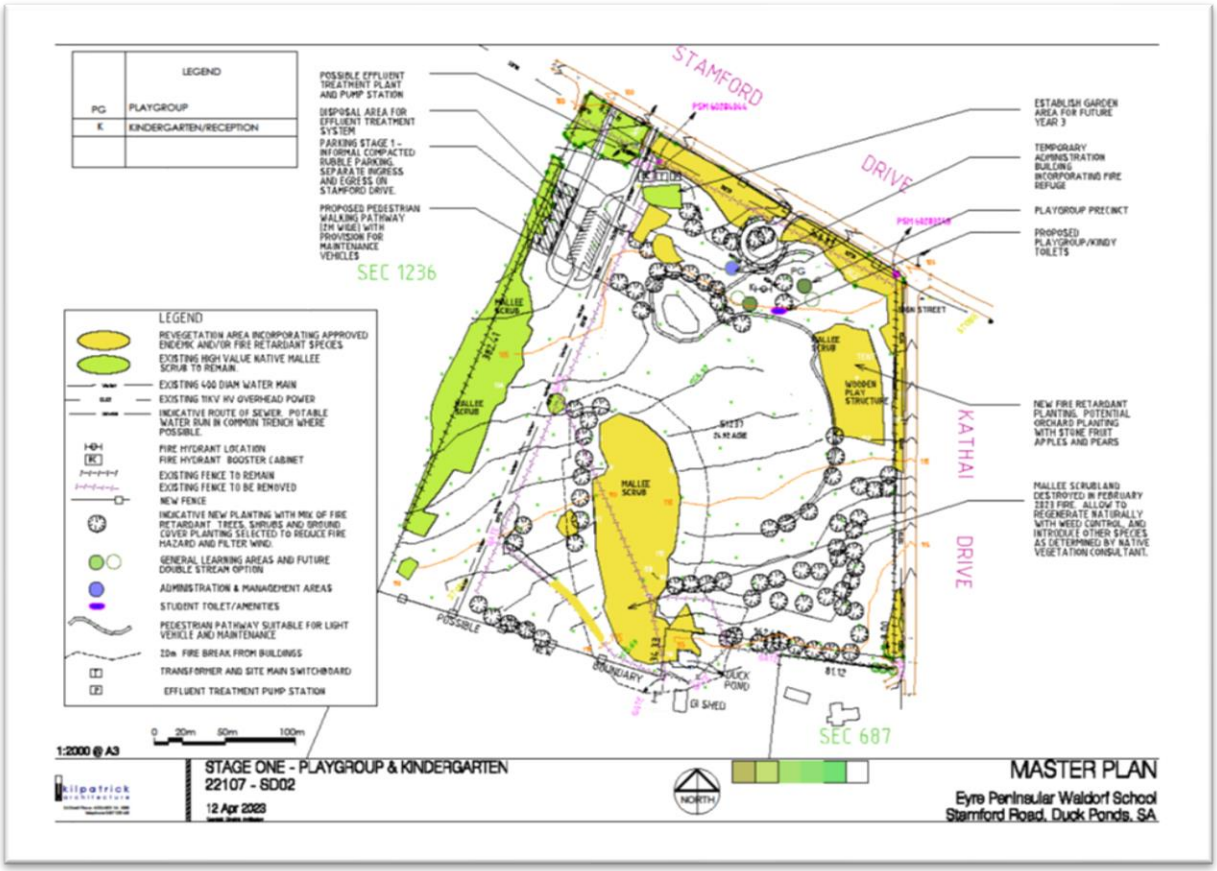


Figure 6. Stage 1 – Playgroup and Kindergarten.

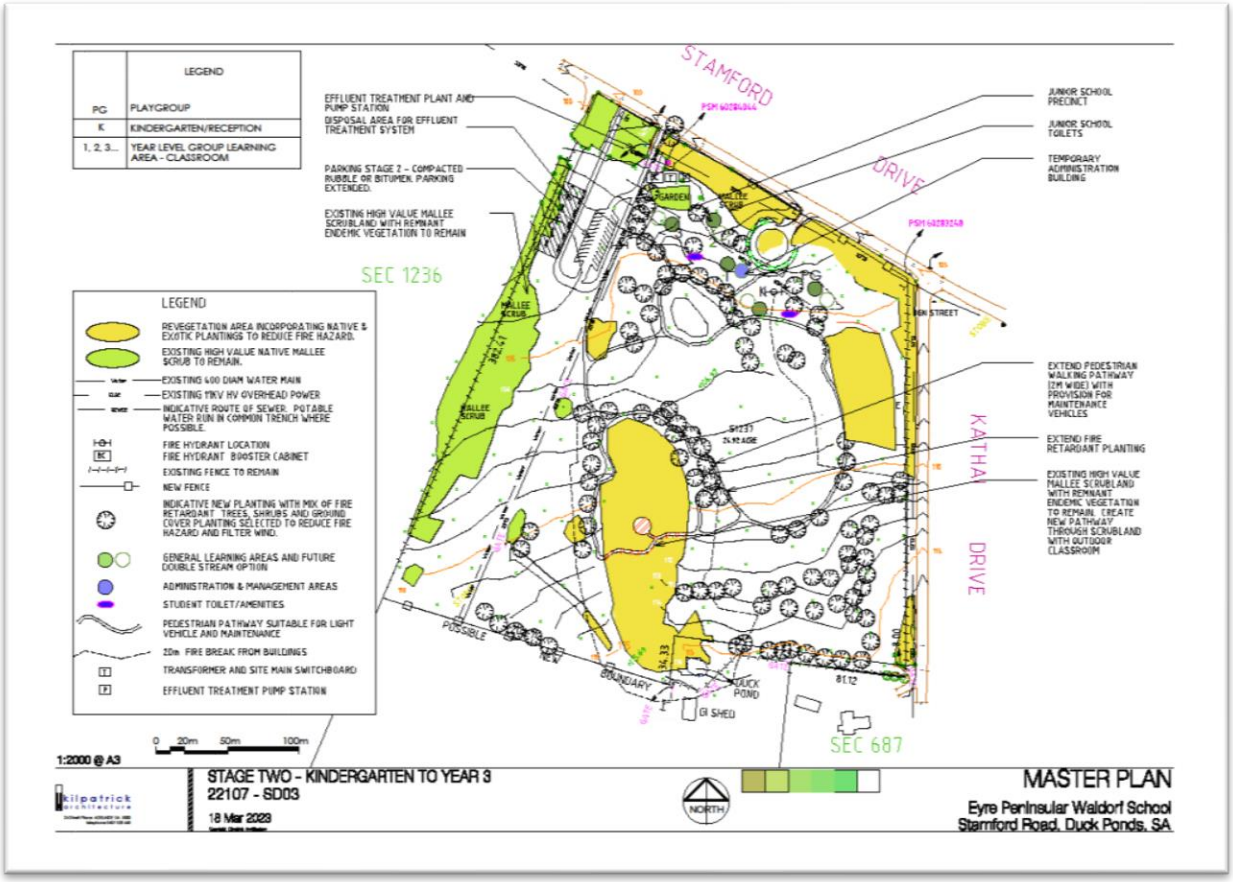


Figure 7. Stage 2 – Kindergarten to Year 3.

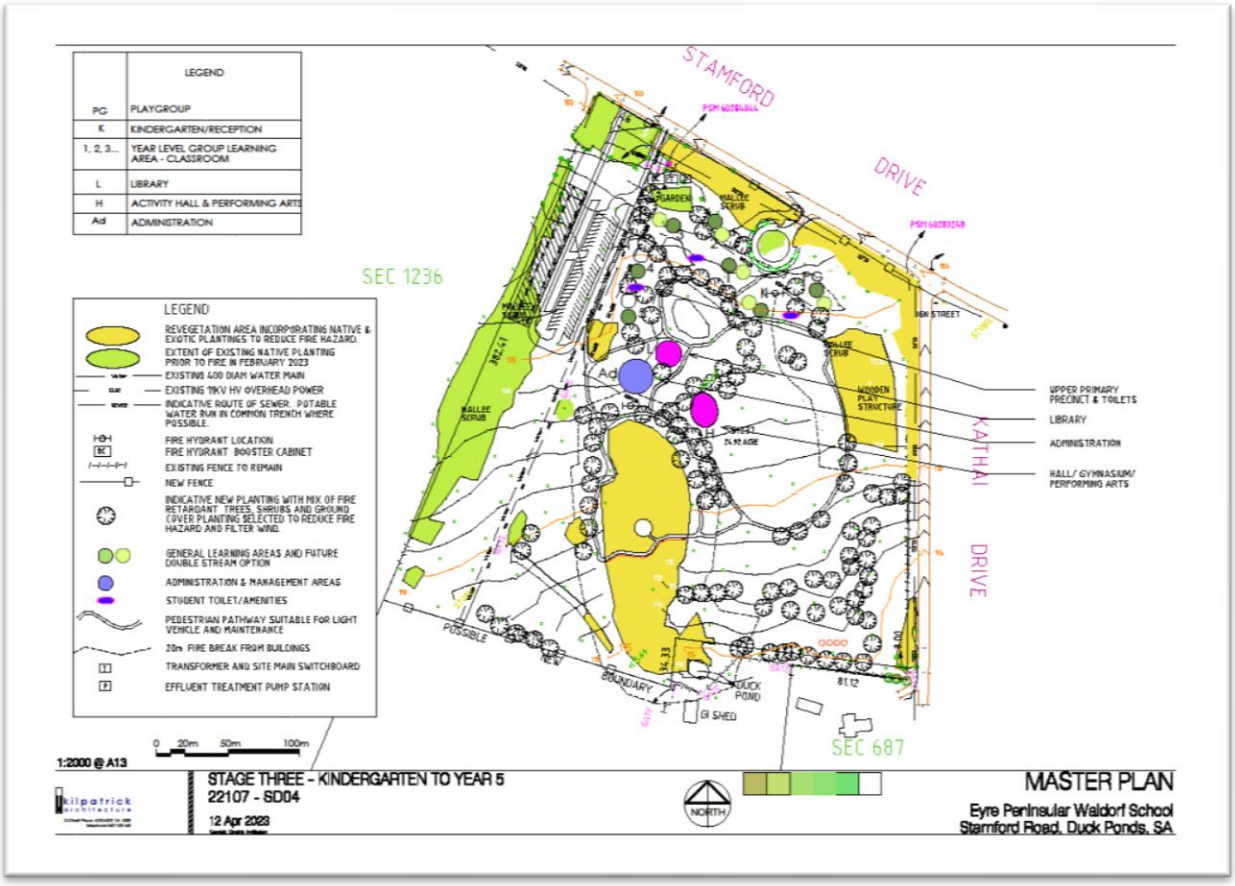


Figure 8. Stage 3 – Kindergarten to Year 5.

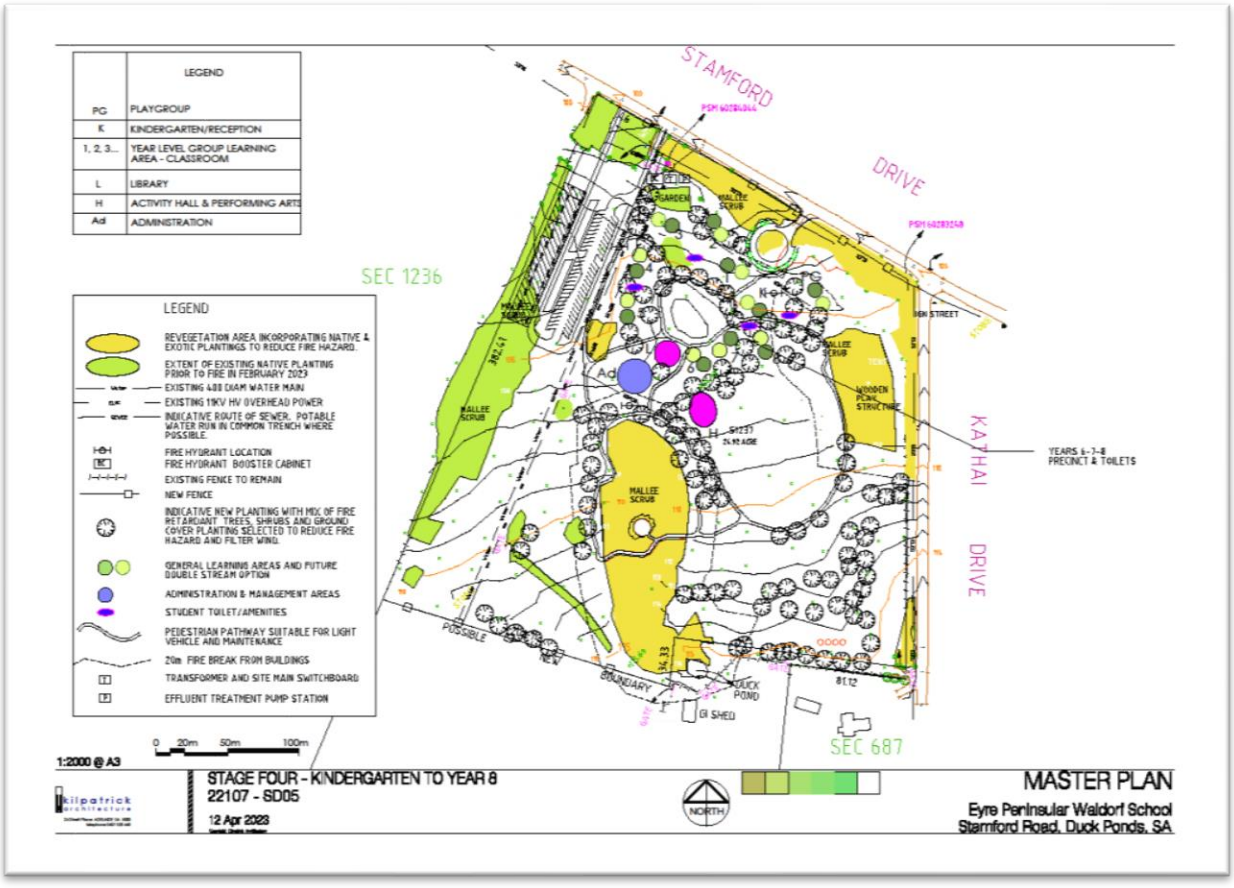


Figure 9. Stage 4 – Kindergarten to Year 8.

2.5 Approvals required *or* obtained

- Native Vegetation Act 1991. No previous approvals to clear native vegetation on this site have been granted. Clearance under the Native vegetation Act 1991 is the subject of this proposal.
- No other approvals have been applied for at this time.

2.6 Native Vegetation Regulation

The proposed clearance will be assessed under Regulation 12(33), New dwelling or building.

2.7 Development Application information (if applicable)

Zone

- Rural - Ru

Overlays

- Hazards (Bushfire – High Risk)
- Hazards (Flooding – Evidence Required)
- Limited Land Division
- Native Vegetation
- State Significant Native Vegetation
- Water protection Area
- Water Resources

3. Method

3.1 Flora assessment

A desktop survey was conducted, prior to the field work, using the BDBSA on NatureMaps for the presence of plant species with state and/or national conservation status within a 5 km radius of the block (Table 1).

The field work was carried out on 19 May 2023 by Phil Landless (NVC Accredited Consultant) following the methodology set out in the NVC Bushland Assessment Manual 2020.

The proposed clearance is comprised of five separate areas which are within close proximity to each other and support similar vegetation (Figure 4, 10). The six areas were numbered 1 – 5 (each less than 0.5 ha) and assessed as one site:

- Area 1 – 1951.8 m^2
- Area 2 – 1257.79 m^2
- Area 3 – 209.84 m^2
- Area 4 – 266.98 m^2
- Area 5 – 3056.04 m^2
- Total area – 6742.5 m^2 (0.674 ha).

All areas under application experienced severe fire damage during the bushfire of February 2023. None of the understorey remained. There were no signs of native understorey regeneration. Dominant *Eucalyptus* mallee species were identified from remaining flower buds and fruit. Understorey vegetation was inferred by surveying a "proxy" area of vegetation on the same property (Figure 10). The "proxy" area was chosen because:

- it was no more than 150 m from any of the areas under application,
- it had not suffered fire damage during the fire of February 2023,
- it had the same dominant mallee species,
- the understorey was intact,
- it had a similar livestock grazing history.

The sites (application areas and "proxy" area) were surveyed, a species list prepared, and scores for the other attributes listed on the Small Site field data sheet were recorded. Plants with conservation status under the NP&W 1972 or the EPBC Act 1999 (as identified by the desktop survey) were actively searched for during the field survey.

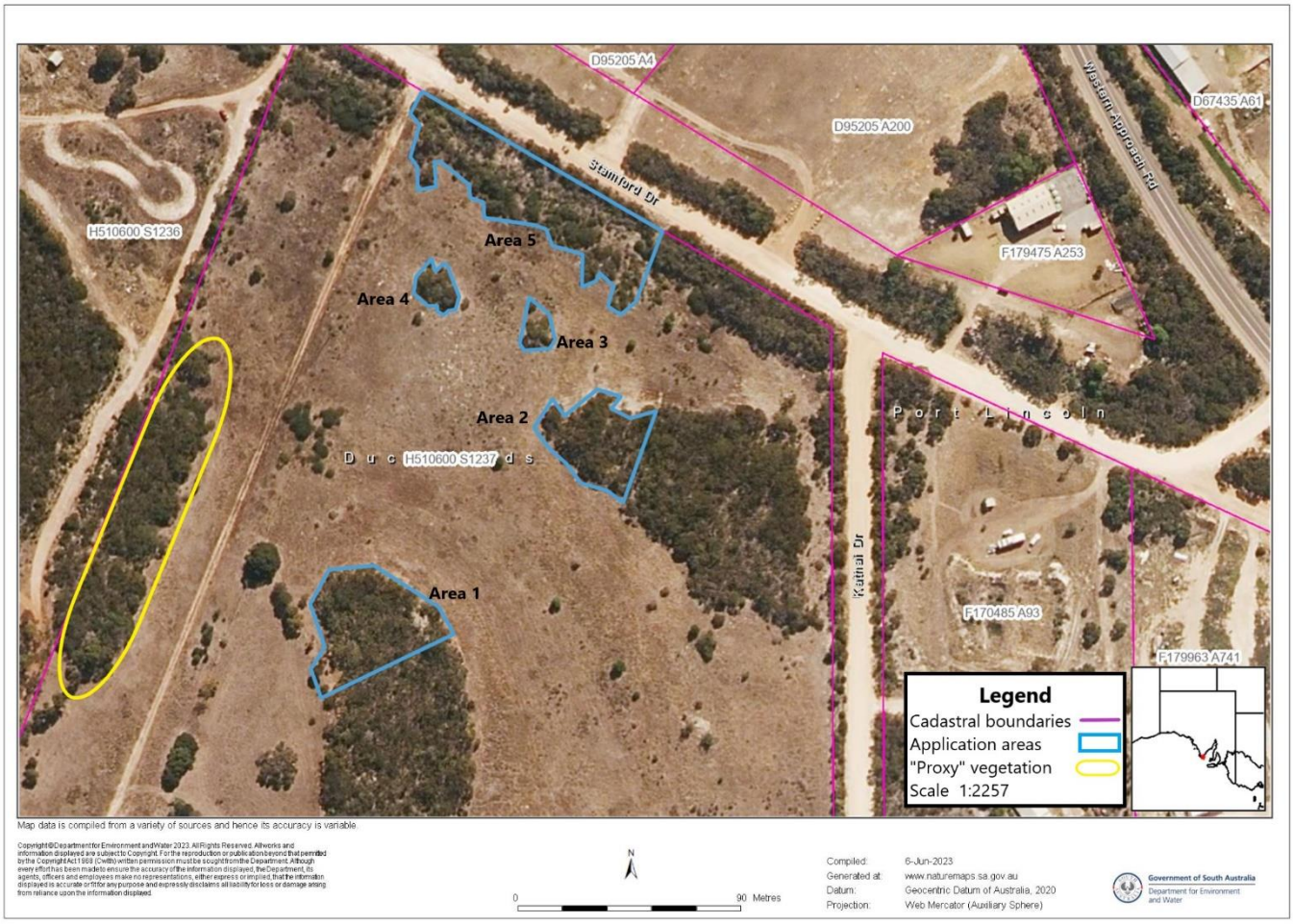


Figure 10. Application areas and "proxy" vegetation area.

3.2 Fauna assessment

A desktop fauna survey was conducted prior to the field work, using the BDBSA on NatureMaps. The search included the surrounding area within a 5 km radius. Fauna species with conservation status under the NP&W 1972 or the EPBC Act 1999 (as identified by the desktop survey) were actively searched for during the field survey (Table 2).

4. Assessment Outcomes

4.1 Vegetation Assessment

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

The areas under application for clearance fall within the Lincoln IBRA Region and the Eyre Hills IBRA Subregion. The site slopes slightly to north. Soil is a calcareous sand with a limestone strew over most of the site. There are no significant features such as rocky outcrops or watercourses.

The areas under application are remnants of the local Coastal White Mallee *Eucalyptus diversifolia* Mallee association in an agricultural landscape. The vegetation in each area on the site has sustained extensive fire damage. No natural regeneration is evident yet except for introduced species such as *Lycium ferocissimum* African Boxthorn and *Asparagus asparagoides* Bridal Creeper.

The site is directly adjacent to Kathai Conservation Park to the south-west. Lincoln Conservation Park is 9 km to the south-west. Lincoln national Park is approximately 8.6 km to the south. The nearest clearance application area, 2000_2106, is 1.4 km to the south-east.

Details of the vegetation association proposed to be impacted

Vegetation Association	Coastal White Mallee *Eucalyptus diversifolia* Mallee

Position: 53S 575591E 6155345N **Direction of photo:** W 273° **Description:** Area 2 (Burnt area).

Position: 53S 575443E 6155272N **Direction of photo:** W 273° **Description:** "Proxy" site.

General description	The vegetation under application had suffered severe fire damage. A nearby area of intact, unburned vegetation was assessed to approximate understorey species. Twenty-four species were recorded, fourteen native and ten introduced. The dominant native species was *Eucalyptus diversifolia* Coastal White Mallee. Other common species included *Acacia paradoxa* Kangaroo Thorn, *Melaleuca lanceolata* Dryland Tea-tree, *Rhagodia candolleana* Sea-berry Saltbush and *Xanthorrhoea semiplana ssp. semiplana* Yacca. Introduced species were recorded in the unburned and burned areas, and included *Asparagus asparagoides* Bridal Creeper, *Lycium ferocissimum* African Boxthorn and *Polygala myrtifolia* Myrtle-leaf Milkwort.				
Threatened species or community	**Threatened flora species** Fifteen threatened species were noted in the threatened species search to be present within a 5 km radius of the site. Ten species, *Haeckeria cassiniiformis* (Dogwood Haeckeria), *Hibbertia cinerea* (Port Lincoln Guinea-flower), *Lysiandra calycina* (Snowdrop Spurge), *Prostanthera chlorantha* (Green Mintbush), *Acacia alcockii* (Alcock's Wattle), *Acacia dodonaeifolia* (Hop-bush Wattle), *Pultenaea trichophylla* (Tufted Bush-pea), *Xanthorrhoea semiplana ssp. Tateana* (Tate's Grass-tree), *Eucalyptus conglobata ssp. conglobata* (Port Lincoln Mallee) and *Boronia pilosa ssp. torquata* (Hairy Boronia), were considered as possibly occurring on the site. **Threatened plant community** The vegetation association on the site, Coastal White Mallee *Eucalyptus diversifolia* Mallee, does not appear in the Provisional List of Threatened Ecosystems included in the NVC Bushland Assessment Manual 2020. **Threatened fauna species** Seventeen threatened fauna species were noted in the threatened species search to be present within a 5 km radius of the site. Four threatened bird species, *Falco subniger* (Black Falcon), *Gerygone fusca* (Western gerygone), *Lichenostomus cratitius occidentalis* (Purple-gaped Honeyeater, mainland SA), *Turnix varius varius* (Painted Buttonquail) and the mammal *Pteropus poliocephalus* (Grey-headed Flying-fox) were considered as possible users of the vegetation as habitat. Four birds noted as subspecies but not noted as threatened, *Dromaius novaehollandiae* (Emu), *Lichenostomus cratitius* (Purple-gaped Honeyeater), *Melithreptus brevirostris* (Brown-headed Honeyeater) and *Strepera versicolor* (Grey Currawong) were also considered as possible users of the vegetation as habitat.				
Landscape context score	1.09	Vegetation Condition Score	25.60	Conservation significance score	1.10
Unit biodiversity Score	30.69	Area (ha)	0.674 ha	Total biodiversity Score	20.69

Photo log

Photolog appears as Appendix 4.

4.2 Threatened Species assessment

Table 1. Threatened flora species observed on site, or recorded within 5km of the application area since 1995, or the vegetation is considered to provide suitable habitat.

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Haeckeria cassiniiformis (Dogwood Haeckeria)	R		3	2008	Post-disturbance coloniser which may establish rapidly after fire.	Possible.

Microlepidium pilosulum (Hairy Shepherd's Purse)	R		3	1996	On sand and loam in coastal dunes and salt lake margins.	Unlikely. No suitable habitat.
Hibbertia cinerea (Port Lincoln Guinea-flower)	R		3	2005	Sandy soils in coastal scrub and low mallee.	Possible.
Lysiandra calycina (Snowdrop Spurge)	R		3	2015	Sandy soil.	Possible.
Prostanthera chlorantha (Green Mintbush)	R		3	2008	Sandy and loamy soils in shrubland.	Possible.
Acacia alcockii (Alcock's Wattle)	R		3	2013	Sandy soils over limestone.	Possible.
Acacia dodonaeifolia (Hop-bush Wattle)	R		3	2008	Woodland, open forest.	Possible.
Pultenaea trichophylla (Tufted Bush-pea)	R	EN	3	?	Open woodland and mallee.	Possible.
Xanthorrhoea semiplana ssp. Tateana (Tate's Grass-tree)	R		3	2018	Sandy soils, inland woodlands and shrublands.	Possible.
Myoporum parvifolium (Creeping Boobialla)	R		3	?	Clay soils, often in saline situations.	Unlikely. No suitable habitat.
Eucalyptus conglobata ssp. conglobata (Port Lincoln Mallee)	R		3	2018	Dense mallee scrub, on fertile loams over limestone.	Possible.
Prasophyllum occultans (Hidden Leek-orchid)	R		3	2001	Mallee/broombush, low scrub near rock outcrops; shallow soils over rock.	Unlikely. No suitable habitat.
Spyridium daphnoides (Spoon-leaved Spyridium)	R		3	2018	Closed heath.	Unlikely. No suitable habitat.
Boronia pilosa ssp. torquata (Hairy Boronia)	R		3	2013	Woodland, heath.	Possible.
Choretrum chrysanthum (Yellow Sour-bush)	R		3	2021	Granitic soils and sand plains.	Unlikely. No suitable habitat.
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. Threatened fauna species observed on site, or recorded within 5km of the application area since 1995, or the vegetation is considered to provide suitable habitat.

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Actitis hypoleucos (Common Sandpiper)	R		3	2020	Coastal or inland wetlands (saline or fresh), on muddy edges and rocky shores.	Unlikely.
Bubulcus ibis coromandus (Eastern Cattle Egret)	R		3	2019	Pasture, shallow wetland.	Unlikely.
Cereopsis novaehollandiae novaehollandiae (Cape Barren Goose)	R		3	2019	Offshore islands, improved pasture on mainland.	Unlikely.
Cladorhynchus leucocephalus (Banded Stilt)	V		3	2020	Fresh and saltwater marshes, marine mudflats. Large temporary lakes as salinity increases.	Unlikely.
Dromaius novaehollandiae (Emu)	ssp.	ssp.	3	2022	Sclerophyll forests and savanna woodland.	Possible.
Egretta garzetta nigripes (Little Egret)	R		3	2020	Wetlands, intertidal mudflats.	Unlikely
Falco subniger (Black Falcon)	R		3	2009	Woodland, scrub, shrubland and grassland.	Possible.
Gerygone fusca (Western gerygone)	R		3	2018	Open woodlands, mallee.	Possible
Haemotopus fuliginosus fuliginosus (Sooty Oystercatcher)	R		3	2020	Rocky coastline, estuaries.	Unlikely.
Haemotopus longirostris (Pied Oystercatcher)	R		3	2020	Sandy beaches, estuaries.	Unlikely.
Lichenostomus cratitius (Purple-gaped Honeyeater)	ssp.		3	2018	Mallee, woodlands.	Possible.
Lichenostomus cratitius occidentalis (Purple-gaped Honeyeater, mainland SA)	R		3	2008	Mallee, woodlands.	Possible.
Melithreptus brevirostris (Brown-headed Honeyeater)		ssp.	3	2022	Woodland, mallee.	Possible.

Neophema petrophila zietzi (Rock Parrot)	R		3	2019	Coastal dunes, saltmarsh, rocky islands.	Unlikely.
Sternula albifrons sinensis (Little Tern)	E		3	2010	Coasts, estuaries.	Unlikely.
Sternula nereis nereis (Fairy Tern)	E	VU	3	2020	Coasts, estuaries.	Unlikely.
Strepera versicolor (Grey Currawong)	ssp.		3	2016	Forests, woodlands, mallee, and heaths.	Possible.
Tringa glareola (Wood Sandpiper)	R		3	2004	Shorebird of shallow, freshwater wetlands.	Unlikely.
Turnix varius varius (Painted Buttonquail)	R		3	2018	Grassy forests, woodlands.	Possible.
Pteropus poliocephalus (Grey-headed Flying-fox)	R	VU	3	2022	Forests. Woodlands, heaths, swamps, urban gardens.	Possible.

Criteria for the likelihood of occurrence of species within the Study 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.

4.3 Cumulative impact

Direct impact

The areas under application will be completely cleared of vegetation to achieve a 40 m Asset Protection Zone, as suggested by the CFS, around the Waldorf School's staged development.

Indirect impact

Measures to minimize indirect impacts will include:

- Dust suppression during clearing activities,
- Accessing the site only from Stamford Drive,
- Stockpiling vegetative debris on site before removal,
- Staging necessary clearing activities from within the site,
- Storing, servicing and fueling of machinery within the site.

4.4 Address the Mitigation Hierarchy

a) Avoidance – outline measures taken to avoid clearance of native vegetation
The location, design, size or scale of the clearance cannot be adjusted in order to reduce the scale of the impact. The areas under application will be cleared to achieve a 40 m Asset Protection Zone, as suggested by the CFS, around the Waldorf School's staged development.

b) Minimisation – 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).
The Eyre Peninsula Waldorf School Initiative Board seeks to clear the minimum area of native vegetation to achieve the 40 m Asset Protection Zone around the development stages of the school. All buildings in Stages 1 - 4 of their development plans are in areas that are already cleared of vegetation. This application is being submitted to achieve the minimum APZ around school development, as suggested by the local CFS.
Development of the site requires removal of all vegetation. Extent, duration, and intensity of the impacts to the site will be minimized by the following:

- Access to the proposed clearance sites will be from existing roads,
- Cleared vegetation will be stored on-site before removal, minimizing impacts to surrounding vegetation,
- All clearance activities necessary will be staged from within the application area,
- Servicing, refueling and inspection for machinery contaminant leaks will be carried out on the worksite.

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.
The proposed development of the site will be permanent. Rehabilitation will not be possible. Landscaping and planting of fire-retardant plants in some areas on the school site will be undertaken.

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 proposes to achieve the SEB by paying $17656.09 (SEB payment plus administration fee) into the Native Vegetation Fund.

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

Principle of clearance	Considerations
Principle 1a - it comprises a high level of	Relevant information Twenty-four plant species were recorded, fourteen native and ten introduced. Bushland Plant Diversity Score – 10.0

diversity of plant species	Assessment against the principles **At Variance** Vegetation Association - Coastal White Mallee *Eucalyptus diversifolia* Mallee
	Moderating factors that may be considered by the NVC Only a very small area of vegetation will be impacted relative to the amount of vegetation in the local vicinity (e.g. Port Lincoln National Park directly to the south, Kathai Conservation Park to the south-west).
Principle 1b - significance as a habitat for wildlife	Relevant information Seventeen threatened fauna species were noted in the threatened species search to be present within a 5 km radius of the site. Four threatened bird species, *Falco subniger* (Black Falcon), *Gerygone fusca* (Western gerygone), *Lichenostomus cratitius occidentalis* (Purple-gaped Honeyeater, mainland SA), *Turnix varius varius* (Painted Buttonquail) and the mammal *Pteropus poliocephalus* (Grey-headed Flying-fox) were considered as possible users of the vegetation as habitat. Four birds noted as subspecies but not noted as threatened, *Dromaius novaehollandiae* (Emu), *Lichenostomus cratitius* (Purple-gaped Honeyeater), *Melithreptus brevirostris* (Brown-headed Honeyeater) and *Strepera versicolor* (Grey Currawong) were also considered as possible users of the vegetation as habitat. Threatened Fauna Score – 0.1 Unit biodiversity Score – 30.69
	Assessment against the principles **Seriously at Variance** Vegetation Association - Coastal White Mallee *Eucalyptus diversifolia* Mallee
	Moderating factors that may be considered by the NVC Only a very small area of vegetation will be impacted relative to the amount of vegetation in the local vicinity, and the proposed clearance is not likely to have a significant impact on the threatened species which may use the vegetation, as: • It will not lead to a long-term decrease in the population size, • The reduction of the local area of occupancy will be minimal, • Existing populations will not be fragmented, • It will not result in the establishment of invasive species which could be harmful to threatened species. Availability and/or quality of habitat will not be modified, destroyed, removed, or isolated to the extent that any species are likely to decline.
Principle 1c - plants of a rare, vulnerable or endangered species	Relevant information Fifteen threatened species were noted in the threatened species search to be present within a 5 km radius of the site. Ten species, *Haeckeria cassiniiformis* (Dogwood Haeckeria), *Hibbertia cinerea* (Port Lincoln Guinea-flower), *Lysiandra calycina* (Snowdrop Spurge), *Prostanthera chlorantha* (Green Mintbush), *Acacia alcockii* (Alcock's Wattle), *Acacia dodonaeifolia* (Hop-bush Wattle), *Pultenaea trichophylla* (Tufted Bush-pea), *Xanthorrhoea semiplana ssp. Tateana* (Tate's Grass-tree), *Eucalyptus conglobata ssp. conglobata* (Port Lincoln Mallee) and *Boronia pilosa ssp. torquata* (Hairy Boronia), were considered as possibly occurring on the site. Threatened Flora Score(s) - 0
	Assessment against the principles **Not At Variance** Vegetation Association - Coastal White Mallee *Eucalyptus diversifolia* Mallee
	Moderating factors that may be considered by the NVC
Principle 1d - the vegetation	Relevant information No communities under the EPBC Act or threatened ecosystems under the DEW Provisional list of threatened ecosystems present. Threatened Community Score - 1

***comprises the whole or part of a plant community that is Rare, Vulnerable or endangered*:**	Assessment against the principles **Not at Variance** Vegetation Association - Coastal White Mallee *Eucalyptus diversifolia* Mallee
	Moderating factors that may be considered by the NVC
Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.	Relevant information Remnancy figures for IBRA Association: 84% Remnancy figures for IBRA Subregion: 29% Total Biodiversity Score – 20.69
	Assessment against the principles **At Variance** Vegetation Association - Coastal White Mallee *Eucalyptus diversifolia* Mallee
	Moderating factors that may be considered by the NVC
Principle 1f - it is growing in, or in association with, a wetland environment.	Relevant information Not applicable.
	Assessment against the principles Not applicable.
	Moderating factors that may be considered by the NVC
Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.	Relevant information Not applicable.
	Assessment against the principles Not applicable.
	Moderating factors that may be considered by the NVC

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	
	Area (ha)	0.674 ha
	Total biodiversity Score	20.69
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

5. Clearance summary

Table 3. Clearance Area 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
A	A1	10	1	0	0.1	30.69	0.674	20.69	1			21.72	$16194.99	$890.72
						Total	**0.674**	**20.69**				**21.72**	**$16194.99**	**$890.72**

Table 4. Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	21.38	22.45	$16194.99	$890.72	$17085.71

Economies of Scale Factor	0.5
Rainfall (mm)	536

6. Significant Environmental Benefit

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.

PAYMENT SEB

The applicant proposes to achieve the SEB by paying $17085.71 (SEB payment plus administration fee) into the Native Vegetation Fund.

7. Appendices

Appendix 1. Flora species recorded during the field survey.

Note: asterisk (*) denotes introduced species.

Family	Species	Common name
Asparagaceae	**Asparagus asparagoides f.*	Bridal Creeper
Asteraceae	*Senecio pinnatifolius* group	Variable Groundsel
	**Senecio pterophorus*	African Daisy
Brassicaceae	**Diplotaxis tenuifolia*	Lincoln Weed
Caprifoliaceae	**Scabiosa atropurpurea*	Pincushion
Chenopodiaceae	*Rhagodia candolleana ssp.*	Sea-berry Saltbush
Cyperaceae	*Gahnia deusta*	Limestone Saw-sedge
Fabaceae	*Glycine rubiginosa*	Twining Glycine
	Templetonia retusa	Cockies Tongue
Iridaceae	**Moraea setifolia*	Thread Iris
Lamiaceae	**Marrubium vulgare*	Horehound
Liliaceae	*Dianella revoluta var.*	Flax Lily
Mimosaceae	*Acacia paradoxa*	Kangaroo Thorn
Myrtaceae	*Eucalyptus calycogona ssp. calycogona*	Square-fruit mallee
	Eucalyptus diversifolia ssp. diversifolia	Coastal White Mallee
	Eucalyptus rugosa	Coastal White Mallee
	Melaleuca acuminata ssp. acuminata	Mallee Honey-myrtle
	Melaleuca lanceolata	Dryland Tea-tree
Oxalidaceae	*Oxalis perennans*	Native Sorrel
Pinaceae	**Pinus halepensis*	Aleppo Pine
Polygalaceae	**Polygala myrtifolia*	Myrtle-leaf Milkwort
Rhamnaceae	**Rhamnus alaternus*	Blowfly Bush
Solanaceae	**Lycium ferocissimum*	African Boxthorn
Xanthorrhoeaceae	*Xanthorrhoea semiplana ssp. semiplana*	Yacca

Appendix 2. Bushland Vegetation Assessment Scoresheet associated with the proposed clearance (also submitted in Excel format)

Bushland Assessment Scoresheets

(Version - 20 July 2022)

Block	A
Size of Block (Ha)	0.674
Landscapes Region	Eyre Peninsula
BCM Region	Eyre Peninsula
IBRA Association	Lincoln
IBRA Subregion	Eyre Hills

ASSESSOR(S)	P Landless
DATE OF ASSESSMENT	19.5.2023

Map of the Block (Including the Sites)

Landscape Context Scores

% native veg. remaining in IBRA Assoc.	84
% native veg. remaining in IBRA subregion	29
0 - 10% = 0.05 pts; >10-20% = 0.04 pts; >20-30% = 0.03 pts; >30-60% = 0.02 pts; > 60 = 0 pts — Score	0.03

Score received for both IBRA assoc. and subregion then summed

Percent Vegetation Cover (5km radius) (%)	46
0-5% = 0 pts; >5-10% = 0.02 pts; >10-25% = 0.04 pts; >25-50% = 0.06 pts; >50-75% = 0.03 pt; >75-100% = 0 pts — Score	0.06

% native veg. protected IBRA Assoc.	77
0-10% = 0.03 pts; >10-20% = 0.02 pts; >20-40% = 0.01 pt; >40% = 0 — Score	0

Block Shape Cleared perimeter:Area (km/km2)	
Cleared Perimeter (m) =	573
Cleared Perimeter to area ratio	85.01
<8 = 0.03 pts; 8 to <12 = 0.02 pts; 12 to <18 = 0.01 pt — Score	0

Wetland or Riparian Habitat present	
Riparian zone present (Yes/No) = 0.02 pt	No
Swamp/wetland present (Yes/No) = 0.03 pts	No
(Swamp/wetland may be +/- riparian zone)	
Score	0

Note; Blocks will score a minimum Landscape Context Score of 1	
LANDSCAPE CONTEXT SCORE (max 1.25)	1.09

Plant Species Recorded (Native and Introduced)		Listed Species			Natives only		
Species	Common Name	EPBC	SA	Not in quadrat	Regen	Annual Herbs Spring survey	Introduced Species
Acacia paradoxa	Kangaroo Thorn				Yes		
Eucalyptus rugosa	Coastal White Mallee						
Eucalyptus diversifolia ssp. diversifolia	Coastal White Mallee						
Melaleuca acuminata ssp. acuminata	Mallee Honey-myrtle						
Melaleuca lanceolata	Dryland Tea-tree						
Xanthorrhoea semiplana ssp. semiplana	Yacca						
Senecio pinnatifolius group	Variable Groundsel						
Templetonia retusa	Cockies Tongue						
Dianella revoluta var.							
Oxalis perennans	Native Sorrel						
Eucalyptus calycogona ssp. calycogona	Square-fruit Mallee						
Rhagodia candolleana ssp.	Sea-berry Saltbush				Yes		
Gahnia deusta	Limestone Saw-sedge						
Glycine rubiginosa	Twining Glycine						
Asparagus asparagoides f.	Bridal Creeper						*
Lycium ferocissimum	African Boxthorn						*
Senecio pterophorus	African Daisy						*
Scabiosa atropurpurea	Pincushion						*
Diplotaxis tenuifolia	Lincoln Weed						*
Marrubium vulgare	Horehound						*
Polygala myrtifolia	Myrtle-leaf Milkwort						*
Pinus halepensis	Aleppo Pine						*
Moraea setifolia	Thread Iris						*
Rhamnus alaternus	Blowfly Bush						*

Threatened or Introduced Animal Species Recorded or Observed (Native and Introduced)		Threatened Species				Introduced Species
Species	Common Name	EPBC	SA	Past Record	Observed	
Actitis hypoleucos	Common Sandpiper		R	2020		
Bubulcus ibis coromandus	Eastern Cattle Egret		R	2019		
Cereopsis novaehollandiae novaehollanc	Cape Barren Goose		R	2019		
Cladorhynchus leucocephalus	Banded Stilt		V	2020		
Egretta garzetta nigripes	Little Egret		R	2020		
Falco subniger	Black Falcon		R	2009		
Gerygone fusca	Western Gerygone		R	2018		
Haematopus fuliginosus fuliginosus	Sooty Oystercatcher		R	2020		
Haematopus longirostris	Pied Oystercatcher		R	2020		
Lichenostomus cratitius occidentalis	Purple-gaped Honeyeater (mainlanc		R	2008		
Neophema petrophila zietzi	Rock Parrot		R	2019		
Sternula albifrons sinensis	Little Tern		E	2010		
Sternula nereis nereis	Fairy Tern	VU	E	2020		
Tringa glareola	Wood Sandpiper		R	2004		
Turnix varius varius	Painted Buttonquail		R	2018		
Pteropus poliocephalus	Grey-headed Flying-fox	VU	R	2022		

Vegetation Condition Scores

SITE:	A1
BCM COMMUNITY	EP 11.2 Sub coastal & Coastal Low Mallee with Mid Dense Sclerophyll Shrub Understorey on Limestone Soils
VEGETATION ASSOCIATION DESCRIPTION	*Eucalyptus diversifolia Mallee with mid-dense sclerophyll shrub unders*
SIZE OF SITE (Ha)	0.7

Benchmarked attributes
(Scores determined by comparing to a Benchmark community)

Number of Native Species (Minus herbaceous annuals for spring Surveys)	14
Native Plant Species Diversity Score (max 30) from benchmark score *weighted by a factor of 2*	**10.0**
Number of regenerating native species	2
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5	**4.5**

Weed species (Top 5 Cover x Invasiveness)	Cover (max 6)	Weed Threat Rating (max 5)	C x I
Asparagus asparagoides forma	2	5	10
Lycium ferocissimum	2	4	8
Polygala myrtifolia	2	4	8
Pinus halepensis	2	3	6
Senecio pterophorus	2	3	6
	Cover x Threat		38
Weed Score (max 15) from benchmark community			**1**

Native Plant Life Forms	**Cover rating**
Trees > 15m	
Trees 5 - 15 m	
Trees < 5m	
Mallee > 5m	
Mallee < 5m	4
Shrubs > 2m	2
Shrubs 0.5 - 2m	4
Shrubs < 0.5	
Forbs	1
Mat Plants	
Grasses > 0.2m	
Grasses < 0.2m	
Sedges > 1m	
Sedges < 1m	1
Hummock grasses	
Vines, scramblers	1
Mistletoe	
Ferns	
Grass-tree	
Total	13

Native Plant Life Forms (max 20) from benchmark score *weighted by a factor of 2* **10.0**

Non-Benchmarked Attributes
(Scores determined from direct field observations)

Native:exotic Understorey biomass Score (max 5)	4

Is the community naturally treeless?	☐
Fallen Timber/Debris (max 5)	2.5
Hollow-bearing trees Score (max 5)	1
Mature Tree Score (max 8)	4
Tree Canopy Cover Score (max 5)	4

Vegetation Condition Score calculation

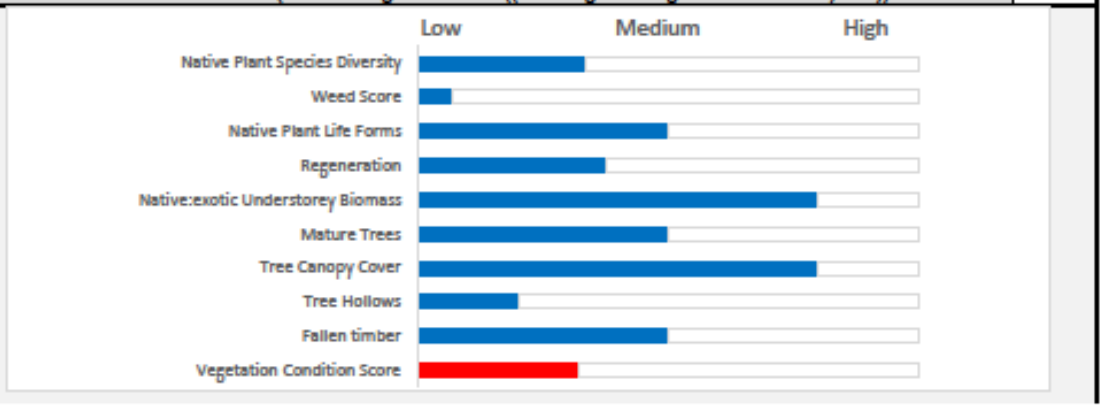
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms Fallen timber/debris + Hollow-bearing trees

- *If the community Score is Not Benchmarked (SNB) for regeneration this score is multiplied 1.24*
- *If the community is naturally treeless this score is multiplied by 1.29*

32.00

Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2) 16.00

VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80)) **25.60**



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
State (Provisional List of Threatened Ecosystems of SA) **Rare** community (0.1 pt)	☐
State (Provisional List of Threatened Ecosystems of SA) **Vulnerable** community (0.2 pts)	☐
State (Provisional List of Threatened Ecosystems of SA) **Endangered** community (0.3 pts)	☐
Nationally (EPBC Act) **Vulnerable** community (0.35 pts)	☐
Nationally (EPBC Act) **Endangered or Critically Endangered** community (0.4 pts)	☐
Note; all sites will score a minimum Conservation Significance Score of 1 **Threatened Community Score**	1

Number of Threatened Flora Species recorded for the site (within the site)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species recorded (1 pt each)	0
State **Vulnerable** species recorded (2.5 pt each)	0
State **Endangered** recorded (5 pts each)	0
Nationally **Vulnerable** species recorded (10 pts each)	0
Nationally **Endangered or Critically endangered** species recorded (20 pts each)	0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0
Threatened Flora Score	0

Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species observed or locally recorded (1 pt each)	12
State **Vulnerable** species observed or locally recorded (2.5 pt each)	1
State **Endangered** species observed or locally recorded (5 pt each)	1
Nationally **Vulnerable** species observed or locally recorded (10 pts each)	2
Nationally **Endangered or Critically endangered** species observed or locally recorded (20 pts each)	0
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts	39.5
Threatened Fauna Score	0.1
CONSERVATION SIGNIFICANCE SCORE	1.1

Total Scores for the Site

	Score
LANDSCAPE CONTEXT SCORE	1.09
VEGETATION CONDITION SCORE	25.60
CONSERVATION SIGNIFICANCE SCORE	1.10

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	30.69
Total Biodiversity Score (Biodiversity Score x hectares)	20.69

Photo Point and Vegetation Survey Location	Direction of the Photo
	S 176 degrees
	GPS Reference
	Datum: WGS84
	Zone (52, 53 or 54): 53
	Easting (6 digits): 575591
	Northing (7 digits): 6155345
	Description
	Burnt vegetation on Area 1

What is the purpose of Assessment? Clearance | SEB Area | Other

Assessment for Clearance

Loss Factor	1.0	Approximate hectares required	2.72
Loadings for clearance of protected areas		Economies of Scale Factor	0.5
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	536
SEB Points required	21.72	Payment into the fund (GST Exclusive)	$16,194.99
		Administration fee (GST Inclusive)	$890.72

Appendix 3. Landowner's written permission.

1/6/2023

I, Michael Harris, the owner of 60 Kathai Drive, Duck Ponds, give permission for clearance of vegetation in accordance with the agreement made between the EP Waldorf School Initiative and Native Vegetation Council. Permission granted by the owner does not imply acceptance of any cost incurred by this action.

Michael Harris

Signed M Harris

Date 1/6/23

Appendix 4. Photolog

Position: 53S 575591E 6155345N **Direction of photo:** W 273° **Description:** Area 2

Position: 53S 575596E 6155339N **Direction of photo:** SE 154° **Description:** Area 2

Position: 53S 575596E 6155339N **Direction of photo:** NW 310º **Description:** Area 3

Position: 53S 575561E 6155361N **Direction of photo:** NW 305º **Description:** Area 4

Position: 53S 575542E 6155250N **Direction of photo:** W 280º **Description:** Area 1

Position: 53S 575519E 6155266N **Direction of photo:** NW 295º **Description:** Area 1

Position: 53S 575443E 6155272N **Direction of photo:** W 273° **Description:** "Proxy" site

Position: 53S 575440E 6155272N **Direction of photo:** NW 315° **Description:** "Proxy" site