

**This is a sub-plan to be used in conjunction with the
Environmental Management Plan**

EPLink - Biodiversity & Rehabilitation Management Sub-plan

Customer: ElectraNet

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Document Version History			
Version No.	Date	Document Status	Brief Description of Change(s) from Previous Version
0	26/02/2021	Final	Plan issued for construction
1	21/07/2021	Updated	Plan reviewed and updated with EPBC conditions
2	15/11/2021	Updated	Section 7.2.1 and Figure 1 updated with stockpiling information; updated Section 7.3, 8.2, 8.3.1.5 and Figure 2 added for helicopter stringing; Section 7.5 updated for substation clearing; Section 8.3.2, 8.3.3, 8.4.2, Table 6, 9.4.1, 9.4.2, 10.1, 10.2, 10.3.1, Table 8, 10.3.6 updated; and Table in Section 11.2 updated.

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1 PURPOSE

The purpose of this sub-plan is to describe how biodiversity and rehabilitation, including within agricultural lands, will be managed throughout the duration of the project. Works will be implemented in accordance with the management measures and strategies contained in this sub-plan.

2 DOCUMENT SCOPE

The scope of this sub-plan applies to all Downer workers for ElectraNet's Eyre Peninsula Link, or Eyre Peninsula Transmission Supply, Project (EPLink). This sub-plan applies to all aspects of biodiversity and rehabilitation management for the project.

This sub-plan complies with the requirements in ElectraNet's project relevant documents including Scope for Environmental Management Plan EC.14172 - Eyre Peninsula Transmission Supply (February 2021); Safety and Sustainability Standards (October 2020); and Engineering Contract Specifications (December 2020) as well as the *Native Vegetation Council Regulation Advice Notification* (December 2020); *Eyre Peninsula Transmission Line Threatened Species Management Plan (Construction)* (October 2020); EPBC Approval Eyre Peninsula Transmission Line, between Cultana and Port Lincoln, SA, (EPBC 2019/8583) and *Eyre Peninsula Transmission Line Malleefowl Management Plan* (February 2021).

Where additional management requirements are identified outside the scope of the EPLink Environmental Management Plan (EMP) and this sub-plan specific environmental controls will be identified and documentation/procedures updated.

3 ENVIRONMENTAL MANAGEMENT PLAN STRUCTURE

A series of environmental sub-plans, as referenced in the project's Environmental Management Plan, aim to identify environmental risks and opportunities, and provide mitigation controls to manage those risks with an emphasis on the critical risks and controls.

As with the Environmental Management Plan, sub-plans reference any IMS documents (including but not limited to, procedures, work instructions, and forms), customer specific requirements, and project specific documents required to execute the project.

Updates to sub-plans are subject to the document review and approval process detailed in the project's Document Control Plan.

4 REFERENCED & ASSOCIATED DOCUMENTS

4.1 Legislation

The legislation applicable to biodiversity and rehabilitation management are listed in the following table and detailed in the following sections.

Commonwealth Legislation
<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<i>Environment Protection and Biodiversity Conservation Regulations 2000</i>
State-based Legislation
<i>Native Vegetation Act 1991</i>
<i>National Parks and Wildlife Act 1972</i>

4.1.1 Environment Protection and Biodiversity Conservation Act

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) provides protection for Matters of National Environmental Significance (MNES). Any action that has, will have or is likely to have a significant impact on (MNES) requires referral to the Commonwealth Government under the EPBC Act. Following the initial referral in April 2020, the project was determined as a Controlled Action by the Commonwealth Department for Agriculture, Water and Environment under the EPBC Act on the basis of the potential impacts of the project on the following MNES:

- Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland Threatened Ecological Community
- Jumping-Jack Wattle (*Acacia enterocarpa*) habitat
- Tufted Bush-pea (*Pultenaea trichophylla*) habitat
- Malleefowl (*Leipoa ocellate*) habitat
- Sandhill dunnart (*Sminthopsis psammophila*) habitat
- Southern emu-wren (*Stipiturus malachurus parimeda*) habitat
- Western grasswren (*Amytornis textilis myall*)

In accordance with the EPBC approval conditions specific management measures will be implemented during construction to mitigate significant impacts on MNES as well as the following requirements:

- Native vegetation clearing limits and methods
- Weed and phytophthora management requirements
- Feral animal management
- Rehabilitation requirements

The relevant conditions of the EPBC approval have been incorporated into this sub-plan.

4.1.2 Native Vegetation Act

All native vegetation in South Australia is protected under the *Native Vegetation Act 1991* (SA). Clearance of vegetation is prohibited unless approved by the Native Vegetation Council or the activity requiring the clearance is exempt by the regulations under the Act. The Native Vegetation Council has granted approval for the clearing of native vegetation for this project.

The following state protected flora species and protected vegetation communities have been recorded within the Project area require management during construction in accordance with the Native Vegetation Council Approval:

- Cummins Mallee (*Eucalyptus peninsularis*)
- Eyre Peninsula Blue Gum Open Grassy Woodland (*Eucalyptus petiolaris*, *Eucalyptus odorata*, *Allocasuarina bertiellata* Open Grassy Woodland)
- Jumping-Jack Wattle (*Acacia enterocarpa*)
- Sandalwood (*Santalum spicatum*)
- Silver daisy-bush (*Olearia pannosa ssp. Pannosa*)
- Sugar Gum (*Eucalyptus cladocalyx*) Woodland/Open Woodland
- Tufted Bush-pea (*Pultenaea trichophylla*)

The relevant conditions of this approval have been incorporated into this sub-plan.

4.1.3 National Parks and Wildlife Act

The *National Parks and Wildlife Act 1972* (SA) covers the protection of native plants within reserves and native animals throughout the South Australia. Management measures, such as low impact stringing, will be implemented within conservation areas to minimise the impact on native plants and animals within these reserves, where practicable.

4.2 Standards and Guidelines

The standards and guidelines applicable to biodiversity management are listed in the following table.

Australian Standards and Guidance Material
Strategic Plan for the Eyre Peninsula Natural Resources Management Region - 2017-2027 (Natural Resources Eyre Peninsula, 2017)

4.3 Downer Documents

DOWNER DOCUMENTS	
POLICIES	
<i>DG-ZHAN-PO200</i>	Environmental Sustainability Policy
PRINCIPLES	
<i>DG-ZHAN-PN002</i>	10 Environmental Principles
PROCEDURES	
<i>DG-DM-PR003</i>	Operational Change Management Procedure
<i>DG-QA-PR003</i>	Internal Audits Procedure
<i>DG-RM-PR003</i>	Project Risk and Opportunity Management
<i>DG-ZHAN-PR006</i>	Incident Management Procedure
<i>DG-ZHAN-PR007</i>	Zero Harm Performance Monitoring and Reporting Procedure
<i>DG-ZHAN-PR015</i>	Emergency Management Procedure
<i>DG-ZHAN-PR116.1</i>	Inspections Procedure
STANDARDS	
<i>DG-HR-ST013</i>	Training & Competency Management Standard
<i>DG-ZHAN-ST002</i>	Legislative and Other Requirements Standard
<i>DG-ZHAN-ST013</i>	Zero Harm Worker Consultation Standard
<i>DG-ZHAN-ST063</i>	Waste Management Standard
<i>DG-ZHAN-ST071.1</i>	Biosecurity Management Standard
<i>DG-ZHAN-ST071.2</i>	Flora and Fauna Management Standard
PROJECT SPECIFIC DOCUMENTS	
PLANS	
14172B-DOW-PRM-PLN-0002	Project Management Plan
14172B-DOW-PRM-PLN-0004	Quality Management Plan
14172B-DOW-PRM-PLN-0015	Emergency Preparedness Management Plan
14172B-DOW-PRM-PLN-0022	Environmental Management Plan
14172B-DOW-PRM-PLN-0023	Waste Management Plan Sub-plan
14172B-DOW-PRM-PLN-0024	Weed, Pest and Disease Management Sub-plan
14172B-DOW-PRM-PLN-0026	Landholder Liaison Sub-plan
14172B-DOW-PRM-PLN-0027	Land and Soil Management Sub-plan
14172B-DOW-PRM-PLN-0029	Waterway Management Sub-plan
14172B-DOW-PRM-PLN-0030	Cultural Heritage Management Sub-plan
14172B-DOW-PRM-PLN-0031	Bush Fire Management Plan
14172B-DOW-PRM-PLN-0032	Safety Management Plan (Construction)

4.4 Approvals and Client Documents

PROJECT APPROVALS AND CLIENT DOCUMENTS	
DA	Eyre Peninsula Transmission Supply Project Development Application Approval 921/V003/19 (May 2020)
ECS	ElectraNet Section 3 - Engineering Contract Specification (December 2020) Section 3.2a: Transmission Lines - Detailed Design Section 3.2b: Transmission Lines - Construction
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) approval for Eyre Peninsula Transmission Line, between Cultana and Port Lincoln, SA, (EPBC 2019/8583) (March 2021)
NVC	Native Vegetation Council Regulation Advice Notification - Eyre Peninsula Transmission Line (December 2020)
SEMP	ElectraNet Scope for Environmental Management Plan (SEMP) 14172B - EPLink Major Works Contract - Design and Construct (February 2020)
S&S	ElectraNet Safety and Sustainability Standards (October 2020)
REFERENCE PLANS AND REPORTS	
BAR	Eyre Peninsula Transmission Line Biodiversity Assessment Report (July 2014). Prepared by EBS Ecology for ElectraNet
NVA	Eyre Peninsula Transmission Line Native Vegetation Assessment (December 2019). Prepared by EBS Ecology for ElectraNet
TSMP	Eyre Peninsula Transmission Line Threatened Species Management Plan (Construction) (October 2020). Prepared by EBS Ecology for ElectraNet
EPBC Spring Survey	Eyre Peninsula Link EPBC Act Flora Survey - Spring 2020 (October 2020), Prepared by EBS Ecology for ElectraNet
EPBC Winter Survey	Eyre Peninsula Link EPBC Act Flora Survey - Winter 2020 (October 2020), Prepared by EBS Ecology for ElectraNet
MMP	Eyre Peninsula Transmission Line Malleefowl Management Plan (February 2021), Prepared EBS Ecology for ElectraNet

5 DEFINITIONS

The following terms are used in this document.

CAZ Plans	Construction Activity Zones (CAZ) include all ground disturbing activities, access routes and work areas associated with the project including: <ul style="list-style-type: none"> New tracks, pads and facilities Maintenance of existing access tracks including grading, widening or stabilisation Areas of disturbance associated with demolition works. These designated CAZ will be available as spatial data and/or PDF maps for all workers.
Downer Worker	All individuals working for Downer as: employees, contingent labour hire, contractors, subcontractors, apprentices, trainees, and work experience students.
EMP	Environmental Management Plan for the Project
INX	The Zero Harm database used to record, investigate and follow-up events, including audits, hazards, incidents, inspections, meetings, observations, risk assessments, reviews, and suggestions.
Land Access Permit (LAP)	Permit provided by ElectraNet to Downer to authorise the commencement of work on a property.
OPGW	Optical Ground Wires

6 PROTECTED AREAS AND SPECIES

The Project area is located on Eyre Peninsula, South Australia covering a diverse range of landforms and flora and fauna communities. The region supports some sensitive environmental areas, including large tracts of remnant vegetation, conservation parks and reserves, as well as protected flora and fauna species. Further details on protected areas and species are provided in the following sections.

6.1 Protected Areas

The transmission line traverses three conservation areas; Ironstone Hill Conservation Park and Sheoak Hill Conservation Park which are located between Whyalla and Cleve on 274 kV line, and Wharminda Conservation Park located on the 132 kV line, as detailed in the Table below.

Table 1: Conservation areas within the project area

Conservation/Heritage Agreement Area	Details
Ironstone Hill Conservation Park	13,968 ha in area, covered under the Eastern Eyre Peninsula Parks Management Plan (2014) and managed to conserve remnant areas of mallee vegetation and contribute to the conservation of critical wildlife habitats on the Eyre Peninsula.
Sheoak Hill Conservation Park	2,427 ha in area, covered under the Eastern Eyre Peninsula Parks Management Plan (2014) and managed to conserve remnant areas of mallee vegetation and contribute to the conservation of critical wildlife habitats on the Eyre Peninsula.
Wharminda Conservation Park	269 ha in area, dedicated to conserve remnant vegetation, dominated by mallee and shrubland. The conservation park is classified as an IUCN Category III protected area.

6.2 Vegetation Communities

Almost 7,095 ha of native vegetation is located within the transmission line corridor (120 m width), representing approximately 45% of the project area. A total of 75 vegetation associations have been described and mapped across the project area and each has been assigned a condition rating which primarily reflects indigenous cover and weed invasion levels in the understorey.

Most of the tracts of remnant vegetation communities in the northern section of line are in excellent condition (94%). The remaining 6% moderate to poor condition. Within the southern sections, 33% was recorded in good to excellent condition, 32% in moderate condition and 34% in poor to very poor condition.

6.2.1 Threatened Ecological Communities

One threatened ecological community, Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland is known to occur within the project area.

The typical structure of the Eyre Peninsula Blue Gum Woodland is woodland however it may form open forest. The mid and ground layer can show considerable variation in floristic composition and structure, being greatly influenced by the history of disturbance and management of remnant patches. The canopy of the ecological community is dominated or co-dominated by *Eucalyptus petiolaris*. The canopy height of the ecological community typically ranges up to 15 m.

6.3 Threatened Flora Species

There are seven listed threatened flora species known to occur within the project area, specifically:

- Jumping-jack Wattle (*Acacia enterocarpa*)
- Greencomb Spider-orchid (*Caladenia tensa*)
- Silver Daisy-bush (*Olearia pannosa ssp. Pannosa*)
- Tufted Bush-pea (*Pultenaea trichophylla*)
- Sugar Gum (*Eucalyptus cladocalyx*)
- Cummins Mallee (*Eucalyptus peninsularis*)
- Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*)
- Sandalwood (*Santalum spicatum*)

Table 2: Threatened flora species and vegetation communities within the project area

Threatened Species	Conservation Status		Year Recorded
	CTH	SA	
Flora of National Environmental Significance			
Jumping-jack wattle (<i>Acacia enterocarpa</i>)	EN	E	2013, 2020
Green-comb spider-orchid (<i>Caladenia tensa</i>)	EN		2013, 2020
Eyre Peninsula Blue Gum (<i>Eucalyptus petiolaris</i>) Woodland	EN	E	2013, 2020
Silver daisy-bush (<i>Olearia pannosa ssp. Pannosa</i>)	VU	V	2013, 2020
Tufted bush-pea (<i>Pultenaea trichophylla</i>)	EN	R	2013, 2020
Flora of State Environmental Significance			
Sugar Gum (<i>Eucalyptus cladocalyx</i>) Woodland		V	2020
Cummins Mallee (<i>Eucalyptus peninsularis</i>) Woodland		V	2020
Sandalwood (<i>Santalum spicatum</i>)		V	2013, 2019, 2020

CTH: Environment Protection and Biodiversity Conservation Act 1999 SA: National Parks and Wildlife Act 1972 (SA)

Conservation codes: CE: Critically endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare

6.3.1 Jumping-Jack Wattle

Jumping-Jack wattle (*Acacia enterocarpa*) is a dense, rounded, sprawling, prickly shrub growing to 1.5 m high. The seed pods are typically zigzag-shaped and bear a resemblance to the fire cracker known as the jumping-jack, hence the common name.

In South Australia, the Jumping-jack wattle is recorded as occurring in woodland to open forest on sandy alkaline and hard neutral yellow duplex soils, red shallow porous loam and grey cracking and self-mulching clays with an annual rainfall of 300-500 mm.

6.3.2 Green-comb Spider-orchid

Green-comb spider-orchid (*Caladenia tensa*) is a perennial orchid growing to 30 cm in height when flowering. Its flowers are usually single, 5 cm across and perianth segments are green with crimson median stripes. This spider-orchid grows on red-brown sandy loams on rises in open woodland dominated by yellow gum (*Eucalyptus leucoxylon sens. Lat.*) and Rottneest Island pine (*Callitris preissii*).

6.3.3 Eyre Peninsular Blue Gum Woodland

The typical structure of the Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland is a woodland but may form open forest. The mid and ground layer can show considerable variation in floristic composition and structure, being greatly influenced by the history of disturbance and management of remnant patches.

The canopy of the ecological community is dominated or co-dominated by Eyre Peninsula Blue Gum. Other tree species that may be present in the canopy include *Allocasuarina 10erticillate* (drooping sheoak), *E. camaldulensis* (river red gum), *E. cladocalyx* (sugar gum) and *E. odorata* (peppermint box). The canopy height of the ecological community typically ranges up to 15 m.

6.3.4 Silver Daisy-bush

Silver daisy-bush (*Olearia pannosa ssp. Pannosa*) is a low spreading shrub less than 1.5 m tall with flowering from August to October. This species grows on hill slopes with hard mottled-yellow and red duplex soils. It occurs in Mallee, woodland and forest vegetation communities, often in association with sugar gum (*Eucalyptus cladocalyx*), drooping she-oak (*Allocasuarina verticillate*) and broombush (*Melaleuca uncinata*).

6.3.5 Tufted Bush-pea

The tufted bush-pea (*Pultenaea trichophylla*) is a small slender shrub to 20–50 cm high, with reddish ascending or prostrate branches, small leaves and red and yellow pea flowers.

It grows on pale brown or grey, acidic, sandy or clay loam over ironstone in gullies, on hillcrests and on undulating plains. It can also be found on acidic gravelly sandy loam in open depressions and hard, red-brown loam over lateritic soils on hillslopes with outcropping quartzite.

6.4 Threatened Fauna Species

There are four listed threatened fauna species known to occur within the project area, specifically:

- Malleefowl (*Leipoa ocellata*)
- Sandhill Dunnart (*Sminthopsis psammophila*)
- Southern Emu-wren (Eyre Peninsula) (*Stipiturus malachurus parimeda*)
- Western Grasswren (Gawler Ranges) (*Amytornis textilis myall*).

Table 3: Threatened fauna species within the Project area

Threatened Species	Conservation Status		Year Recorded
	CTH	SA	
Fauna of National Environmental Significance			
Malleefowl (<i>Leipoa ocellata</i>)	VU	E	2012, 2013, 2019, 2020
Sandhill dunnart (<i>Sminthopsis psammophila</i>)	EN	E	2009-2013
Southern emu-wren (<i>Stipiturus malachurus parimeda</i>)	VU	E	Highly likely to occur
Western grasswren (<i>Amytornis textilis myall</i>)	VU	V	2012

CTH: Environment Protection and Biodiversity Conservation Act 1999 SA: National Parks and Wildlife Act 1972 (SA)

Conservation codes: CE: Critically endangered. EN/E: Endangered. VU/V: Vulnerable

6.4.1 Malleefowl

Malleefowl (*Leipoa ocellata*) are large ground birds, weighing up to 2.2 kg. Its wings and back are mottled and barred with grey, black, brown and white. The head and neck are grey with a distinctive black stripe down the fore-neck. It has large, strong legs and feet.

Typical Malleefowl habitat includes semi-arid to arid low woodlands, Mallee and shrublands. A sandy substrate with an abundance of leaf litter is required for construction of nest mounds.

6.4.2 Sandhill Dunnart

Sandhill Dunnart (*Sminthopsis psammophila*) is a small, carnivorous marsupial. It has a head-body length of 8-12 cm and a tail length of 10-12 cm. It has a pale grey head and upper body, with black marking extending from the shoulders to between the eyes. Feet and underside are white.

Sandhill Dunnarts are found in sandy habitats in semi-arid to arid areas. In South Australia, habitat is generally low open Mallee woodland with a diverse shrub layer and relatively dense cover of *Triodia spp.* (spinifex) hummock grasses. The presence of *Triodia spp.* Hummocks in association with sand dunes appears a critical element of sandhill dunnart habitat. Fire frequency is also an important characteristic of habitat with tall *Triodia spp.* Hummocks preferred for nesting in vegetation 20-40 years after fire.

6.4.3 Southern Emu-wren

The Southern Emu-wren (*Stipiturus malachurus parimeda*) is a small bird with an overall length of 17-19 cm and a mass of up to 9 g. The tail is long (over 10 cm in length and can exceed 13 cm in males), stick-like and comprised of only six emu-like feathers. The plumage of the Southern Emu-wren is very pale in comparison to most other subspecies of southern emu-wren.

The Southern Emu-wren occurs in three types of habitat shrubland or heathland, Mallee and sedgeland. These habitats are characterised by one or two layers of dense vegetation up to 3 m in height.

6.4.4 Western Grasswren

Western Grasswren (*Amytornis textilis myall*) are medium-sized, thickset grasswrens with long bills and long tails. The upperparts are dark brown to rufous with paler streaks, while the underparts are pale grey-buff with fine streaking from the chin to the breast. They have a white patch on the centre of the belly. It is usually

seen in pairs or small groups, but sometimes occurs singly. They feed primarily on seeds, fruits and insects, foraging on the ground at the base of in leaf litter.

Chenopod shrublands in the Gawler Ranges and northern Eyre Peninsula are the primary habitat of the Western Grasswren, most commonly low shrublands, chiefly comprising of sago bush (*Maireana pyramidata*) and boxthorn (*Lycium austral*). They are also known to occur in low woodlands, mostly comprising *Acacia papyrocarpa*. Most of the subspecies habitat is found along drainage lines but occasionally habitat also includes low rocky hills and semi-arid low woodlands.

7 CONSTRUCTION WORKS

The potential impacts on biodiversity during construction include disturbance and clearing associated with:

- Access tracks to each structure
- Pads at each structure
- Stringing pads and stringing corridor
- Temporary transmission lines
- Camps and laydown areas

Other construction impacts such vehicles movements and waste. Each of these impacts are discussed in the Sections below.

7.1 Access Tracks

An access track will be required to each structure during construction. Access to each structure will be along the existing transmission line access track then spur tracks to each structure or along existing landholder access tracks then along a new easement or spur track.

Details of the different types of access tracks, and maintenance or construction requirements, are provided in the Sections below. For details on waterway crossings on access tracks refer to Waterway Management Sub-plan.

7.1.1 Existing Access Tracks

Existing access tracks will be utilised for access to the structures, wherever possible. Existing transmission line access tracks are approximately 3 to 5 m wide with some areas of erosion and wheel ruts. These tracks will require maintenance works including trimming or removal of vegetation up to 5 m wide; grading and/or fixing erosion and wheel ruts; addition of stabilisation measures, such as gravel; and maintenance or upgrade of waterway crossings.

The existing landholder access tracks range in width and level of maintenance. These tracks will require maintenance or upgrading works including trimming or removal of vegetation up to 5 m wide; grading and/or fixing erosion, wheel ruts and corrugations; addition of stabilisation measures; and maintenance or upgrade of waterway crossings.

7.1.2 New Easement and Spur Tracks

Tracks from the existing transmission line access track or landholder access track to the new structure location will be required for construction. Spur tracks will take the most direct route to minimise overall length, taking into account cultural heritage, landholder and environmental constraints. These tracks will be up to 5 m wide and various lengths, depending on the location of each new structure relative to the existing access track.

In native vegetation areas adjacent to the existing transmission line, spur tracks will be cleared of vegetation and stabilisation measures, such as gravel, may be added. Spur tracks in native vegetation are required for ongoing maintenance and will not be rehabilitated.

In cropping and pasture land, a new easement and/or spur track may be required from the closest existing track. Minimal works will be undertaken on new easement or spur tracks to allow vehicle access. These minimal works may include grading off surface rocks or ground unevenness. Spur tracks in pasture or cropping area will be rehabilitated.

All spur tracks will be located on ridge lines and follow the contour of the land to minimise side cutting wherever possible. All tracks will be formed to shed water off the track surface and incorporate design and stabilisation methods to reduce susceptibility to erosion. Refer to the tracks refer to the Soil and Water sub-plan for more information on sediment and erosion design and controls.

7.1.3 Passing Points

Passing points along access tracks will be cleared to allow for safe vehicle travel and passing. The passing points will be 15 x 5 m and cleared of vegetation and stabilisation measures, such as gravel, may be added. All passing points will be rehabilitated.

7.1.4 Turnouts

At the locations where access tracks join public roads, an area for vehicles to safely turn into/out of the access track will be required. These turnouts will be up to 20 x 20 m and cleared of vegetation and stabilisation measures, such as gravel, may be added. These areas will be left ongoing maintenance access and will not be rehabilitated.

7.2 Construction Pads

7.2.1 Structure Pads

Each structure will require a cleared and levelled area to set up machinery and equipment, such as cranes and elevated work platforms (EWP), and assemble the structures.

In native vegetation, a maximum area of 40 x 40 m will be cleared. An additional area, up to a maximum area of 50 x 50 m may be used for low impact construction activities. Low impact activities may include placement of outriggers on cranes, overhanging of structures during assembly, or placement of fauna habitat (such as tree barrels) during clearing. Activities that generate ground disturbance (such as vehicle/plant parking) or cause vegetation removal (such as soil stockpiling) do not constitute as low impact activities.

In cropping and pasture land, typically an area of 50 x 50 m will be utilised for each structure pad. In steep locations, a larger area may be required to allow for benching to establish a level area for vehicles and equipment.

On the side of the structure pads will be a cleared area, typically 20 m x 4 m, for placement of a concrete block and sled used in assembly of the structures.

During access and clearing, excess cleared vegetation material (ie. excess mulch or larger intact vegetation) and topsoil will be stockpiled separately along the edge of the pad. During drilling of the foundations, subsoil or spoil will be stockpiled separately on the pad. The subsoil must not be spread out over the pad.

For the 275 kV line, a 15 x 15 m area will remain under the structure as a permanently cleared area. For the 132 kV line, a 10 x 10 m area will remain under the structure as a permanently cleared area. All other disturbed areas around the structures will be rehabilitated as soon as practicable following the completion of the construction works.

The typical layout of a structure pad is provided in the Figure below. The dimensions and layout of each structure pad is shown on ArcGIS mapping.

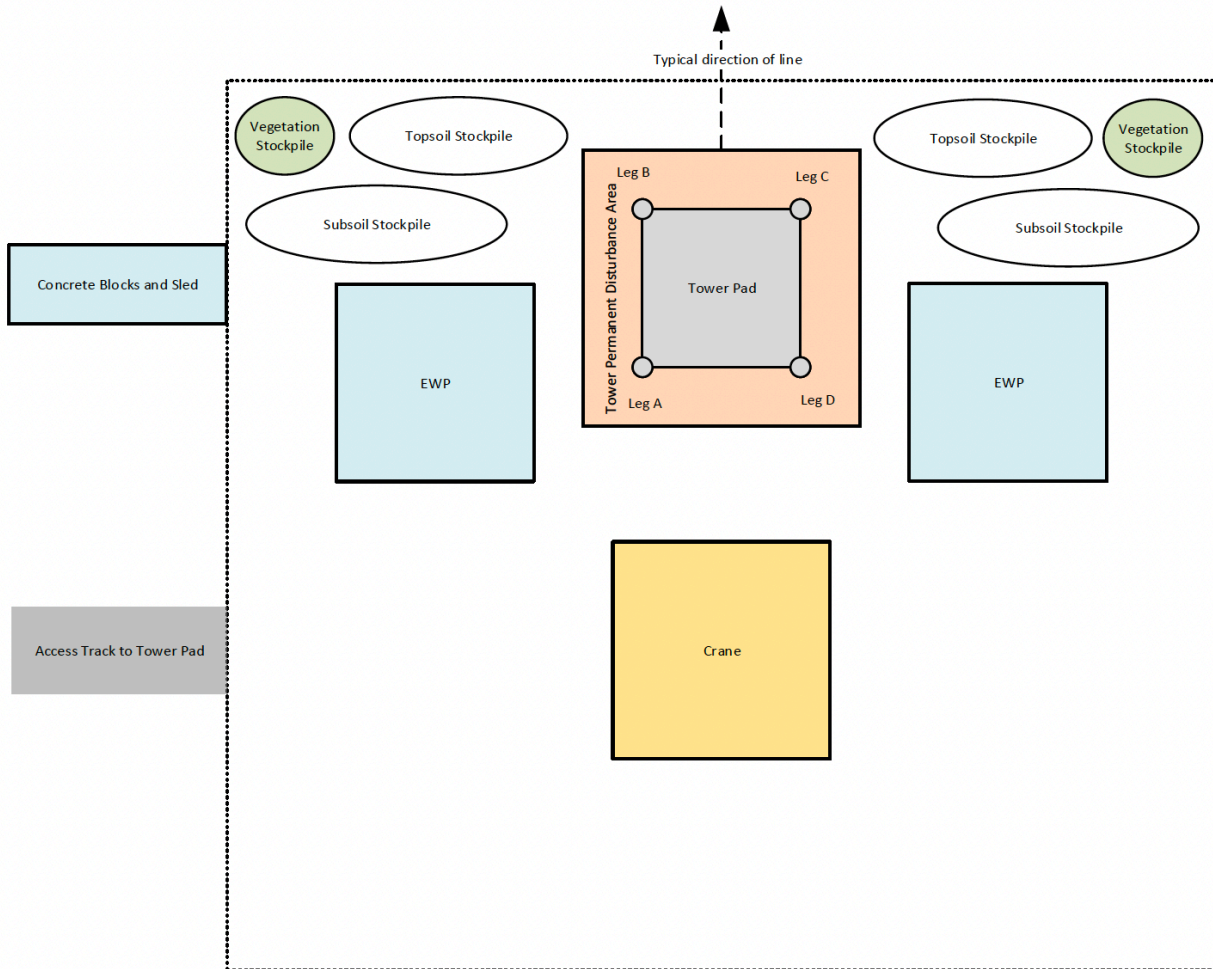


Figure 1: Indicative layout of structure pad

7.2.2 Stringing Pads

Stringing pads will be required to set up machinery and equipment for stringing of the conductor and OPGW. Stringing pads are located along the transmission line based on the stringing methodology. During planning, stringing pads were micro-sited to avoid trees/larger vegetation and steep terrain, where possible.

If required, the stringing pads will be cleared and levelled to set up equipment. Where possible, slashing of vegetation and level small undulations will be implemented, such as in salt bush areas, rather than clearing of vegetation and cut/fill excavations.

All stringing pads will be rehabilitated as soon as practicable following the completion of the construction works.

7.3 Low Impact Stringing

Minimal vegetation clearing and ground disturbance will be required for the stringing of the transmission line given that the low impact methodology, helicopter stringing, has been approved by ElectraNet. A helicopter will be used to pull out the draw wire over the top of the vegetation mitigating the requirement for the clearing of a 10 m wide corridor along the centreline of the transmission line to allow for stringing access.

Vegetation clearing will be required adjacent to the stringing pads to allow for clearance above the vegetation for anchoring of the draw wire to concrete blocks. The design of these cleared areas are shown on ArcGIS mapping. The vegetation will be cleared on a progressive gradient as shown in the Figure below. This gradient will start with the vegetation mulched to approximately 20 cm high near the edge of the stringing pad for approximately 30 m from the pad. Then vegetation mulched or trimmed to approximately

1 m high for the next 30 m then trees greater than 2 m will be trimmed in the next 30 m section to the length of the conductor clearance areas.

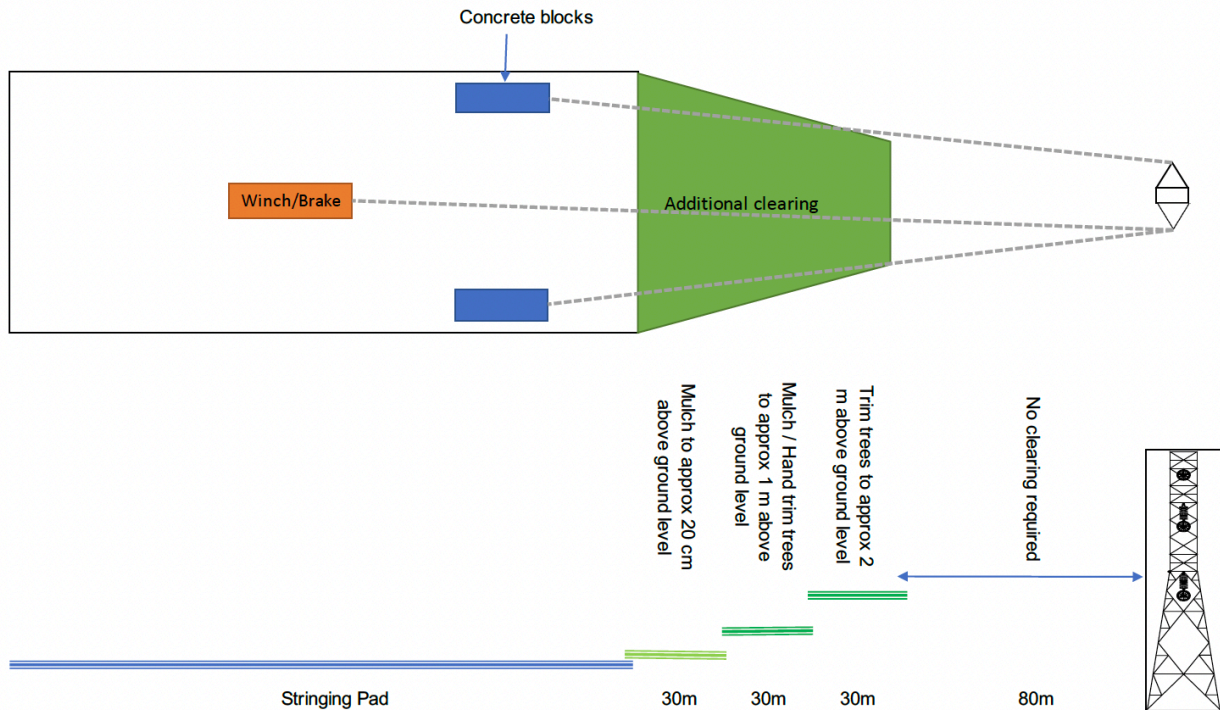


Figure 2: Indicative vegetation clearing for conductor clearance to concrete blocks

The clearing for conductor clearance will be left to rehabilitate at end of construction works. Following the stringing of the line, there will be no further disturbance or rehabilitation (ie. no ripping) and access to the stringing corridor will be blocked, where possible.

7.3.1 Tree Trimming

Whilst the transmission line has been designed considering tree canopy height, there may still be some vegetation clearance infringements with the conductor. Tree branches encroaching the clearance to the conductor will be hand trimmed (ie. using a chainsaw and person in an EWP), where possible. However in locations with limited access and safety concerns to trim branches by hand from an EWP then the tree will be felled. The tree stump will be left to encourage reshooting.

7.4 Temporary Transmission Lines

The installation of temporary transmission lines will be required during construction on the southern end of the 132 kV transmission line, from near structure 742 to 751. For each temporary structure pad, a maximum area of 30 x 30 m will be cleared of vegetation. Also a 5 m wide access track may be constructed to each structure.

All temporary structure pads and access tracks will be rehabilitated as soon as practicable following the completion of the construction works.

7.5 Substations

Minor upgrades will be undertaken in the existing substations for connection of the new transmission line. The substation locations may be used as laydown sites during construction.

Only minor disturbance is required outside of the existing cleared footprint of the substations. This includes approximately 400 m² of clearing at the Yadnarie for access along substation fence; 350 m² at Cultana; and 1,430 m² of disturbance outside of existing footprint at Port Lincoln Substation. These disturbance areas are shown on ArcGIS mapping.

7.6 Supporting Infrastructure

7.6.1 Stockpile and Laydown Areas

Stockpile and/or laydown areas will be used during construction for the laydown of supplies, machinery and equipment along the transmission line. These areas will be located in areas outside of native vegetation, and with good access to major roads and/or established tracks. The dimensions and layout of stockpile and laydown areas are shown on ArcGIS mapping.

7.6.2 Camps

Two construction camps, approximately 2 ha each, will be required during construction. One camp is location on the Cowell-Kimba Road, north of Structure 150 on the 275 kV line. The other camp is located on the edge of Tumby Bay township.

The locations of the were chosen to be situated outside of areas containing native vegetation, and with good access to major roads and/or established tracks. The location of camps is shown on ArcGIS mapping.

8 THREATENED SPECIES MANAGEMENT

The following sections detail the mitigation and management measures to be implemented for the protection of threatened species.

8.1 Planning and Design

During design and planning of the transmission line, the locations of threatened flora species and vegetation communities as well as threatened fauna habitat were considered to mitigate impact on these areas from construction works where practicable. This included micro-siting of disturbance areas and careful selection of clearing locations, such as pads and access tracks.

8.2 Protection of Flora and Vegetation Communities

8.2.1 Eyre Peninsula Blue Gum, Sugar Gum and Cummins Mallee

The transmission line has been designed so that permanent cleared areas (ie structures) are not located within areas of Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*), Sugar Gum (*Eucalyptus cladocalyx*) and Cummins Mallee (*Eucalyptus peninsularis*) protected vegetation communities.

All protected Eucalyptus vegetation communities will be No Go areas. Access to these areas will be limited to existing access tracks. Where vegetation to be cleared adjoins these protected Eucalyptus communities, the edge of this No Go area will be clearly delineated using green flagging and/or signage. The location of these protected vegetation communities will be shown as No Go Areas on ArcGIS mapping.

8.2.2 Jumping-Jack Wattle

There are three Jumping-Jack Wattle (*Acacia enterocarpa*) plants located within the transmission line stringing corridor between Line 132 kV Structure 621-622. These plants will not be impacted by the stringing. Locations of Jumping-Jack Wattle are shown on ArcGIS mapping.

8.2.3 Silver Daisy-bush

There are two Silver Daisy-bush (*Olearia pannosa ssp. Pannosa*) plants located within the transmission line stringing corridor between Line 132 kV Structure 667-668. These plants will not be impacted by the stringing. Locations of Silver Daisy-bush are shown on ArcGIS mapping.

8.2.4 Sandalwood

The transmission line has been designed so that permanent cleared areas including access tracks avoid Sandalwood (*Santalum spicatum*) trees with the exception of two Sandalwood trees located at Structure 122.

Given design constraints, clearing of the two Sandalwood trees located at Structure 122 could not be avoided.

Sandalwood trees adjoining vegetation to be cleared or work areas will be delineated onsite as No Go areas using green flagging/bunting and signage. Locations of Sandalwood trees are shown on ArcGIS mapping.

8.2.5 Tufted Bush-pea

The transmission line has been designed so that permanent cleared areas avoid Tufted Bush-pea (*Pultenaea trichophylla*), where practicable. Structure locations and stringing pads have been micro-sited to minimise impacts of these protected plant species. This includes on the 132 kV line:

- Structure 652: Structure positioned away from plant locations
- Structure 653: Structure pad will be offset to the west of the structure so plants are not impacted
- Structure 658: One plant will be impacted on northwest corner of pad however the southwest corner will be truncated to avoid impacts on plants
- Structure 659: Due to the steep terrain at this location, all Tufted Bush-pea plants could not be avoided.

Tufted Bush-pea plants located mid-span will not be impacted given helicopter stringing will be used.

Tufted Bush-pea plants adjoining vegetation to be cleared or work areas will be delineated onsite as No Go areas using green flagging/bunting and signage. Locations of Tufted Bush-pea plants are shown on ArcGIS mapping.

8.3 Protection of Fauna

8.3.1 Malleefowl Mounds

Under no circumstances can Malleefowl mounds (or nests) to be disturbed or impacted by vehicles or personnel during the works. Buffers will be established around Malleefowl mounds to mitigate any potential impacts.

ElectraNet organised an inspection of all Malleefowl mounds within 500 m of the line during the breeding season immediately prior to construction activities by a suitably qualified expert. This inspection determined whether Malleefowl mounds are “active” or “inactive” for the purposes of finalising the 500 m construction buffers. The results of this inspection have been incorporated into ArcGIS mapping of “active” or “inactive” nests and determination of the construction buffer as detailed in the next Section.

8.3.1.1 500 m Construction Buffer

A 500 m construction buffer will be implemented around active Malleefowl mounds. The following works must be undertaken outside of breeding season (October to February) within the 500 m construction buffer:

- Clearing for access tracks, structure pads and stringing access corridor
- Clearing for stringing pads located in proximity to the Middleback substation
- Foundations
- Tower erection.

The following activities may be undertaken within the 500 m construction buffers around active Malleefowl mounds within breeding season (October to February):

- Works on the existing Middleback substation, including works to connect the new line to the substation
- Travel on, and maintenance of, the existing transmission line access track
- Stringing activities
- Braking and winching on the stringing pads located in proximity to the Middleback substation where a 500 m buffer from active mounds is not possible.

The location of the active Malleefowl mounds on the 275 kV line within the construction buffer are detailed in the Table below. There are three structures on the 275 kV line that are close or along the boundary of the 500 m construction buffer. Due to their close proximity to the boundary, these structures (107, 132 and 146) may be built including clearing, foundations and tower erection during the breeding season, if required.

Table 4: Active malleefowl mounds within 500 construction buffer

Malleefowl Mound Number	Impacted Structure Numbers
1	86, 87
21	105, 106
23	106, 107
28	113
29	113, 114
34	124, 125
36	132, 133
40	143, 144
45	145, 146
55	165

8.3.1.2 100 m No Go Area Buffer

Structure pads have been micro-sited and shaped to avoid impacts within 100 m of Malleefowl mounds with the exception of 275 kV Structure 88 and 145 where disturbance associated with the structure pad has been shaped to avoid impacts within a 75 m buffer.

For pads or spur tracks within or adjacent to the 100 m buffer for active Malleefowl mounds, a No-Go Area will be delineated with green bunting and signage prior to the commencement of works. Flagging is only required along the edge of the buffer located closest to the work area. Flagging will not be installed along the stringing corridor. Flagging will be temporarily removed during stringing activities.

Existing access tracks which pass through the 100 m Malleefowl mound buffer may be used. Flagging of the Malleefowl buffer is not required along existing access tracks.

8.3.1.3 Low Impact Vegetation Clearing

Vegetation clearing will be minimised within the stringing access corridor within the 50 m Malleefowl mound buffer. Trees and other large vegetation will be cleared using methods that encourage rapid regeneration/reshooting from lignotubers or stumps. Vegetation will be mega-mulched and overhanging branches hand trimmed, where possible.

8.3.1.4 Stringing Pads

Stringing pads have been micro-sited outside of the 500 m construction buffer around active Malleefowl mound where engineering constraints, such as conductor and OPGW spool lengths, and localised restrictions, including other infrastructure such as rail, roads and existing substations, have allowed.

Two stringing pads cannot be located outside of the 500 m buffer in the vicinity of Middleback. These will be located outside of a 320 m buffer. These stringing pads will be cleared outside of the breeding season (October to February) given that they are within the 500 m construction buffer.

8.3.1.5 Line Stringing Works

Line stringing works may be undertaken during the Malleefowl breeding season if required. The process for stringing operations during breeding season will be:

1. Light draw wires will be pulled into position down the centreline using a helicopter. Draw wire is a light wire that is pulled out first. It is used to pull out the heavier conductor wire.
2. Draw wires are then connected to the towers and then tensioned until the tension results in the draw wires floating into the air.
3. This tensioning (braking and winching) will be undertaken on stringing pads that are outside of the 500 m buffer except for two pads at Middleback which are outside a 320 m buffer.

4. Once in the air, the draw wire will then be connected to the heavier conductor and OPGW and it will be used to pull them into position in the air.

5. Earth wire and conductor wire will then be tensioned (in the air) until it is in the correct position.

8.3.2 Raptor Nests

During pre-clearing inspections, no raptor nest have been identified within trees along access routes or in trees adjacent to areas to be cleared.

If raptor nests are identified within trees along access routes or in trees adjacent to areas to be cleared, the nests will be delineated onsite as a No Go Areas though green bunting and signage prior to commencement of works. Locations of the nests in trees will be shown on ArcGIS mapping.

8.3.3 Access Management

To minimise potential impacts on native fauna as well as livestock, the following speed limits will be imposed on all access tracks and within the transmission line easement:

- 60 km/h on easement, spur and farm tracks
- 40 km/h between structures 85 – 150 on 275 kV line in Malleefowl habitat
- 30 km/h within pasture or crops
- 20 km/h near houses, sheds and water points.

All personnel must ensure that all farm gates, whether open, closed or locked, are left in the state in which they are found, unless signposted otherwise (such as keep gate closed at all times).

8.3.4 Feral Animal Baiting

Baiting for feral animals that may impact on Western Grasswren along the temporary access track in the Department of Defence land will be implemented within six months of commencement of construction.

Following feral animal baiting, Downer Environmental Advisor will undertake post-control monitoring to assess non-target kills and secondary poisoning events. The Environmental Advisor will review a 100 m radius around each of the bait locations to identify non-target kills and secondary poisoning events. Should post-control monitoring identify non-target kills and secondary poisoning events the predator control program will be updated to eliminate or reduce these events.

8.3.5 Fauna Handling and Removal

For all animals, including hazardous animals such as snakes, within work areas they will be typically left to move out of the area without interference. However if the animal is trapped or interfering with works then a local wildlife handler will be contacted to remove the animal and relocate outside of the work area. For any native animal that is injured, or found injured, during the works then the local wildlife carer will be contacted as detailed in the Table below.

For any livestock that is injured, or found injured, during the works then the Downer Public Liaison Coordinator will be contacted to communicate with the landholder in regards to the appropriate action as detailed in the Table below.

Table 5: Fauna Handling Contacts

Type of animal	Contact Person	Phone Number
Livestock (sheep and cattle)	Sophie Keen Downer Public Liaison Coordinator	0407 617 679
Wildlife Handler/Carer	Linda Davies Based in Port Lincoln however has various contacts for Whyalla to Port Lincoln	0417 708 450 08 8683 4722 http://www.eyrerescue.com/
	Bronte Larking	0408 880 447

8.4 Protection of Fauna Habitat

8.4.1 Sandhill Dunnart Habitat

During planning for construction, including onsite ground truthing, the disturbance areas associated with structure pads and access tracks were micro-sited to avoid sandhill dunnart habitat, where possible.

8.4.2 Hollow Trees

Vegetation to be cleared that are likely to have hollow-bearing trees will be surveyed for hollows prior to clearing. Hollow-bearing trees will be clearly marked in the field. Where the removal of a branch hollows is required, the hollows will be retained. These will be relocated and attached to nearby trees with wire to act as fauna habitat, where practical. Bush rocks and tree barrels will also be retained where they are identified as providing valuable habitat.

A suitably qualified person in the identification and handling of fauna, Downer Environmental Advisor, or an ecologist will be present during the removal of any hollow-bearing trees to remove/relocate any fauna displaced as a result.

8.5 Other Construction Impacts

8.5.1 Weed Management

Throughout the project, weeds will be managed in accordance with the Weed, Pest and Disease Management Sub-plan to minimise potential impacts on biodiversity. This will include, but is not limited to:

- All vehicles and machinery restricted to the designated work areas, access tracks and entry/exit points as shown on ArcGIS mapping.
- Implementation of weed hygiene practices through inspection and clean down of vehicles, machinery and equipment including:
 - Prior to entering the project area
 - Prior to mobilising between the transmission lines
 - Designated inspection and clean down locations associated with Weed Zones along the transmission lines
- Minimal area required for the works will be disturbed to prevent the establishment of weeds.
- Specific management measures during access and clearing, including:
 - Washdown of earthmoving machinery and equipment when moving to a lower Weed Zone
 - Management of declared weeds within topsoil and vegetation to be cleared
- All fill or other soil based materials imported into the project area to be verified as weed and phytophthora free.
- No Go Areas will be flagged or signed posted for heavy infestations of declared weeds adjacent work areas and along access routes.
- Implementation of weed control such as spot spraying of declared weeds within the CAZ.
- Progressive rehabilitation of works areas.

Fortnightly formal inspection of weeds on active construction sites, and adjacent areas, will be undertaken through the Environmental Inspection Checklist. Where new declared weed infestations are identified, and potentially result from project activities, ElectraNet will be notified immediately.

8.5.2 Waste Management

All putrescible waste, including food wrappers and food scraps, will be removed from the work sites daily and stored within lidded or covered bins at the laydown areas or camp sites to prevent attracting animals. Regular disposal of all waste to a licensed waste disposal facility and in accordance with a Waste Management Plan.

All cleared vegetation, with the exception of declared weed species, will be utilised onsite for rehabilitation including assisting with soil stabilisation and revegetation as well as providing fauna habitat.

If declared weeds are cleared/removed, they will be stored separately for disposal. For further information on declared weeds refer to the Weed, Pest and Disease Management Sub-plan.

Any dead fauna or livestock from the construction activities will be picked up and placed within a suitable container or bag prior to offsite disposal.

8.5.3 Bushfire Management

Throughout the project, measures will be implemented to mitigate the potential occurrence of a bushfire in accordance with the Bushfire Management Plan to minimise potential impacts on biodiversity. This will include, but is not limited to:

- All vehicles accessing the project area will be fitted with fire extinguishers or other suitable firefighting equipment such as water carts that are inspected regularly.
- Hot works will only occur on Total Fire Ban days under appropriate permit in compliance with regulations. Work restrictions will be in place on catastrophic rating days.
- Personnel will be informed of daily Fire Danger Rating at daily toolbox meetings. The Fire Danger Rating will form part of the daily task risk assessment

Any incidents of unplanned ignition will be immediately (or as soon as practicable) reported to the CFS and ElectraNet.

8.5.4 Sediment and Erosion Control

Throughout the project, measures will be implemented to mitigate potential impacts of erosion and sedimentation in accordance with the Soil and Water Management Sub-plan to minimise potential impacts on biodiversity.

8.5.5 Works During Daylight Hours

Construction activities, including vehicle travel, will occur during daylight hours wherever possible. This mitigates potential disturbance of nocturnal wildlife or roosting raptors.

8.5.6 Open Excavations

All open excavations will be backfilled or covered prior to leaving each work area and at the end of each work day, where possible. If this is operationally impracticable, a visual inspection will be undertaken of any open excavations to identify fauna prior to recommencing works. Any trapped fauna will be managed in accordance with Section 8.3.5.

8.5.7 Disturbance outside of Construction Activity Zone (CAZ)

All vehicle and machinery parking, laydown areas and stockpiles will be restricted to the designated construction activity zones (CAZ). No clearing, parking, laydown, stockpiles or other disturbance of native vegetation is permitted outside of CAZ.

9 CLEARING REQUIREMENTS

9.1 Clearing Permitting

Areas designated for clearing, Construction Activity Zones (CAZ), will be planned and approved by ElectraNet via a Land Disturbance Permit. All clearing of native vegetation, permanent and temporary, will be in accordance with the Eyre Peninsula Transmission Line EPBC Assessment (EBS Ecology, 2019b); EPBC Approval; and Native Vegetation Council Regulation Advice Notification. All clearing will be confined to these approved areas.

The following permits must be issued prior to starting access and clearing works:

- ElectraNet Land Access Permit
- DG-ZH-FM071.3 Land or Vegetation Disturbance Permit
- DG-ZH-FM043.1 Excavation permit

9.1.1 Approved Clearing Limits

The EPBC Approval for the project specifies the following clearing limits:

- Native vegetation: 192.02 ha of permanent clearing

- Malleefowl habitat:
 - 64.19 ha of temporary clearing
 - 6.25 ha of permanent clearing
- Eyre Peninsula Blue Gum Threatened Ecological Community (TEC):
 - 1.3.171 ha of temporary clearing
 - 0.035 ha of permanent clearing.

Permanent clearing means areas of native vegetation cleared for construction that are to remain cleared for ongoing operation of the transmission line. Temporary clearing means areas of native vegetation cleared for construction that are not required for ongoing operation of the transmission line, and therefore can be revegetated following the completion of the construction works.

The areas designated for clearing, and the methodology of clearing to be used, are included within ArcGIS mapping. Mapping also includes protected vegetation and No-Go zones.

Vegetation clearing for the project is controlled through ElectraNet’s Land Access Permits and Downer’s Land and Disturbance Permits, which specify the extent of clearing permitted and clearing methodology. Furthermore, Downer maintains a Vegetation Clearing Register, which documents vegetation clearing to ensure compliance with the approved clearing limits.

9.2 Types of Clearing

Given that vegetation rootstock and topsoil provides structure to the soil assisting with the management of sedimentation, erosion and dust generation as well as rehabilitation, different clearing methodologies will be implemented for different vegetation types. The types of clearing are described in the Table below.

Table 6: Clearing types

Clearing Type	Description	Example
No clearing	These areas do not require clearing due to the lack of trees and shrubs.	Cropped paddocks
Clearing for stringing	Minimal vegetation clearing is required for stringing of the line given that helicopter stringing will be used. Vegetation clearing for conductor clearance to the concrete blocks on the stringing pads will be on a progressive gradient as detailed in Section 7.3.	Low Impact Stringing
Slashing & Hand Clear	Given that the vegetation is naturally low growing, minimal vegetation clearing is required for access. Low shrubs and grasses will be slashed and left in situ on the pads. Larger trees or shrubs will be hand cleared using a chainsaw.	Saltbush pasture
Hand Clearing	Due to environmental or heritage sensitivities in certain locations or isolated sections of vegetation that require clearing, clearing in these areas will be undertaken by hand using chainsaws. This may include: <ul style="list-style-type: none"> • Within waterways and 10 m buffer adjacent to waterways: Tree and shrub stumps will be cut off at ground level. No vegetative material will be left within the waterway. • Within cultural heritage areas, vegetation will be hand cleared and left in situ. 	Waterway Crossings Cultural Heritage Areas
Branch trimming	Branches overhanging the CAZ, such as pads and tracks, will be trimmed in such a way as to not strip the branches or trunks and hinder survival of the remaining tree or bush. The branches will be left in situ.	Overhanging branches on tracks
Mega-mulch	Given the high density of the vegetation in these areas, vegetation clearing will be undertaken using a mega-mulcher or similar. Mulched material will be left in situ or large amounts of mulched material hindering access will be stockpiled within the CAZ. Hollow branches and tree barrels will be placed on the outside of the CAZ.	Mallee woodlands
	Within 50 m of active Malleefowl mound, vegetation will be meg-mulched leaving stumps just above ground level. Mulched material will be left in situ.	Malleefowl mound

The minimal area operationally practicable for to safely undertake the works has been planned and will be cleared of vegetation. The locations of each type of clearing method is shown on ArcGIS mapping. There will be no clearing, or other disturbance of vegetation, outside of the designated CAZ.

9.3 Preparation for Clearing

9.3.1 Pre-clearing Inspection

Within two days of native vegetation clearing, the Downer Environmental Advisor will undertake a pre-clearing inspection to identify the presence of EPBC listed fauna species such as any active bird nests or other important fauna habitat features including tree hollows. During the inspection, No Go Area flagging and signage will also be checked. The findings of these pre-clearing inspections, such as identification of fauna habitat features, will be recorded in Pre-clearing Survey Register.

If an active bird nest is identified, a suitably qualified person in the identification and handling of the fauna, either the Downer Environmental Advisor or an ecologist will be engaged, for the relocation of the nest where impacts cannot be avoided.

9.3.2 Marking of Clearing Areas

Prior to commencing vegetation clearing, the area or trees approved for clearance will be identified onsite by a surveyor and delineated with pegs or flagging/ribbons. The pegs or flagging/ribbons will remain in place, in good condition and clearly visible, for the period in which clearance is occurring.

Any vegetation within or adjoining the CAZ to be retained will be clearly delineated using fencing, flagging and/or signage. No clearing can be undertaken until the vegetation to be cleared, as well as vegetation to be retained, has been clearly delineated and checked by the Downer Environmental Advisor.

9.3.3 Malleefowl Nest Pre-construction Inspection

A pre-construction inspection will be undertaken a week prior to commencing any construction activities, including temporary clearance, within the 100 m Malleefowl nest buffer to ascertain if the nest is active (i.e. if a Malleefowl is nesting). If a Malleefowl is present, advice will be obtained from a fauna specialist on the best way to manage construction to minimise impacts on the Malleefowl. Information from these inspections will be recorded in the Pre-clearing Survey Register.

9.4 During Clearing

9.4.1 Topsoil and Vegetation Stripping

During access and clearing, vegetation will be slashed and/or mulched and either be left in situ or stockpiled, particularly for large amounts of mulched material, on the edge of the disturbance area. Hollow branches and tree barrels will be placed on the outside of the CAZ for later use in rehabilitation. For structure locations where the slashed/mulched vegetation has been removed and stockpiled, this will be noted in the Vegetation Clearing Register for the rehabilitation phase.

In areas where subsoil disturbance is required, including levelling through cut and fill and locations for stockpiling of structure foundations spoil, the slashed/mulched vegetation and topsoil will be removed and stockpiled prior to disturbance of subsoil. The top 150 mm of topsoil/sand will be stripped off. Topsoil and mulched vegetation material will be stockpiled separately as shown in Figure 1.

Any excess subsoil from cut and fill pad works or spoil from drilling of tower foundations will be stockpiled separately on the pad. The spoil must not be stockpiled with the topsoil and vegetation. The spoil must not be spread out over the pad.

Further details on topsoil and vegetation management is provided in Section 10.1.1.

9.4.2 Fauna Spotter

If during the pre-clearing inspection it is determined that there is a potential to cause injury or death of EPBC listed fauna species, such as an active birds nest is identified, then the Downer Environmental Advisor will be onsite during vegetation clearing to ensure that there are no impacts on EPBC listed fauna species.

10 REHABILITATION

Following the completion of construction, disturbed areas not required for ongoing operational access will be remediated to as close as possible to pre-disturbance conditions. This will include progressive rehabilitation of completed areas, where it does not impede the progress or safety of construction.

Disturbed areas will be remediated to allow rehabilitation to a state as close as practicable to their original condition. It should be noted that there are various different original conditions associated with different vegetation and habitat types across the transmission line. This includes different types of native vegetation with various compositions and cover as well as pasture and cropping land comprising of exotic plant species.

10.1 During Construction

The following will be implemented during construction to assist with effective remediation and rehabilitation:

- Limit vegetation clearing and ground disturbance to smallest area practicably required
- No disturbance outside of designated access and work areas
- Implement low impact clearing and stringing methods
- Avoid contamination of soil, surface water or ground water
- Management of topsoil and vegetation as detailed in the next Section.

10.1.1 Stockpile Management

During the pre-clearing inspections, declared and landholder priority weed species will be identified within the disturbance areas. For large infestations of declared or landholder priority weed species control measures will be implemented prior to disturbance such as:

- Spraying of declared weed species prior to removal of topsoil and vegetation
- Separate clearing/physical removal of declared weed species for disposal at a waste disposal facility

Stripped vegetation, topsoil and subsoil will be stockpiled separately within the disturbance area of the CAZ. Hollow branches and tree barrels will be placed just outside of the CAZ given the size constraints of the disturbance areas for these larger materials for rehabilitation. No topsoil or vegetation must be transported off the CAZ.

Slashed/mulched vegetation and topsoil, and the available seedbank, will be protected and utilised as a primary means for site remediation of temporary clearance areas of structure pads. Where slashed/mulched vegetation and/or topsoil is stripped from the disturbance area, these will be managed in stockpiles during construction to ensure that they are not blown or washed away.

In the event that topsoil is not adequately managed during construction then firstly the topsoil will be recovered where possible, such as topsoil washed downslope would be scraped back up, or alternatively suitable topsoil will be sourced to compensate for any losses of seed bank/topsoil quality. This may include sourcing topsoil from within the same property in consultation with the landholder or purchasing from an external supplier.

Further detail on stockpile management for wind and water erosion is provided in the Soil and Water Management Sub-plan.

10.1.2 Reuse of Topsoil

Topsoil will be respread as soon as possible in order to maximise its fertility, seed viability and microbial activity. This will be factored into scheduling such that rehabilitation begins as soon as all works are completed on a structure by structure basis.

10.2 Rehabilitation Requirements

The following will be implemented for rehabilitation:

- Remediate disturbed areas to blend in with surrounding landscape or pre-work condition as far as practicable
- Remediate disturbed areas to the satisfaction of landholders and stakeholders as far as practicable
- Implement sediment and erosion controls to create stable landforms

- Implement measures to promote suitable vegetation cover and prevent weed growth, in particular declared and landholder priority weed species

10.2.1 Timing

Rehabilitation will occur at an optimal time within 12 months following completion of the use of any area. Rehabilitation will commence as soon as practicable after the disturbed area is no longer required for construction works as well as ongoing operations or maintenance activities. This will include progressive rehabilitation of completed areas, where it does not impede the progress or safety of construction. Construction must be completed at the site to a stage where vehicle traffic is minimal, allowing the site to restabilise without further disturbance.

Following the completion of remediation these areas will be No Go areas.

10.2.2 Landholders

General discussions on rehabilitation works will be discussed prior to construction then more specific details will be discussed prior and during rehabilitation works in consultation with ElectraNet.

ElectraNet and Downer will continue to engage with landowners during the rehabilitation process. ElectraNet have secured agreement from some landowners to leave access and spur tracks in place to facilitate ongoing maintenance and inspections of the transmission line infrastructure. Access tracks will be maintained and repaired to the satisfaction of landholders if impacted by the project activities.

Further details on landholder consultation are provided in Landholder Liaison Management Sub-plan.

10.3 Remediation Operations

The following steps will be typically implemented during remediation of disturbed areas:

1. Inspection and management of declared and landholder priority weed species on disturbance areas and stockpiles prior to the commencement of remediation operations
2. Spoil from structure foundations will be spread within permanent clearing areas (ie. domed between the legs of the tower and compacted)
3. Compacted areas scarified
4. Any stockpiled topsoil and vegetation spread back over disturbed areas
5. Spread with seed where necessary.

The following Table summarises the different disturbance and rehabilitation requirements to be implemented during and following construction.

Table 7: Disturbance and rehabilitation requirements

Infrastructure Type		Disturbance	Rehabilitation Requirements
Existing access tracks		Existing access tracks cleared/ trimmed of vegetation up to 5 m wide	No rehabilitation
Permanent access and spur tracks		New tracks cleared/ trimmed of vegetation up to 5 m wide	No rehabilitation
Temporary access and spur tracks		Temporary tracks cleared/trimmed of vegetation up to 5 m wide and topsoil scraped off and stockpiled.	<ul style="list-style-type: none"> • Compacted areas scarified, as required. • Stockpiled topsoil and vegetation spread back over disturbed areas • Spread with seed where necessary in pasture
Structure Pads	0-2.5% slope	Vegetation and topsoil cleared from structure pad area Vegetation and topsoil cleared from 10 x 10 m area adjacent to the structure pad area for temporary placement of foundation spoil	<ul style="list-style-type: none"> • Foundation spoil material domed between the legs of the tower and compacted • Compacted areas scarified • Stockpiled topsoil and vegetation spread back over disturbed areas and spread with seed where necessary in pasture
	2.6-5.6% slope	Vegetation and topsoil cleared from structure and construction pad areas	<ul style="list-style-type: none"> • Pads to remain following completion of works

		Structure and construction pads levelled to 2 degrees slope over the fill batter	<ul style="list-style-type: none"> Foundation spoil material domed between the legs of the tower and compacted Compacted areas scarified Stockpiled topsoil and vegetation spread back over disturbed areas and spread with seed where necessary in pasture
	5.7-14+% slope	Vegetation and topsoil cleared from structure and construction pad areas Structure and construction pads levelled to minus 1% i.e. slope into cut batter	<ul style="list-style-type: none"> Crane pad and EWP pads to be returned to original ground slopes after completion Tower pad to remain following completion of works Foundation spoil material domed between the legs of the tower and compacted Compacted areas scarified Stockpiled topsoil and vegetation spread back over disturbed areas and spread with seed where necessary in pasture
Stringing pads		Clear vegetation Remove topsoil if pad requires levelling	<ul style="list-style-type: none"> Pads to be returned to original ground slopes Compacted areas scarified Stockpiled topsoil and vegetation spread back over disturbed areas and spread with seed where necessary in pasture
Substations		Clear vegetation Remove topsoil if disturbance of subsoil	<ul style="list-style-type: none"> Pads to be returned to original ground slopes Compacted areas scarified Stockpiled topsoil and vegetation spread back over disturbed areas and spread with seed where necessary in pasture
Laydown areas		No vegetation clearing required	<ul style="list-style-type: none"> Compacted areas to be scarified, as required. Spread with seed where necessary in pasture
Camps		No vegetation clearing required Remove topsoil if camp site requires levelling and stabilisation measures added	<ul style="list-style-type: none"> Stabilisation measures to be removed, if requested by landholder Compacted areas to be scarified, as required. Stockpiled topsoil and vegetation spread back over disturbed areas Spread with seed where necessary in pasture

Further details on these steps are provided in the Sections below.

10.3.1 Declared Weeds

Prior to the commencement of rehabilitation operations, an inspection and management of declared and landholder priority weed species on disturbance areas and stockpiles will be undertaken. Where declared and landholder priority weed species are present the following may be implemented:

- Spraying of or physical removal of weeds for disposal at a waste disposal facility
- Spraying or physical removal of weeds within topsoil or vegetation stockpiles prior to respreading

Further information on weed management is detailed in Weed, Pest and Disease Management Sub-plan.

10.3.2 Landscaping and Scarification

Landscaping will leave the final landform visually compatible with the surrounding landscape, ensure that the land is stable and will not erode, and provide an adequate substrate for revegetation. Cleared cropping/ agricultural land will be levelled to a similar ground profile to surrounding land to ensure ongoing use of agricultural equipment (e.g. harvesters) after construction.

Compacted areas will be ripped or scarified to a depth of 300 mm with a ripper on a grader or other similar machinery to break up the soil and provide an improved seedbed for establishment of vegetation. Ripping or

scarification is not required in gibber or sand dune environments. The pads will be scarified horizontal to the slope while scarification will be along the direction of the tracks.

10.3.2.1 Access Tracks

Access tracks will not be left with deep wheel ruts, windrows, inadequate water drainage or pooling at the completion of the project. Permanent access tracks will be graded and reshaped as required at completion of the works.

Temporary access tracks to be rehabilitated will be ripped and topsoil/vegetation respread to encourage rehabilitation and minimise access.

10.3.2.2 Passing Points

The passing points on easement tracks are temporary clearing and will be remediated following the completion of the construction works. Other passing points, such as in agricultural land, will be ripped and topsoil/vegetation respread to encourage rehabilitation.

10.3.3 Sediment and Erosion Controls

Sediment and erosion control measures will be implemented in accordance with the Land and Soil Management Sub-plan. No slopes will be left at an angle greater than 25% (1V:4H) without permanent erosion controls.

10.3.4 Respreading of Topsoil and Vegetation

In disturbance areas where native vegetation is mulched or slashed, the vegetative matter will be used for rehabilitation of cleared areas.

For disturbance areas in native vegetation where sub-soil disturbance is not required, and there is not excessive mulched/slashed material impacting on access for works, the vegetative matter will be left in situ. Following the completion of construction works in these locations, no further rehabilitation is required.

For disturbance areas in native vegetation where sub-soil disturbance is required or there is too much mulched/slashed material impacting on access for works, the topsoil and/or vegetative matter will be removed and stockpiled prior to disturbance of subsoil. During rehabilitation, firstly topsoil will be respread over the disturbed area then vegetation material will be spread. Respreading of topsoil and vegetation will be evenly distributed throughout the temporarily disturbed area. Cleared vegetation will be used to block off access to the stringing corridor where possible.

10.3.5 Stabilisation

In disturbed areas within pasture, reseedling may be required to stabilise the ground and prevent erosion. Where seeding is required, stockpiled topsoil will be respread over the disturbed area then seed mix added. The seed will be either track-rolled in with machinery or spread onto scarified topsoil. Seed mixes will be selected in consultation with the landholder.

10.3.6 Waste and Spoil

Unless otherwise agreed with the landholder, all fill, capping material and wastes will be removed at completion of construction. This includes all signage and flagging which will be removed and reused, where possible.

Spoil will be generated during excavation of foundations and excess subsoil may be generated from levelling of construction areas. Excess spoil or subsoil will be reused on the same land parcel as it originated. Subsoil will be used for reshaping of the disturbance areas to blend in with the surrounding topography. Spoil will be reused for, where suitable:

- Doming or spreading under the new structure within 15 m x 15 m on 275 kV line or 10 m x 10 m on 132 kV line permanent disturbance areas
- Constructing and/or capping permanent access tracks
- Filling voids or other beneficial uses on landholder properties, subject to their consent being obtained.

Excess spoil or subsoil will be removed from temporary clearance areas where not it is required. For further information on waste and spoil management, refer to the Waste Management Sub-plan.

10.4 Inspections and Monitoring

A pre-construction inspection will be undertaken no more than four weeks prior to construction works commencing. This inspection will document the pre-disturbance conditions. Inspections will be undertaken by ElectraNet, Downer and a suitable independent specialist where required (e.g. agronomist or ecologist) depending on the specific land use of the affected area.

Monitoring of rehabilitation works will be undertaken to ensure compliance with the rehabilitation measures outlined in this sub-plan. This will be implemented fortnightly during rehabilitation works using the Environmental Inspection Checklist.

A post-construction inspection will be undertaken within four weeks of construction completion to ensure disturbed areas have been returned to a similar condition to that documented in the pre-construction inspection. If the land condition is found to be in an unsatisfactory, further rehabilitation or rectification may be required.

Post-project completion inspections will be implemented to ensure disturbed sites are progressively rehabilitating. Inspections will occur up to 5 years after the project completion. A summary of rehabilitation inspection and monitoring requirements are detailed in the Table below.

Table 8: Rehabilitation inspections and monitoring

Type of Inspection	Timing	Locations	Responsibility	Desired Outcomes
Pre-construction inspection	Within 4 weeks prior to construction	All disturbance areas	ElectraNet Downer	Record of pre-disturbance conditions
Rehabilitation works	During rehabilitation	Sites being rehabilitated	Downer	Inspection of implementation of rehabilitation requirements
Post-construction inspection	Within 4 weeks of construction completion	All disturbance areas	ElectraNet Downer	Record of post-disturbance conditions including implementation of rehabilitation requirements Closure of rehabilitation with landholders
Rehabilitation monitoring	1-2 years following project completion	Visual inspection of at least 20% of rehabilitated sites	ElectraNet	Sites are generally stable with no signs of erosion or sedimentation Disturbed areas are rehabilitating with approximately 50% pre-disturbance cover Check and implement controls to manage browse pressure from feral animals and kangaroos as required
Rehabilitation monitoring	5 years following project completion	Visual inspection of at least 20% of rehabilitated sites	ElectraNet	Sites are stable with no signs of erosion or sedimentation Disturbed areas have rehabilitated to 80% pre-disturbance cover

11 MITIGATION AND MANAGEMENT MEASURES

11.1 Training and Awareness

Downer recognises the importance of employee training and induction, and the critical role it plays in supporting the safe and environmentally responsible conduct of project operations. All personnel must be fully informed of their specific environmental obligations and are suitably trained and competent to undertake works in accordance with ElectraNet and Downer requirements.

The site induction for all staff, sub-contractors and visitors will include protected flora and fauna and management measures.

11.2 Mitigation and Management

The following table outlines the mitigation and management measures that will be implemented as far as practicable throughout the project to prevent potential impacts on biodiversity.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
Planning Phase					
BAR	Investigate, in detail, the use of alternative construction methods to minimise the footprint of the infrastructure/long-term impact of the works.	Planning	This sub-plan	Construction Manager	Scouting of all access and disturbance sites has been undertaken prior to the commencement of works. Following gaining an understanding of the access and clearing works required, construction methods have been considered to minimise the area and type of disturbance.
SEMP TSMP	Use low-impact clearing methods rather than clearing to ensure that root stock, topsoil and seeds are left in situ as far as practicable.	Planning	This sub-plan	Construction Manager	Low impact clearing methods, such as slashing and mega-mulching, rather than dozing/grading will be used for suitable vegetation types.
S&S	Develop, implement, monitor and review a documented process or management plan that controls all aspects of the management of vegetation and fauna in accordance with applicable legislation and good practice.	Prior to commencing onsite	This sub-plan	Environmental Advisor	This sub-plan has been developed to include: <ul style="list-style-type: none"> • a risk assessment process • identification of vegetation for disturbance • specifying demarcation, barricading and management of voids • treatment and protection of threatened, at risk and sensitive flora and fauna species and habitats • specifying revegetation and restoration requirements • providing contact lists for local/regional rescue organisations and provisions for hazardous fauna management
NVA	All reasonable steps must be taken to avoid impacts on plant species listed under the <i>National Parks and Wildlife Act 1972</i> or threatened under <i>Environment Protection and Biodiversity Conservation Act 1999</i> , through microsite or careful selection of clearance locations, particularly to elements that can be easily varied such as track location.	Prior to commencing onsite	This sub-plan	Environmental Advisor	During design and planning of the transmission line, the locations of threatened plant species were considered to mitigate impact on these plants from the construction works. This included micro-siting of disturbance areas and careful selection of clearing locations.
S&S	All vegetation clearance requires approval.	Prior to commencing onsite	This sub-plan	Environmental Advisor	All vegetation clearing will be in accordance with relevant approvals and ElectraNet Land Access Permit (LAP).

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					Approval from ElectraNet, and other relevant authorities, will be sought prior to any alteration or deviation from approved vegetation clearing areas.
ECS TSMP	Protect threatened flora and fauna communities from construction impacts.	Prior to commencing works within proximity of protected species	This sub-plan	Construction Manager Environmental Advisor	Threatened flora species will be protected through the following: <ul style="list-style-type: none"> Shown as No Go areas on ArcGIS mapping Delineated with a visible barrier during protected construction, as required
S&S TSMP	All personnel must be fully informed of their specific environmental obligations and are suitably trained and competent to undertake works in accordance with ElectraNet and Downer requirements.	Prior to commencing works onsite	Project Induction	Construction Manager Environmental Advisor	Personnel undertaking the works will be competent for their role and tasks. All personnel are required to undertake the Project Induction which includes flora and fauna awareness prior to commencement onsite.
TSMP	Ensure all vehicles, plant and earthmoving equipment are clear of significant soil/vegetative matter prior to site mobilisation.	Prior to commencing works onsite	DG-ZH-ST071.2 Flora and Fauna Management	Construction Manager Environmental Advisor	See Weed Management Sub-plan for details on weed and phytophthora management.
Execution Phase					
SEMP	Prior to undertaking clearing a 'before' photograph of all areas of disturbance will be taken.	Prior to commencing works onsite	This sub-plan	Construction Manager	Prior to undertaking works, a pre-construction inspection will be undertaken including a photograph of the area.
EPBC	Compliance with the approved permanent and temporary clearing limits. Additionally laydown areas and construction worker camps must be constructed in existing cleared areas.	Throughout clearing works	This sub-plan	Environmental Advisor	Approved vegetation clearing limits detailed in Section 9.1.1. Vegetation clearing for the project will be controlled through ElectraNet's Land Access Permits and Downer's Land and Disturbance Permits. These permits will be issued prior to clearing commencing. All designated clearing areas will be detailed on ArcGIS mapping, which will be provided to Downer personnel, including clearing operators. Vegetation Clearing Register to be maintained with locations and areas of clearing.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
EPBC	Throughout the construction phase any impacts on the Jumping-jack Wattle must be avoided.	Throughout clearing works	This sub-plan	Environmental Advisor	<p>Details of management measures for Jumping-Jack Wattle is detailed in Section 8.2.2.</p> <p>All designated clearing areas will be detailed on approved mapping, which will be provided to Downer personnel, including clearing operators.</p> <p>ElectraNet's Land Access Permits and Downer's Land and Disturbance Permits will be issued prior to clearing to ensure compliance.</p>
EPBC	Throughout the construction phase any impacts on Tufted Bush-pea plants must be avoided except for those individuals located near Structure 658 and 659.	Throughout clearing works	This sub-plan	Environmental Advisor	<p>Details of management measures for Tufted Bush-peas is detailed in Section 8.2.5.</p> <p>All designated clearing areas will be detailed on approved mapping, which will be provided to Downer personnel, including clearing operators.</p> <p>ElectraNet's Land Access Permits and Downer's Land and Disturbance Permits will be issued prior to clearing to ensure compliance.</p>
EPBC	<p>A pre-clearing survey to be undertaken within two days of clearing habitat for the following EPBC listed fauna species:</p> <ul style="list-style-type: none"> • Malleefowl • Sandhill dunnart • Southern emu-wren • Western grasswren 	Throughout clearing works	This sub-plan	Environmental Advisor	<p>Within two days of native vegetation clearing, the Downer Environmental Advisor will undertake a pre-clearing inspection to identify the presence of EPBC listed fauna species such as any active bird nests.</p> <p>If an active bird nest is identified, a suitably qualified person in the identification and handling of the fauna, either the Downer Environmental Advisor or an ecologist will be engaged if required, for the relocation of the nest where impacts cannot be avoided.</p> <p>The findings of these pre-clearing inspections will be recorded in Pre-clearing Survey Register.</p>
EPBC	<p>Supervision of vegetation clearing to ensure that clearing activities do not cause injury or death to the following EPBC listed fauna species:</p> <ul style="list-style-type: none"> • Malleefowl • Sandhill dunnart • Southern emu-wren • Western grasswren 	Throughout clearing works	This sub-plan	Site Supervisor Environmental Advisor	<p>All vegetation clearing works are supervised onsite by the Downer Site Supervisor and Cultural Heritage monitors to ensure compliance with approved clearing areas and methods as per ElectraNet's Land Access Permits and Downer's Land and Disturbance Permits.</p> <p>If during the pre-clearing inspection it is determined that there is a potential to cause injury or death of EPBC listed fauna species, such as an active birds</p>

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					nest is identified, then the Downer Environmental Advisor will be onsite during vegetation clearing to ensure no impacts on EPBC listed fauna species.
EPBC	Low impact clearing methods to be implemented for areas of Eyre Peninsula Blue Gum Woodland.	Throughout clearing works	This sub-plan	Environmental Advisor	No clearing of protected Eucalyptus vegetation communities is required for stringing. All clearing, including low impact clearing, submitted and approved through ElectraNet's Land Access Permits. All designated clearing areas will be available on ArcGIS mapping, which will be provided to Downer personnel, including clearing operators.
EPBC	Implement a minimum of bi-annual fox baiting and annual cat baiting within 6 months of construction.	Cultana Training Area	Weed, Pest and Disease Management Sub-plan	Environmental Advisor	Details of feral animal baiting provided in Section 8.3.4. Baiting for fox and cats along the temporary access track in the Department of Defence land will be implemented within 6 months of commencement of construction. Following feral animal baiting exercises, the Downer Environmental Advisor will undertake post-control monitoring to assess non-target kills and secondary poisoning events.
SEMP	For the protection of retained vegetation ensure No Go Zones are clearly flagged/demarcated. No vegetation disturbance/clearance must be undertaken in these areas.	Prior to commencing works onsite	This sub-plan	Construction Manager	No Go zones will be shown on ArcGIS mapping. No Go Zones will be delineated with flagging and/or signage prior to the commencement of clearing works. No clearing or access within No Go Zones.
ECS	Ensure vegetation that has been approved for disturbance/clearance is clearly identified to prevent unauthorised disturbance.	Throughout clearing works	DG-ZH-ST071.2 Flora and Fauna Management	Construction Manager	Approved vegetation disturbance areas will be shown on ArcGIS mapping. Vegetation approved for disturbance will delineated with flagging or paint.
SEMP	A licensed fauna ecologist or wildlife carer will be available during removal of native vegetation to undertake fauna checks and fauna relocation.	Throughout clearing works	DG-ZH-ST071.2 Flora and Fauna Management	Environmental Advisor Licensed fauna ecologist or wildlife carer	Prior to native vegetation removal, the Downer Environmental Advisor will inspect vegetation for native fauna. A licensed fauna ecologist or wildlife carer will be engaged to assist with fauna relocation as required.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
SEMP TSMP	In areas of native vegetation, cleared trees with hollows will be left on site for fauna habitat.	Throughout clearing works	DG-ZH-ST071.2 Flora and Fauna Management	Environmental Advisor Ecologist or suitably qualified person	Prior to native vegetation removal, the Downer Environmental Advisor will inspect the area for fauna habitat including tree hollows. Branch hollows will be retained and attached to nearby trees, where possible, to act as fauna habitat. An ecologist or suitably qualified person in the identification and handling of fauna will be present during the removal of any hollow-bearing trees to remove/relocate any fauna displaced as a result.
ECS TSMP MMP	Avoid impacts to Malleefowl and Malleefowl Mounds	Ongoing throughout works	DG-ZH-ST071.2 Flora and Fauna Management	Construction Manager Environmental Advisor Licensed fauna ecologist or wildlife carer	Malleefowl 100 m buffers shown on ArcGIS mapping. Malleefowl 100 m buffers delineated with a visible barrier (flagging and signage) along buffer area closest to the work front excluding existing access tracks. Delineation can be temporarily removed during stringing activities. Inspection of Malleefowl mound within the 100 m buffer by Downer Environmental Advisor immediately prior to commencing any construction including temporary clearance or maintenance on existing tracks to determine if the mound is active. <ul style="list-style-type: none"> If nest is active, advice will be obtained from a fauna specialist on managing construction impacts. If nest is not active, construction works can commence.
SEMP TSMP	Maintain contact lists for local/regional fauna rescue organisations at all times.	Ongoing throughout works	Work Pack	Environmental Advisor	A list of local fauna rescue organisations will be available onsite. The relevant authority will be notified in the event of encountering trapped or injured fauna.
SEMP TSMP	Minimise vehicle movements and machinery disturbance within and around retained vegetation. Restrict vehicle movement to defined tracks. Retain integrity of surrounding vegetation by avoiding impact to vegetation drip-lines.	Ongoing throughout works	DG-ZH-ST071.2 Flora and Fauna Management	Construction Manager	Details of designated site access and disturbance areas within ArcGIS mapping. No vehicle or personnel access outside of designated access.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					No vehicle or machinery parking or laydown within the drip-line of vegetation.
TSMP	Where access points and tracks intersect public roads, they will be fenced with access restricted by locked gates where possible.	Ongoing throughout works	DG-ZH-ST071.2 Flora and Fauna Management	Construction Manager	Access points and tracks intersect public roads will be fenced and locked gates where agreed by the landholder.
TSMP	All fill materials required for construction will be sourced from certified weed and phytophthora free sites.	Ongoing throughout works	DG-ZH-ST071.2 Flora and Fauna Management	Environmental Advisor	See Weed Management Sub-plan for details on weed and phytophthora management.
TSMP	Construction sites will be regularly surveyed for weed outbreaks.	Ongoing throughout works	DG-ZH-ST071.2 Flora and Fauna Management	Environmental Advisor	See Weed Management Sub-plan for details on weed management.
TSMP	All waste, including food wrappers and food scraps, to be removed for disposal at a licensed waste disposal facility.	Ongoing throughout works	DA-ZH-ST063 Waste Management	Construction Manager	See Waste Management Sub-plan for details on waste management.
TSMP	Refuelling of machinery and vehicles will occur in a designated area only, off site where possible. Spill kits will be installed at these locations.	Ongoing throughout works	DA-ZH-ST054 Hazardous Chemicals and Dangerous Goods Storage Principles and Transportation	Construction Manager	See Soil and Water Management Sub-plan for details on refuelling.
SEMP	Ensure that personnel do not feed any wildlife that may be encountered on construction sites (especially birds and lizards).	Ongoing throughout works	Project Induction	Environmental Advisor	Personnel will be instructed not to interact, including feed, wildlife during the Project Induction.
SEMP	Avoid leaving excavations and trenches open overnight, backfill/cover to prevent fauna ingress.	Ongoing throughout works	This sub-plan	Construction Manager	All open excavations will be backfilled or covered prior to leaving each work area and at the end of each work day. If this is operationally impracticable, a pre-start inspections will be undertaken of any open excavations to identify fauna and licensed fauna ecologist or wildlife carer contacted for safe release as required.
TSMP	Speed limits imposed on all access roads and within the transmission line easement.	Ongoing throughout works	This sub-plan	Construction Manager	Speed limits to be enforced are: <ul style="list-style-type: none"> 60 km/h on easement, spur and farm tracks

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
			Landholder Liaison Sub-plan		<ul style="list-style-type: none"> 40 km/h between structures 85-150 on 275kV line for Malleefowl habitat 30 km/h within pasture or crops 20 km/h near houses, sheds and water points
TSMP	Construction activities will occur during daylight hours wherever possible so as not to disturb nocturnal wildlife or roosting raptors.	Ongoing throughout works	This sub-plan	Construction Manager	Construction activities will be scheduled between 7 am to 7 pm wherever possible.
SEMP	A tracking sheet to be maintained on status of vegetation clearance on the project compared to the approved vegetation clearance limits.	Ongoing throughout works	This sub-plan	Environmental Advisor	A Vegetation Clearance Register will be utilised for recording the type and area of clearing as detailed in Section 12.
ECS	Spatial data will be maintained showing the total of disturbance, methodology of disturbance.	Ongoing throughout the works	This sub-plan	Environmental Advisor	<p>Spatial data will be recorded to map the extent and methodology of clearing and disturbance throughout the project.</p> <p>Spatial data will be provided upon request to ElectraNet throughout the project and a final submission at project completion.</p>
ECS	Spatial data will be maintained showing total rehabilitation footprint, including what method was used for the rehabilitation.	Ongoing throughout the works	This sub-plan	Environmental Advisor	<p>Spatial data will be recorded and map the total rehabilitation footprint and rehabilitation methodology throughout the project.</p> <p>Spatial data will be provided upon request to ElectraNet throughout the project and a final submission at project completion.</p>
SEMP ECS	Any changes in project scope that may require additional vegetation disturbance must be submitted and approved by ElectraNet prior to undertaking any clearing.	Ongoing throughout works	This sub-plan	Environmental Advisor	Any changes in project scope which will require additional clearing will be submitted and approved by ElectraNet prior to undertaking any clearing.
SEMP TSMP	All environmental incidents and hazards identified during the project must be recorded, reported and managed effectively.	Ongoing throughout project	INX	Environmental Advisor	<p>A record of all incidents involving fauna injury/death resulting from construction activities will be kept. This includes any injury or death of threatened species and any injury or death of fauna from a vehicle strike.</p> <p>All environmental incidents and hazards will be verbally reported to ElectraNet within 1 hour of identification outlining factual information.</p>





Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					An investigation report from INX will be provided to ElectraNet within 24 hours. Environmental incidents and hazards will be reported through ElectraNet's online Incident Management System (IMS).
Post-execution Phase					
SEMP	Following clearing an 'after' photograph of all areas of disturbance will be taken.	Following completion of clearing works	This sub-plan	Construction Manager	Following the completion of works, a post-construction inspection will be undertaken including a photograph of the area.
TSMP	Upon project completion, ensure all work areas are restored to a state as close as practicable to their original condition, noting any specific conditions that may be associated with significant vegetation/habitat disturbance.	Following completion of construction works	This sub-plan	Construction Manager	In accordance with Section 0, rehabilitation will be implemented to restore disturbed sites to a state as close as practicable to their original condition.

12 MONITORING & INSPECTION





In addition to the requirements outlined in the Environmental Management Plan, the following table outlines the monitoring and reporting to be undertaken during the pre-execution, execution, and post-execution phases of the project relating to biodiversity management.

Monitoring & Reporting Requirements	Responsibility	Source of Requirement
Pre-execution Phase		
Pre-construction inspections will be undertaken no more than four weeks prior to construction works commencing.	ElectraNet Construction Manager	SEMP
Execution Phase		
Vegetation Clearance Register implemented to record the type and area of clearing and provided to ElectraNet monthly. Vegetation Clearance Register to include: <ul style="list-style-type: none"> Type of ground disturbance (i.e. slashing, clearing and grubbing) Clearance areas will be measured based on surveyed or GPS data Area of rehabilitation for each CAZ. 	Environmental Advisor	SEMP ECS
Pre-clearing Survey Register to be implemented to record results from pre-clearing surveys. Pre-clearing surveys to include: <ul style="list-style-type: none"> Records of fauna habitat features (e.g. hollows) Records of raptor nests Results from Malleefowl mound inspections Time and date of pre-clearing surveys. 	Environmental Advisor	SEMP ECS EPBC
The following data (m ²) to be provided to ElectraNet within the agreed monthly report template: <ul style="list-style-type: none"> Area cleared during the previous reporting period (permanent disturbance) Total project area cleared (permanent disturbance) Area cleared during the previous reporting period (temporary disturbance) Total project area cleared (temporary disturbance). 	Environmental Advisor	SEMP ECS
Following feral animal baiting exercises, post-control monitoring will be undertaken to assess non-target kills and secondary poisoning events within two weeks.	Environmental Advisor	EPBC
Fortnightly environmental inspections through Environmental Inspection Checklist	Environmental Advisor	SEMP
Post-execution Phase		
Post-construction inspections will be undertaken within four weeks of construction completion	ElectraNet Construction Manager	SEMP

13 THREATENED FAUNA FACT SHEET

Name	Photo	Description
Western Grasswren		<p>Western Grasswren (<i>Amytornis textilis myall</i>) are medium-sized, thickset wrens with long bills and long tails. Their upper parts are dark brown to rufous with paler streaks, while the underparts are pale grey-buff with fine streaking from the chin to the breast. They have a white patch on the centre of the belly.</p> <p>Most of their habitat is found along drainage lines but occasionally habitat also includes low rocky hills and semi-arid low woodlands.</p>
Malleefowl		<p>Malleefowl (<i>Leipoa ocellata</i>) are large ground birds, weighing up to 2.2 kg. Their wings and back are mottled and barred with grey, black, brown and white. Their head and neck are grey with a distinctive black stripe down the foreneck. They have large, strong legs and feet.</p> <p>Typical Malleefowl habitat includes semi-arid to arid low woodlands, Mallee and shrublands. A sandy substrate with an abundance of leaf litter is required for construction of nest mounds.</p>
Sandhill Dunnart		<p>Sandhill Dunnart (<i>Sminthopsis psammophila</i>) is a small, carnivorous marsupial. It has a head-body length of 8-12 cm and a tail length of 10-12 cm. It has a pale grey head and upper body, with black marking extending from the shoulders to between the eyes. Feet and underside are white.</p> <p>Sandhill Dunnarts are found in sandy habitats in semi-arid to arid areas. Their habitat is generally low open Mallee woodland with a diverse shrub layer and relatively dense cover of spinifex grasses.</p>
Southern Emu-wren		<p>Southern Emu-wren (<i>Stipiturus malachurus parimeda</i>) is a small bird with an overall length of 17-19 cm. The tail is long, stick-like and comprised of only six emu-like feathers. The feathers of this bird is very pale in comparison to most other subspecies of southern emu-wren.</p> <p>They occur in three types of habitat shrubland or heathland, Mallee and sedgeland. These habitats are characterised by one or two layers of dense vegetation up to 3 m in height.</p>

14 THREATENED FLORA FACT SHEET

Name	Photo	Description
Jumping-jack wattle		<p>Jumping-jack wattle (<i>Acacia enterocarpa</i>) is a dense, rounded, sprawling, prickly shrub growing to 1.5 m high. The seed pods are typically zigzag-shaped and bear a resemblance to the fire cracker known as the jumping-jack, hence the common name.</p> <p>This wattle has been recorded as occurring in woodland to open forest on sandy alkaline and hard neutral yellow duplex soils, red shallow porous loam and clays with an annual rainfall of 300-500 mm.</p>
Inland green-comb spider orchid		<p>Inland green-comb spider orchid (<i>Caladenia tensa</i>) is a perennial orchid growing to 30 cm in height when flowering. It has single flowers, 5 cm across and perianth segments are green with crimson median stripes.</p> <p>This spider orchid grows on red-brown sandy loams on rises in open woodland dominated by yellow gum.</p>
Silver Daisy-bush		<p>Silver daisy-bush (<i>Olearia pannosa</i> ssp. <i>pannosa</i>) is a low spreading shrub less than 1.5 m tall with flowering from August to October.</p> <p>This species grows on hill slopes with hard mottled-yellow and red duplex soils. It occurs in Mallee, woodland and forest vegetation communities, often in association with sugar gum, drooping she-oak and broom bush.</p>
Tufted bush-pea		<p>Tufted bush-pea (<i>Pultenaea trichophylla</i>) is a small slender shrub to 20–50 cm high, with reddish ascending or prostrate branches, small leaves and red and yellow pea flowers.</p> <p>It grows on pale brown or grey, acidic, sandy or clay loam over ironstone in gullies, on hillcrests and on undulating plains. It can also be found on acidic gravelly sandy loam in open depressions and hard, red-brown loam over lateritic soils on hillslopes with outcropping quartzite.</p>