



Native Vegetation Clearance

Hallett Green Cement Transformation Facility

Data Report

Clearance under the *Native Vegetation Regulations 2017*

26/10/2022

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1. Application information

1.1. Application details

Applicant:	JBS&G		
Key contact:	[REDACTED]		
Landowner:	Cu-River Mining Australia Pty Ltd Level 5, 19 Grenfell Street, Adelaide SA 5000		
Site Address:	Northern Power Station Road, Port Augusta		
Local Government Area:	Port Augusta City Council	Hundred:	Davenport
Title ID:	CT6226/253	Parcel ID	D55700 A8

1.2. Summary of proposed clearance

Purpose of clearance	This clearance is required for the development of a transformation facility at the retired Port Augusta Power Station Site (Figure 1). Vegetation impacts will affect remnant vegetation in poor to good condition (Figure 2).
Native Vegetation Regulation	Regulation 12, Schedule 1, clause 34, Infrastructure
Description of the vegetation under application	This application includes 9.366 ha of chenopod and samphire shrubland, with some planted overstorey in VA3. This vegetation community contains a typical mix of low-lying shrubs that is in good condition, with minimal weed incursion, good recruitment, and diversity, but disturbance from vehicle tracks.
Total proposed clearance - area (ha) and number of trees	The proposed clearance is 9.366 ha of low coastal shrubland.
Level of clearance	Level 4
Overlay (Planning and Design Code)	N/A
Mitigation hierarchy	The project has reduced some of its potential clearance footprints by utilising the existing access roads but was unable to completely avoid the clearance of remnant vegetation due to limited availability of land in the area. Initial designs have been updated to reduce the impacts from 15.3 ha to 9.366 ha. The development is for the construction of a transformation plant. As such, there is no possibilities of rehabilitation or restoration of the area. The project does, however, involve the recycling of waste products from the previous coal industry, after which the mining area (Ash Storage Area) will be rehabilitated.
SEB Offset proposal	A payment into the fund of \$65,736.19 with an administration fee of \$3,615.49 (GST Inclusive).

2. Purpose of clearance

2.1. Description

Hallett has proposed the development of a green cement transformation plant, which will manufacture cement, by using fly ash from the historic waste pile of the Port Augusta power station. Waste material from Nyrstar's Port Pirie smelter is also a potential source of material to reduce their onsite environmental footprint. The project will be a significant investment of \$125 million, creating 50 ongoing jobs in the region. It aims to cut carbon emissions by 300,000 tonnes per annum. The project also plans to use 100 per cent renewable energy from local wind and solar sources,

2.2. Background

The area surrounding the proposed development has been highly modified for industrial use for nearly 70 years. The original Playford A Power Station (south of the Transformation proposed site) began operation in 1954 using coal mined at Leigh Creek. A second power station, Playford B, was added adjacent to this in 1963. Playford A was decommissioned in 1985 when a third power station was built - the Northern Power Station. Playford B was decommissioned in 2012 and the Northern Power Station in 2016. Following the decommissioning of the Northern Power Station, the majority of infrastructure on the site was removed and the site remediated in preparation for future development. Rehabilitation of the ASA was completed in April 2019.

The power stations were built on reclaimed low-lying coastal saltmarshes and chenopod communities. This involved the addition of fill from borrow pits, spoil from the dredging of water-cooling channels and the spreading of ash waste from the burning of brown coal. As a result, the area is significantly altered from the landform and vegetation profile that originally existed. Nevertheless, vegetation in this application includes an area of chenopod shrubland that has persisted and remained relatively untouched through the years of power station operations.

2.3. General location map

The site is south of Port Augusta in the Port Augusta City Council region and the South Australian Arid Lands Landscape Board Region (Figure 1). The proposed Transformation project footprint is situated in between the Port Augusta Ash Storage Area (ASA) and the historic power station railway (Figure 2). While more degraded and disturbed areas are present further south on the property, these areas already have plans for development.

2.4. Details and Design

The cement transformation plant will cover a 9.366 ha area (Figure 3). It will be sited next to the current Ash Storage Area, which will be mined initially for the materials to create a supplementary cementitious material, which will partially replace cement in the construction industry. The site and current land use are zoned industrial. There is already infrastructure on site from past projects, including rail and road access. The proposed clearance is in an area of chenopod shrubland, to the northwest of the more developed sites.

2.5. Approvals required or obtained

A Development application is currently being prepared and the NVC assessment is part of that application process.

2.6. Native vegetation regulation

The proposed clearance will be assessed under Regulation 12, Schedule 1, clause 34, Infrastructure.

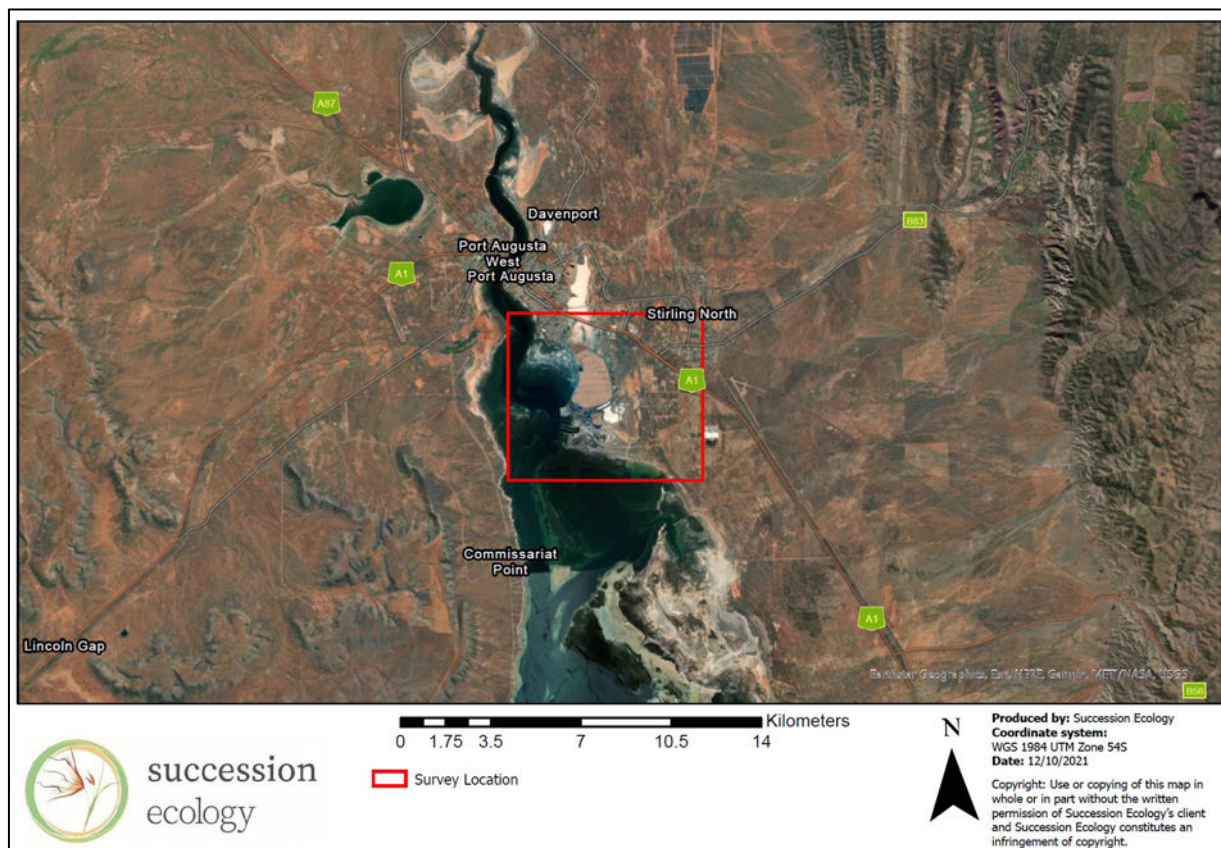


Figure 1: Locations of the Port Playford survey site, encompassing surrounding vegetation communities and potential redevelopment sites that were assessed.

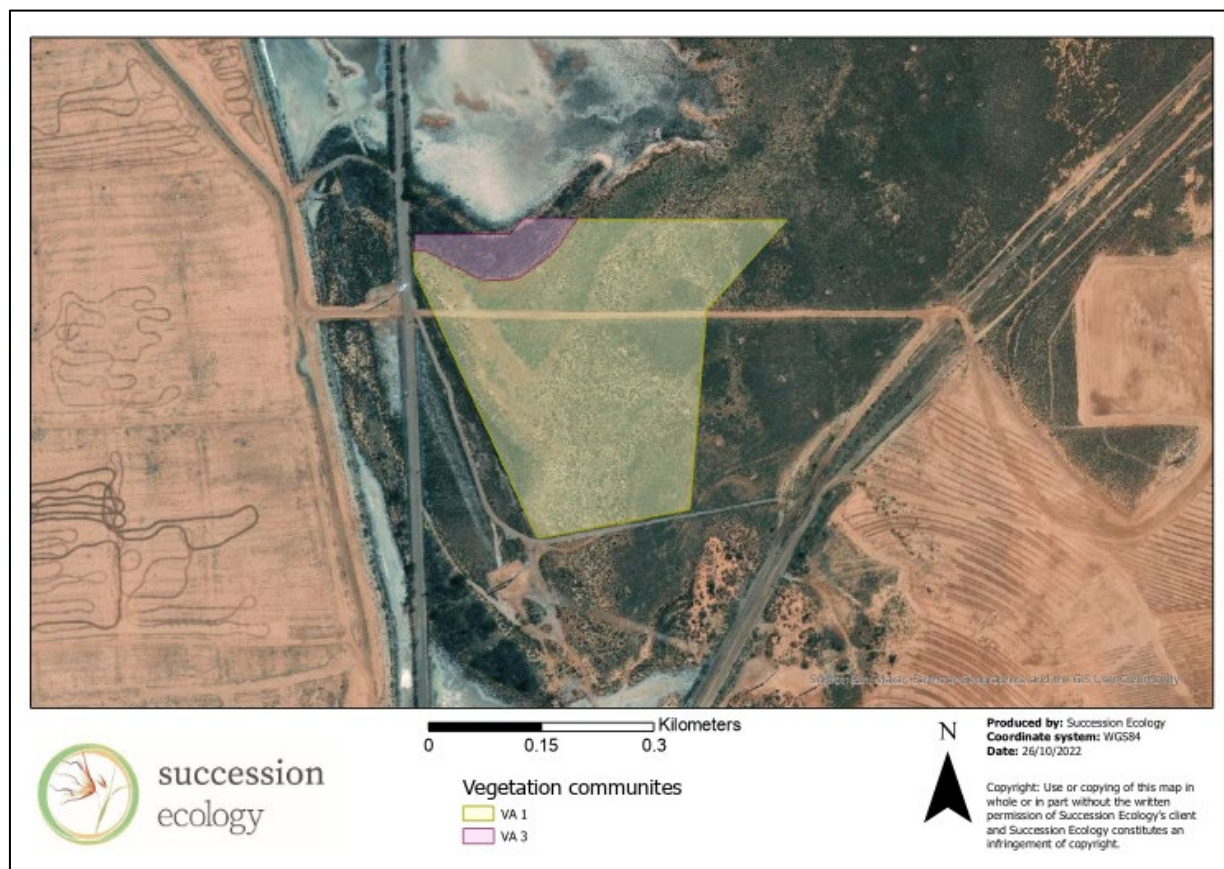


Figure 2: Development area extension adjacent to existing Ash Storage Area (ASA) with vegetation associations within the development footprint (clearance footprint updated October 2022)

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 Assessment Manual to determine threatened Ecosystems protected under *NPW Act 1972*. DEH (in progress) unpublished and provisional list of Threatened 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

The vegetation on site was assessed using the Native Vegetation Council (NVC) Bushland Assessment Methodology (BAM) to contribute to an NVC clearance approval. This included targeted habitat assessments as well as a broader roaming assessment to look for threatened plant species. Targeted habitat assessments included identifying species present, photographing the vegetation, and collecting a series of health criteria to support an evaluation of the habitat condition.

3.2. Fauna Assessment

3.2.1 Vegetation Assessment

Database searches were used to determine the range of threatened fauna species protected under the *EPBC Act 1999* and *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*.

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.

The site is situated on low-lying coastal plains, adjacent to Spencer Gulf and 3 km south of Port Augusta. Vegetation is chenopod shrubland that has persisted at the north western end of the industrial development and is contiguous with surrounding farming areas. The native vegetation within the development footprint is a Coastal Plains Shrubland (VA1 and VA3). Previous designs included Samphire Shrublands (VA2), but this vegetation association will no longer be impacted. There is an active road going through the site through the major vegetation type (VA1), and this area is a combination of clay-based soil, with slight undulations that show changes in the dominant flora species, from *Tecticornia indica* in lower points, to *Tecticornia halocnemoides* on the sandier rises.

The vegetation association "Coastal Plains Shrubland" has been divided into two associations to represent condition and site history. VA1 contains a relatively healthy *Tecticornia spp.* and *Atriplex spp.* shrubland with high species diversity, regeneration and very low weed density and disturbance. VA3 is also a Coastal Plains Shrubland, but is regenerated on man-made hummocks, with planted non-native overstorey.

A number of environmental weeds including Slender Iceplant (*Mesembryanthemum nodiflorum*), Onion Weed (*Asphodelus fistulosus*) and Indian Hedge Mustard (*Sisymbrium orientale*) occur across the site. A number of native plants were recruiting including *A. lindleyi*, *Enchylaena tomentosa*, *M. brevifolia*, and *T. halocnemoides*. It was observed that these plant species were regenerating in most areas. Slender Soft-horns (*Malacocera gracilis*) has been observed near the site previously in 2021, but was not detected in this survey, and is known to occur in relative abundance with a 5 km radius of the site. This plant species is listed under the *NPW Act 1972* as Vulnerable.

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

Vegetation Association	VA1: Chenopod Shrubland
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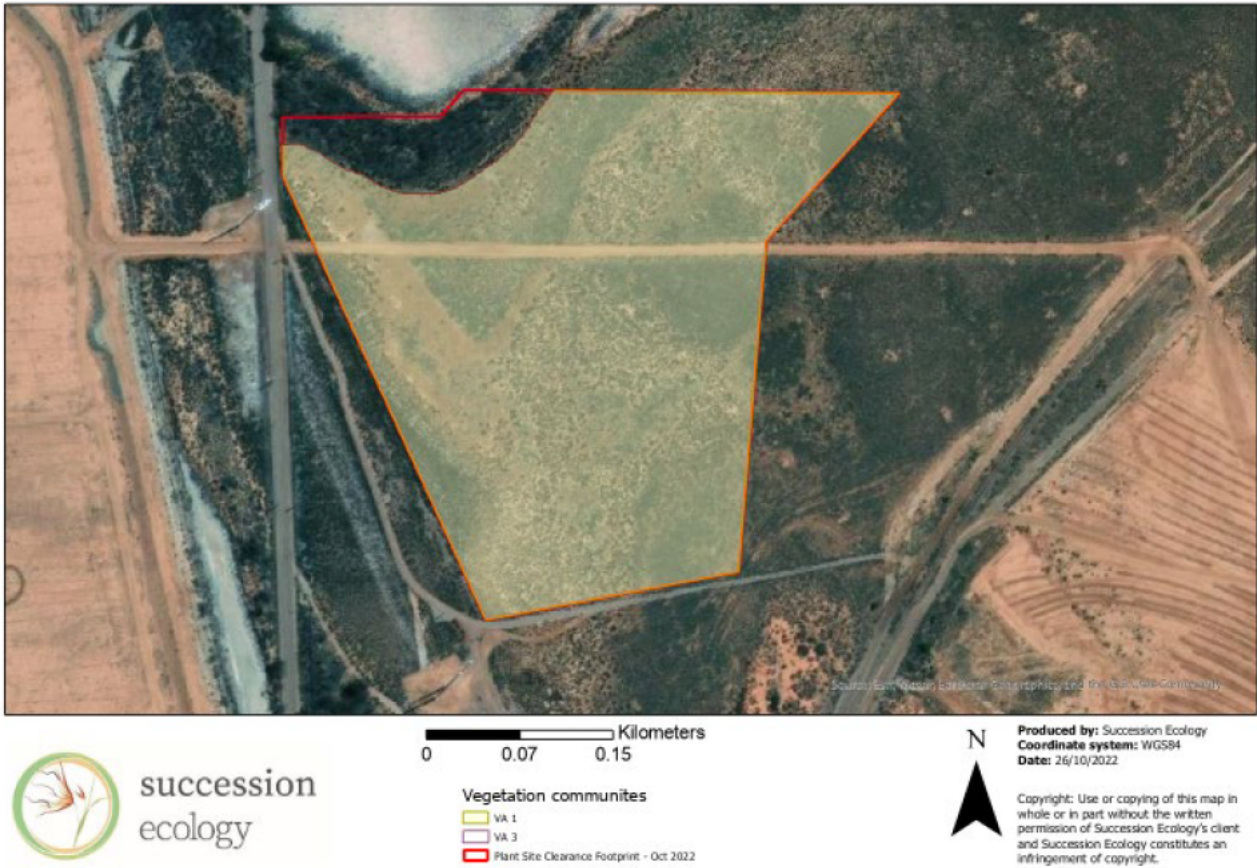



Figure 4: Clearance area for Vegetation Association 1.



Figure 5: Broad site images of VA1 depicting low chenopod shrublands with alternating dominance of *Tecticornia indica.* and *Tecticornia halocnemoides*

Vegetation Association		VA1: Chenopod Shrubland			
		<p>Figure 6: Soil crust and ground cover species <i>Disphyma crassifolium</i> (left) and tyre tracks through the vegetation community (right).</p>			
General description		<p>The vegetation community is patchily dominated by <i>Tecticornia spp.</i> and <i>Atriplex sp.</i> and is in good condition. There is a high species diversity with a range of age classes and lots of recruitment. The site is dominated by salt-tolerant vegetation such as <i>Tecticornia indica</i>, <i>Tecticornia halocnemoides</i>, <i>Atriplex lindleyi</i>, <i>A. vesicaria</i>, and <i>Hemichroa diandra</i>. Biological soil crust was observed across the site, and minimal evidence of erosion or heavy grazing was noted.</p> <p>Weed density was low within this community. However, a declared weed species, African Boxthorn (<i>Lycium ferocissimum</i>), and a range of environmental weeds were observed. The most dominant weed species were Slender Iceplant (<i>Mesembryanthemum nodiflorum</i>), and Indian Hedge Mustard (<i>Sisymbrium orientale</i>), however these were in very low density. The impacts of vehicles driving across the vegetation was noticed on two occasions at this site (see Figure 7) and a metal pole was found concreted into the soil. An active dirt road goes through the centre of this patch.</p>			
Threatened species or community		<p><u>Threatened Ecological Communities</u></p> <p>A Protected Matters search identified Sub-tropical and Temperate Coastal Saltmarsh, listed as vulnerable under the <i>EPBC Act 1999</i> as likely to occur within 5 km of the site.</p> <p><u>Threatened Fauna</u></p> <p>A NatureMaps search identified three fauna species listed as threatened under the <i>NPW Act 1972</i>, that have been observed within a 5 km radius of this site within the last 25 years. Details on these species can be found in Table 1. None of these species were observed on the site. A search of the EPBC Protected Matters database found two of these species listed as Threatened under the <i>EPBC Act 1999</i> known to occur within a 5km radius of the site.</p> <p><u>Threatened Flora</u></p> <p>A Protected Matters Search and NatureMaps search identified one flora species known to occur within a 5 km radius of the site which is listed under the <i>NPW Act 1972</i> (Vulnerable: <i>Malacocera gracilis</i>; Slender Soft-horns) and no species listed under the <i>EPBC Act 1999</i>. Slender Soft-horns was not detected during this field survey, but is known to occur within the site.</p>			
Landscape context score	1.12	Vegetation Condition Score	71.34	Conservation significance score	1.08
Unit biodiversity Score	86.29	Area (ha)	8.645	Total biodiversity Score	745.97



succession
ecology

0 0.07 0.15 Kilometers

Vegetation communities

- VA 1
- VA 3
- Plant Site Clearance Footprint - Oct 2022




Produced by: Succession Ecology
Coordinate system: WGS84
Date: 26/10/2022

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Figure 11: Clearance area for vegetation association 3.



Figure 12: Broad site images of VA3 depicting low chenopod shrublands with scattered overstorey of planting native and non-native plants

Vegetation Association	VA3: Chenopod Shrubland with Planted Overstorey
	
<p>Figure 13: Regrowth of chenopod species and watering lines (red circle) for the planted trees.</p>	
<p>General description</p>	<p>The vegetation community is patchily dominated by <i>Atriplex</i> and <i>Tecticornia</i> spp. and is considered somewhat degraded. The site is dominated by salt-tolerant vegetation such as <i>Tecticornia halocnemoides</i>, <i>Atriplex lindleyi</i>, <i>A. vesicaria</i>, <i>Maireana brevifolia</i>, and <i>Nitraria billardieri</i>. The site has more structural complexity than this habitat would have typically due to plantings of trees, most of which have appeared to die off. The vegetation at this site is growing on a man-made mound that runs from a bitumen road around the edge of a salt pan. Some watering infrastructure remains on site (see Figure 13).</p> <p>A range of environmental weeds were observed among the Native vegetation including Slender Iceplant (<i>Mesembryanthemum nodiflorum</i>), Onion Weed (<i>Asphodelus fistulosus</i>) and Indian Hedge Mustard (<i>Sisymbrium orientale</i>). Weed density was higher in this association than VA1 but still relatively low in comparison to the native understorey.</p> <p>The planted overstorey was not considered in the assessment of this application as they were planted, therefore only the understorey was assessed for this section.</p>
<p>Threatened species or community</p>	<p><u>Threatened Ecological Communities</u></p> <p>A Protected Matters search identified Sub-tropical and Temperate Coastal Saltmarsh, listed as vulnerable under the EPBC Act 1999 as like to occur within 5 km of the site.</p> <p><u>Threatened Fauna</u></p> <p>A NatureMaps search identified six fauna species listed as threatened under the <i>NPW Act 1972</i>, that have been observed within a 5 km radius of this site within the last 25 years. Details on these species can be found in Table 1. None of these species were observed on</p>

Vegetation Association	VA3: Chenopod Shrubland with Planted Overstorey				
	<p>the site. A search of the EPBC Protected Matters database found two of these species listed as Threatened under the <i>EPBC Act 1999</i> known to occur within a 5km radius of the site.</p> <p><u>Threatened Flora</u></p> <p>A Protected Matters Search and NatureMaps search identified one flora species known to occur within a 5 km radius of the site which is listed under the <i>NPW Act 1972</i> (Vulnerable: <i>Malacocera gracilis</i>; Slender Soft-horns) and no species listed under the <i>EPBC Act 1999</i>. Slender Soft-horns was detected within this vegetation association.</p>				
Landscape context score	1.12	Vegetation Condition Score	68.79	Conservation significance score	1.08
Unit biodiversity Score	83.21	Area (ha)	0.721	Total biodiversity Score	59.99

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.

A Protected Matters search identified Sub-tropical and Temperate Coastal Saltmarsh, listed as vulnerable under the *EPBC Act 1999* as likely to occur within 5 km of the site. While coastal saltmarsh is present within this application, it does not qualify for this threatened ecological community as it no longer experiences tidal flows, due to the industry infrastructure in the area.

4.2.2 Threatened fauna

A NatureMaps search identified six threatened fauna species found within 5 km of the site in the past 25 years (Table 1). All of these are listed as rare under the *NPW ACT 1972*. Two of these were also protected under the *EPBC Act 1999* with habitat known to occur within a 5 km radius of the site were identified in a Protected Matters Search. Migratory, marine and water dependent species (e.g., fish and turtles) were excluded from this search. A likelihood assessment to determine whether these species have the potential to occur on the Hallett Green Cement site was conducted (Table 1) using the metric presented in Table 2.

An observational fauna survey identified only common species with no threatened species observed.

Table 1: A summary of the fauna species observed on site or recorded within 5km of the application area since 1996.

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of presence relative to habitat – Comments
<i>Cladorhynchus leucocephalus</i> (Banded Stilt)	V		3	2000	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).	Possible – will likely use adjacent salt pan but no records within the last 20 years
<i>Falco hypoleucos</i> (Grey Falcon)	R	VU	3 & 5	2001	Arid-zone open woodlands and open <i>Acacia</i> shrublands. Especially stony and sandy plains, hummock and tussock grasslands, low shrublands and wooded watercourses. (DEW, 2021)	Unlikely - The site provides no habitat or feeding resources for the species.
<i>Falco subniger</i> (Black Falcon)	R	-	3	2006	Nomadic, preferring sparse woodlands, scrubby grasslands and farmlands (Birds SA, 2021).	Unlikely – habitat not present.
<i>Lophochroa leadbeateri</i> (Major Mitchell's Cockatoo)	R	-	3	2019	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 – Low habitat specificity and as such may use the area to feed, but the site provides no hollows for nesting
<i>Neophema elegans elegans</i> (Elegant Parrot)	R	-	3	1996	Wide range of open habitats, including grasslands, shrublands, mallee, woodlands and thickets, bluebush plains, heathlands, saltmarsh and farmland (Birdlife Australia, 2021)	Possible – Suitable habitat but no recent observations

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of presence relative to habitat – Comments
<i>Sternula nereis nereis</i> (Australian Fairy Tern)	E	VU	3 & 5		Nests on sheltered sandy beaches, spits and banks above high tide and below vegetation. The subspecies may be found in embankments of estuaries or lake islands and wetlands (DAWE, 2021).	Possible – may use the salt pan but more likely to use coastal areas to the west of the site.
<p>Source: 1 - BDBSA, 2 - ALA, 3 - NatureMaps 4 - Observed/recorded in the field, 5 - Protected matters search tool, 6 - Other</p> <p>NPW Act: E= Endangered, V = Vulnerable, R= Rare; EPBC Act: Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable</p>						

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 NatureMaps search identified one threatened flora species found within 5 km of the site in the past 25 years (Table 3). This species is listed as vulnerable under the *NPW Act 1972*. No flora species protected under the *EPBC Act 1999* with habitat known to occur within a 5 km radius of the site were identified in a Protected Matters Search. This species was not observed in the survey; however, it is known to occur in the surrounding remnant habitat and in revegetation sites, located as recently as 2021. 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 1996.

Species (common name)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of presence relative to habitat – Comments
<i>Malacocera gracilis</i> (Slender Soft-horns)	V	-	3 & 4	2010 & 2021	Found in low lying clay and calcareous soils in coastal plains (Seeds of SA, 2021)	Highly Likely – this species has been recorded in previous surveys and is well represented in the area.
<p>Source: 1 - BDBSA, 2 - ALA, 3 - NatureMaps 4 - Observed/recorded in the field, 5 - Protected matters search tool, 6 - Other</p> <p>NPW Act: E= Endangered, V = Vulnerable, R= Rare; EPBC Act: Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable</p>						

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.

As vegetation remnancy within 5 km of the site is 68%, the loss of this vegetation is not likely to have a significant cumulative impact. There are, however, many developments currently underway in the area which is rapidly decreasing the amount of available habitat. This site is currently part of a broader contiguous stretch of chenopod shrubland connected with other grazed areas, between industrial development both historic and current (ASA, Port Playford Export Facility, historic railway line, solar farms, SunDrop, PAREP). As such, the impact of this clearance is the added loss of habitat availability in the area.

Indirect impacts of this development include dust and noise pollution, which may potentially be harmful to shorebirds using the adjacent intertidal mangrove and saltmarsh areas. The hydrology and soil health in the area has already been significantly degraded through the past land-use, and as such these components of the system will experience minimal impacts. The mining of fly ash from the ASA, however, may have a positive indirect impact on the Bird Lake system as historic tidal flows may be reconnected to the system, increasing the health and ecosystem function of these saline wetlands.

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 1999 or listed species under the NPW Act 1972.

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

The proposed clearance is to build a transformation facility which will take fly ash mined from the existing Ash Storage Area, and waste products from Port Pirie, and convert these to supplementary cementitious material. The current site has been chosen as it is between the ASA and an existing railway line, therefore placing it in the perfect position for fly ash extraction, import of waste products, and export of green cement. The project has reduced some of its potential clearance footprints by utilising the existing access roads and rail line but was unable to avoid the clearance of remnant vegetation due to the low availability of land in the area.

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).

The development design has minimised the need for vegetation clearance by using existing road access and rail lines. Further, the initial clearance footprint for this project was updated in October 2022 to reduce the area from 15.3 ha to 9.366 ha.

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 development is for the construction of a transformation plant, there is no possibility of rehabilitation or restoration of the area. The project does, however, involve the recycling of waste products from the previous coal industry, after which the mining area (ASA) will be rehabilitated.

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	Considerations
Principle 1a - it comprises a high level of diversity of plant species	<u>Relevant information</u> The <u>number of plant species</u> recorded (native and introduced) for each vegetation association: VA1 = 21 VA3 = 25 <u>Patches; Bushland Plant Diversity Score –</u> VA1 = 26 VA3 = 26
	<u>Assessment against the principles</u> <u>Seriously at Variance</u> – all patches
	<u>Moderating factors that may be considered by the NVC</u> This clearance accounts for 0.003% of the remnant vegetation in a 5 km radius (68% remnancy) and therefore impacts can be reduced to 'At variance' for VA1 and VA3.
Principle 1b - significance as a habitat for wildlife	<u>Relevant information</u> <u>Threatened species</u> identified in this area within the last 25 years <i>Cladorhynchus leucocephalus</i> (Banded Stilt) <i>Falco hypoleucos</i> (Grey Falcon) <i>Falco subniger</i> (Black Falcon) <i>Lophochroa leadbeateri</i> (Major Mitchell's Cockatoo) <i>Neophema elegans elegans</i> (Elegant Parrot) <i>Sternula nereis nereis</i> (Fairy Tern) <u>Patches</u> Fauna Habitat Score: = 0.08 (All patches) Unit Biodiversity Scores: VA1=83.09 VA3=80.13
	<u>Assessment against the principles</u> <u>Seriously At Variance</u> – All patches

Principle of clearance	Considerations
	<p><u>Moderating factors that may be considered by the NVC</u></p> <p>The removal of this vegetation is not expected to have a significant impact on these species as the habitat features provided in this area are well represented in the region. The clearance is not expected to impact:</p> <ul style="list-style-type: none"> • 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 • presence of invasive species
Principle 1c - plants of a rare, vulnerable or endangered species	<p><u>Relevant information</u></p> <p><u>Threatened species</u> identified in this area within the last 25 years that are likely to use the site:</p> <p><i>Malacocera gracilis</i> (Slender Twin-horns)</p> <p><u>Threatened Flora Score</u> = 0 (all patches)</p>
	<p><u>Assessment against the principles</u></p> <p><u>Not at variance</u> – All patches</p>
	<p><u>Moderating factors that may be considered by the NVC</u></p> <p>N/A</p>
Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or Endangered:	<p><u>Relevant information</u></p> <p><u>Threatened communities</u> – None</p> <p><u>Threatened Community Score</u> = 1 (all patches)</p>
	<p><u>Assessment against the principles</u></p> <p><u>Not at variance</u> – All patches</p>
	<p><u>Moderating factors that may be considered by the NVC</u></p> <p>N/A</p>
Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.	<p><u>Relevant information</u></p> <p>IBRA Association Gawler 95% remnancy IBRA Subregion Gawler Lakes 62%</p> <p>The site is in an industrial area of the Port Augusta Council , where there is a long history of clearance and disturbance.</p> <p>Total Biodiversity Score –</p> <p>VA1=1049.47 VA3=73.72</p>
	<p><u>Assessment against the principles</u></p>

Principle of clearance	Considerations
	<u>Seriously at variance</u> – All patches
	<u>Moderating factors that may be considered by the NVC</u> <p>The vegetation associations within this application are well represented within this IBRA Subregion, with many continuous patches of chenopod shrublands in the surrounding areas. The vegetation, further, is within a highly altered landscape that has a history of disturbance and clearance.</p>
Principle 1f - it is growing in, or in association with, a wetland environment.	<u>Relevant information</u> <p>To the immediate north east of the clearance footprint is a samphire shrubland growing along the edge of a salt pan that no longer experiences tidal inundation (formerly VA2). As the Port Augusta Coal Power Station has cut the area off from tidal flows for more than 60 years, the area is now an inland salt pan that fills only from rainwater and runoff. VA1 and VA3 occur in association with this wetland as water runs off from these higher areas into the salt pan.</p>
	<u>Assessment against the principles</u> <p><u>Seriously at Variance</u> – All patches</p>
	<u>Moderating factors that may be considered by the NVC</u> <p>This development will alter the hydrology of water flowing into the salt pan from the southern edge, however due to the historic disturbances to the area, it is not expected to have a substantial impact to the already poor-quality system. It is also unlikely that invasive species will be introduced to this wetland from the development as the area is hypersaline and therefore hostile to most introduced flora species.</p>
Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.	<u>Relevant information</u> <p>Chenopod shrublands are undervalued by the public in general and not necessarily considered aesthetic assets. Additionally, the area is not accessible to the public and is far enough back from main roads that the clearance will not likely decrease the amenity value of the area. Beyond its history as in industrial area it does not contain any significant historical values. It is unknown if there is indigenous heritage on site.</p>
	N/A
	<u>Moderating factors that may be considered by the NVC</u>

Principles of Clearance (h-m) will be considered by comments provided by the local NRM Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.6 Risk assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	-
	Area (ha)	9.366
	Total biodiversity Score	805.96
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1b
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.

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	26	1	0	0.08	86.29	8.645	745.97	1			783.27	\$60,843.06	\$3,346.37
1	3	26	1	0	0.08	83.21	0.721	59.99	1			62.99	\$4,893.13	\$269.12
						169.5	9.366	805.96				846.26	\$65,736.19	\$3,615.49

Total summary table

	Total Biodiversity Score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	805.96	846.26	\$65,736.19	\$3,615.49	\$69,351.68

Economies of Scale Factor	0.11
Rainfall (mm)	264

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.

7. Appendices

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

Appendix 2: Site maps as shape files

Appendix 3: Species Searches (NatureMaps and Protected Matters Search Tool)