

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

**EPLink Weed, Pest and Disease Management Sub-plan**

Customer: ElectraNet

Contract Number: EC.14172B

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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	Update	Plan updated with results of summer weed survey and EPBC approval
2	15/11/2021	Update	Section 7.3 added to included management process for landholder complaints; Section 8.1.2.2 updated for managed weed zones; 8.1.3 updated with requirement to advise ElectraNet; Section 8.5 updated with inspection requirements; Table 4 and 5 revised; management table in Section 9.4 updated.
3	05/03/2022	Update	Table 4 revised; Section 8.4.2 and 8.5.2 updated; Table in Section 10 updated
<b>4</b>	<b>25/05/2022</b>	<b>Updated</b>	<b>Updated in response to ElectraNet's 'Contractors Environmental Management Sub-Plan Review'</b> <b>Section 6.3.2 updated and Appendix 1 added.</b>

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## 1 PURPOSE

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The purpose of this sub-plan is to describe how weeds, pests and disease 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

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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 weed, pest and disease management for the project.

This sub-plan incorporates 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 EPBC Approval for Eyre Peninsula Transmission Line, between Cultana and Port Lincoln, SA, (EPBC 2019/8583), Eyre Peninsula Reinforcement Project - Weed, Pest and Disease Management Plan (February 2020).

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

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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

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### 4.1 Legislation

The *Landscape South Australia Act 2019* (LSA Act) administered by the Department of Environment and Water (DEW) replaced the *Natural Resources Management Act 2004* on July 1 2020. Under this new legislation, natural resource management regions have been replaced by landscape regions. The Eyre Peninsula Landscape Board covers the regional area of the Eyre Peninsula.

The Eyre Peninsula Landscape Board works closely with land managers to find ways of reducing the number of pests, help restore native biodiversity and reduce losses in the agricultural industry. The Board has a pest management program to assist land managers identify and manage pest plants and animals on their properties. This program is focussed on:

- preventing the establishment of identified high risk pests
- assessing and prioritising existing pests
- providing information and advice about pest control

#### 4.1.1 Weeds or Declared Plants

Pest plants that pose a significant threat to agriculture, environment and public are called declared plants and landowners have a legal responsibility to manage these plants.

The *Landscape South Australia Act 2019* (LSA Act) sets out the legal framework for:

- banning the sale of declared plants
- controlling the movement of declared plants
- destroying or controlling infestations of declared plants
- notifying authorities when an infestation is detected

The weed classifications that have been referenced in this sub-plan in regards to weed management priorities in accordance with the LSA Act and Australian government requirements are summarised in the Table below and detailed in the following Sections.

Table 1: Weed classification and requirements

Weed Classification		Description	Requirements
Declared plants	DP	Weeds which require control and/or management under the LSA Act.	Declared plants must be managed in accordance with the LSA Act.
Priority weeds of the Eyre Peninsula	PW	Declared weeds with a particular risk to the Eyre Peninsula.	Implementation of measures in Pest Management Plans for those priority weeds with a plan developed.
Weeds of National Significance	WoNS	Identified by the Australian government as posing a risk	WoNS have been identified although no additional management measures are required.
Environmental weeds	EW	Weeds that have not been declared under the LSA Act but pose significant risks	Environmental weeds have been identified although no additional management measures are required.

#### 4.1.1.1 Declared Plants

Under the LSA Act, declared plants have different levels of regulation based on their properties and potential to spread:

- Movement: declared plant must not be moved on a public road with appropriate permits
- Sale: declared plant must not be sold
- Control: Landholders are required to take action to destroy or contain certain declared plants on their property
- Notification: the presence and locations of declared plants must be reported to the Landscape Region

Each declared plant is assigned a Class which determines the applicable level of regulation and associated requirements for management. Declared plants are also assigned a Category which determines the permitting, notification and penalties associated with the legislated requirements.

#### 4.1.1.2 Priority Weeds of Eyre Peninsula

The Landscape Region of the Eyre Peninsula has identified several declared pest plants as priority weeds of the region. Some of these priority weeds have Pest Management Plans for management, including different management measures for native vegetation and agricultural land.

#### 4.1.1.3 Weeds of National Significance

Weeds of National Significance (WoNS) are those specified by the Australian Government based on an assessment process that prioritises weeds based on their invasiveness, potential for spread and environmental, social and economic impacts.

#### 4.1.1.4 Environmental Weeds

While not declared plants or WoNS, environmental weeds are those that have significant potential for further spread if unregulated.

#### 4.1.1.5 Landholder Priority Weeds

While not declared plants, some weeds have been identified as being a priority to prevent their spread through discussions with landholders within the project area.

## 4.1.2 Pest Animals

Introduced animals are not native to Australia. Pest animals are introduced animals that have been deliberately or accidentally released and are a serious threat to South Australia's primary industries, natural environment and public safety. Declared animals under the LSA Act may have restrictions in place for keeping; moving; selling; releasing; controlling and destroying.

## 4.1.3 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.

The EPBC approval for the project was granted in March 2021. The approval conditions include:

- Weed and phytophthora management requirements; and
- Feral animal management.

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

## 4.2 Diseases

Notifiable diseases are animal diseases that are a national threat. There is a legal requirement that any suspected or diagnosed cases of notifiable diseases are reported immediately to the appropriate government department. An example of a notifiable disease under the *Livestock Act 1997* (SA) is footrot in sheep and goats.

Another relevant example of disease management requirements under legislation is Phytophthora. Phytophthora dieback occurs in native bushlands, farmlands, nurseries and gardens. It is a major threat to some of Australia's threatened native species and ecological communities. *Phytophthora cinnamomi* is listed as a key threatening process under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) with management required in accordance with the *Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomic* (Commonwealth of Australia, 2014).

## 4.3 Standards and Guidelines

Standards and guidelines applicable to weed, pest and disease management are listed in the following table.

Australian Standards and Guidance Material
National Farm Biosecurity Manual, Grazing Livestock Production (Animal Health Australia, 2018)
Strategic Plan for the Eyre Peninsula Natural Resources Management Region 2017-2027 (Natural Resources Eyre Peninsula, 2017)
Weed Control Handbook for Declared Plants in South Australia (Government of South Australia, 2018)

## 4.4 Downer Documents

DOWNER DOCUMENTS	
<b>POLICIES</b>	
<b>DG-ZHAN-PO200</b>	Environmental Sustainability Policy
<b>PRINCIPLES</b>	
<b>DG-ZH-PN002</b>	10 Environmental Principles
<b>PROCEDURES</b>	
<b>DG-DM-PR003</b>	Operational Change Management Procedure
<b>DG-QA-PR003</b>	Internal Audits Procedure
<b>DG-RM-PR003</b>	Project Risk and Opportunity Management

<b>DG-ZH-PR006</b>	Incident Management Procedure
<b>DG-ZH-PR007</b>	Zero Harm Performance Monitoring and Reporting Procedure
<b>DG-ZH-PR116.1</b>	Inspections Procedure
<b>STANDARDS</b>	
<b>DG-HR-ST013</b>	Training & Competency Management Standard
<b>DG-ZH-ST002</b>	Legislative and Other Requirements Standard
<b>DG-ZH-ST013</b>	Zero Harm Worker Consultation Standard
<b>DA-ZH-ST071</b>	Flora and Fauna Management
<b>DG-ZH-ST071.1</b>	Biosecurity Management Standard
<b>PROJECT SPECIFIC DOCUMENTS</b>	
<b>PLANS</b>	
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-0025	Biodiversity and Rehabilitation 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)

## 4.5 Approvals and Client Documents

<b>PROJECT APPROVALS AND CLIENT DOCUMENTS</b>	
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)
SEMP	ElectraNet Scope for Environmental Management Plan (SEMP) 14172B - EPLink Major Works Contract - Design and Construct (February 2021)
S&S	ElectraNet Safety and Sustainability Standards (October 2020)
<b>REFERENCE PLANS AND REPORTS</b>	
WPD Plan	Eyre Peninsula Reinforcement Project - Weed, Pest and Disease Management Plan (February 2020). Prepared by Golder Associates for ElectraNet
NRBM	National Farm Biosecurity Manual, Grazing Livestock Production (Animal Health Australia, 2018)



## 5 DEFINITIONS

The following terms are used in this document.

Construction Activity Zone (CAZ)	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"> <li>New tracks, pads and facilities</li> <li>Maintenance of existing access tracks including grading, widening or stabilisation</li> <li>Areas of disturbance associated with demolition works.</li> </ul> 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 construction phase of this 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.

## 6 IDENTIFIED SPECIES

This section details the weeds, pest animal and diseases that have been identified within the project area.

### 6.1 Weed Species

Records of the presence of weed species within or adjacent to the project area have been provided by the Department for Environment and Water (Natural Resources). ElectraNet and Downer undertook baseline winter weed surveys of the project area between July and September 2020. A baseline summer weed survey was undertaken February 2021.

The Table below provides a list of known weed species that have been identified within the project area from the following sources:

- Department for Environment and Water (Natural Resources) weed records of the Eyre Peninsula provided to Downer on 16/07/20;
- Winter weed survey undertaken by ElectraNet on 28/06/20 to 03/07/20;
- Baseline winter weed survey undertaken by Irongrass Environmental between 24/08/20 to 27/08/20 and George Pedlar between 20/08/20 to 26/09/20;
- Baseline summer weed survey undertaken by Irongrass Environmental between 07/02/21 to 09/02/21 and George Pedlar between 17/02/21 to 26/02/21; and
- Ongoing environmental inspections undertaken by Downer during construction works.

A list of the presence of weed species at each structure location is provided in Appendix 1.

Table 2: Weeds identified within the project area

Common Name	Scientific Name	Common Name	Scientific Name
African Boxthorn	<i>Lycium ferocissimum</i>	Pimpernel	<i>Lysimachia arvensisi</i>
African Daisy	<i>Dimorphotheca aurantiaca</i>	Potato Weed	<i>Heliotropium europaeum</i>
African Rue	<i>Peganum harmala</i>	Prickly Lettuce	<i>Lactuca serriola</i>
Apple of Sodom	<i>Solanum linnaeanum</i>	Prickly Pear	<i>Opuntia stricta</i>
Arabian grass	<i>Schismus barbatus</i>	Rice Millet	<i>Piptatherum miliaceum</i>
Bathurst Burr	<i>Xanthium spinosum</i>	Rough Dogs Tail	<i>Cynosurus echinatus</i>
Bamboo	<i>Phyllostachys spp.</i>	Rye grass	<i>Lolium spp</i>
Barley Grass	<i>Hordeum vulgare</i>	Salvation Jane	<i>Echium plantagineum</i>
Bifora	<i>Bifora testiculata</i>	Salvia	<i>Salvia verbenaca</i>



Blackberry	<i>Rubus fruticosus aggregate</i>	Sea Barley Grass	<i>Hordeum marinum</i>
Blanket Weed	<i>Galenia pubescens</i>	Shepherd's Purse	<i>Capsela bursa-pastoris</i>
Bridal Creeper	<i>Asparagus asparagoides</i>	Silver Grass	<i>Vulpia spp</i>
Bridal Veil	<i>Asparagus declinatus</i>	Skeleton Weed	<i>Chondrilla juncea</i>
Brome	<i>Bromus diandrus</i> <i>Bromus rubens</i>	Smooth mustard	<i>Sisymbrium erysimoides</i>
Buckbush	<i>Salsola tragus</i>	Sorrel	<i>Rumex acetosella</i>
Caltrop	<i>Tribulus terrestris</i>	Sheep Sorrel	<i>Acetosella vulgaris</i>
Canary Grass	<i>Phalaris aquatica</i>	Soursob	<i>Oxalis pes-caprae</i>
Cape Tulip	<i>Moraea flaccida</i> <i>Moraea miniata</i>	Sparaxis	<i>Sparaxis spp</i>
Capeweed	<i>Arctotheca calendula</i>	Spiny Rush	<i>Juncus acutus</i>
Cats Ears	<i>Hypochaeris glabra/ radicata</i>	Spreading Night Phlox	<i>Zaluzianskya divaricata</i>
Crassula	<i>Crassula multicaeva</i>	Stalice	<i>Limonium lobatum</i>
Cretan Weed	<i>Hedypnois rhagadioloides</i>	Stinging Nettle	<i>Urtica urens</i>
Dock	<i>Rumex spp</i>	Stink wort	<i>Dittrichia graveolens</i>
Fat Hen	<i>Chenopodium album</i>	Stinking lovegrass	<i>Eragrostis cilianensis</i>
False Caper	<i>Euphorbia terracina</i>	Sweet Scabious	<i>Scabious atropurpurea</i>
Flat Leaf Dandelion	<i>Taraxacum officinale</i>	Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>
Fleabane	<i>Conyza bonariensis</i>	Thistle - Milk	<i>Sonchus oleraceous</i>
Fountain Grass	<i>Cenchrus setaceus</i>	Tree Tobacco	<i>Nicotiana glauca</i>
Fumitory	<i>Fumaria officinalis</i>	Thistle - Saffron	<i>Carthamus lanatus</i>
Gazania	<i>Gazania spp</i>	Thistle - Scotch	<i>Onopordum acanthium</i>
Geranium	<i>Geranium spp</i>	Thistle - Stemless	<i>Onopordum acaulon</i>
Gorse	<i>Ulex europaeus</i>	Three cornered jack	<i>Emex australis</i>
Guildford grass	<i>Romulea rosea</i>	Three Horned Bedstraw	<i>Galium tricornutum</i>
Hares Tail Grass	<i>Lagurus ovatus</i>	Toadflax	<i>Linaria vulgaris</i>
Horehound	<i>Marrubium vulgare</i>	Veldgrass (Annual)	<i>Ehrharta longiflora</i>
Ice plant	<i>Mesembryanthemum crystallinum</i>	Veldgrass (Perennial)	<i>Ehrharta calycina</i>
Indian Hedge Mustard	<i>Sisymbrium orientale</i>	Verbena	<i>Verbena supina</i>
Jersey Cudweed	<i>Helichrysum luteoalbum</i>	Vetch	<i>Vicia sativa</i>
Lincoln Weed	<i>Diplotaxis tenuifolia</i>	Ward's weed	<i>Carrichtera annua</i>
Long storks bill	<i>Erodium botrys</i>	Wavy Leaf Lavender	<i>Limonium sinuatum</i>
Mallow	<i>Malva spp</i>	Watercress	<i>Rorippa spp</i>
Marshmallow	<i>Althaea officinalis</i>	Wild Artichoke	<i>Cynara cardunculus</i>
Matchheads	<i>Psilocalon granulicaule</i>	Wild Oat	<i>Avena fatua</i>
Medic	<i>Medicago spp</i>	Wild Olive	<i>Olea europaea</i>
Melon - Paddy	<i>Cucumis myriocarpus</i>	Wild Poppy	<i>Papaver spp</i>
Melon - Wild	<i>Citrullus lanatus</i>	Wild Radish	<i>Raphanus raphanistrum</i>
Mintweed	<i>Salvia reflexa</i>	Wild Sage	<i>Salvia verbenaca</i>

Nightshade - Blackberry	<i>Solanum nigrum</i>	Wild Turnip	<i>Brassica tournefortii</i>
Nightshade - Silver leaf	<i>Solanum elaeagnifolium</i>	Windmill Grass	<i>Chlorus gayana</i>
Onion Weed	<i>Asphodelus fistulosus</i>	Winter Grass	<i>Poa annua</i>
Pampas grass	<i>Cortaderia spp</i>	Wireweed	<i>Polygonum aviculare</i>
Peppercress	<i>Lepidium spp</i>	Witchgrass	<i>Panicum capillare</i>
Phalaris	<i>Phalaris aquatica</i>	Yorkshire Fog	<i>Holcus lanatus</i>
Pheasant's eye	<i>Adonis annua</i>		

### 6.1.1 Priority Weeds

Declared weeds will be the priority for weed management within the project area. In addition, weeds that have been identified as a priority for landholders will be managed within the project area. Declared plants (DP) under the LSA Act, priority weeds (PW) of the Eyre Peninsula, Weeds of National Significance (WoNS) and landholder priority weeds (LPW) are listed in the Table below. The presence of priority weed species at each structure location is provided in Appendix 1.

Table 3: Priority weed species for management during the project

Common Name	Scientific Name	DP	PW	WoNS	LPW
African Boxthorn	<i>Lycium ferocissimum</i>	Y	Y	Y	
African Lovegrass	<i>Eragrostis curvula</i>	Y	Y		
Apple of Sodom	<i>Solanum linnaeanum</i>	Y			
Aleppo Pine	<i>Pinus halepensis</i>	Y	Y		
Bathurst burr	<i>Xanthium spinosum</i>	Y	Y		Y
Blackberry	<i>Rubus fruticosus</i>	Y	Y	Y	
Boneseed	<i>Chrysanthemoides monilifera</i>	Y	Y	Y	
Bridal Creeper	<i>Asparagus asparagoides and Asparagus declinatus</i>	Y	Y	Y	
Bridal veil	<i>Asparagus declinatus</i>	Y	Y	Y	
Buffel grass	<i>Cenchrus ciliaris, C. pennisetiformis</i>	Y	Y		Y
Cape tulip	<i>Moraea flaccid and Moraea miniata</i>	Y	Y		
Caltrop	<i>Tribulus terrestris</i>	Y	Y		
Carrion flower	<i>Orbea variegata</i>	Y	Y		
Cutleaf mignonette	<i>Reseda lutea</i>	Y	Y		
False Caper	<i>Euphorbia terracina</i>	Y			
Flax-leafed broom	<i>Genista linifolia</i>		Y	Y	
Fountain grass	<i>Pennisetum setaceum</i>	Y	Y		
Gazania	<i>Gazania sp.</i>		Y		
Gorse	<i>Ulex europaeus</i>	Y	Y	Y	
Horehound	<i>Marrubium vulgare</i>	Y			
Italian buckthorn	<i>Rhamnus alaternus</i>		Y		
Khaki Weed	<i>Alternanthera pungens</i>	Y	Y		
Mesquite	<i>Prosopis spp</i>	Y	Y	Y	
Parkinsonia	<i>Cercidium spp</i>	Y	Y		
Polygala	<i>Polygalaceae</i>		Y		
Prickly Pear	<i>Opuntia sp</i>	Y	Y	Y	

Salvation Jane	<i>Echium plantagineum</i>	Y	Y		
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>	Y	Y	Y	
Wild olive	<i>Olea europaea</i>	Y	Y		
Wild radish	<i>Raphanus raphanistrum</i>				Y

## 6.2 Pest Species

The following pest animals have been identified on the Eyre Peninsula and are priority for management (Natural Resources Eyre Peninsula, 2017):

- Dingo (*Canis lupus*) – south of dog fence
- Goat (*Capra hircus*)
- Red Deer (*Cervus elaphus*) and Fallow Deer (*Dama dama*)
- Fox (*Vulpes vulpes*)
- Rabbit (*Oryctolagus cuniculus*)
- House mouse (*Rattus norvegicus*)
- Feral cat (*Felis catus*).

## 6.3 Diseases

### 6.3.1 Footrot

Footrot is a contagious bacterial disease in sheep. Footrot is classified as inflammation of the interdigital skin and potential under-running of the hoof caused by the bacteria *Dichelobacter nodosus*. There have been confirmed cases of footrot on the Eyre Peninsula (Department of Primary Industries and Regions, 2020).

Like all diseases, there are three main factors that affect the development and severity of footrot in a flock or sheep, they are:

- Agent: In the case of footrot this is the bacteria *D. nodosus* and the potential virulence of the strain of *D. nodosus* present in the flock
- Host: How susceptible the sheep in the flock are, some breeds are more susceptible to footrot than others. No breeds of sheep are resistant to footrot.
- Environment: Footrot requires warm moist conditions to develop and adequate pasture length to enable transmission of the bacteria from sheep to sheep.

### 6.3.2 Phytophthora

Phytophthora is a soil-borne plant pathogen which attacks the roots of susceptible plants causing disease, Phytophthora dieback, and death. There are approximately 25 species of Phytophthora with *Phytophthora cinnamomi* being more common in South Australia.

As the disease affects plant roots, Phytophthora is often difficult to detect until the plant is fatally affected. Susceptible species can suddenly die, while less susceptible species will show crown decline symptoms such as leaf yellowing, death of primary leaf bearing branches and epicormic growth, as well as necrotic areas at the base of the tree. Eventually, these less susceptible species will also die due to the symptoms.

#### 6.3.2.1 Risk Factors

This pathogen can spread easily through soil, water and organic matter and activities involving the movement of these mediums. The pathogen can remain dormant for long periods in dry conditions and is impossible to eradicate from infested areas.

Phytophthora prefers warm, moist conditions with temperatures between 15°C and 30°C and rainfall greater than 400 mm/year. It also prefers neutral to acid soils. Many native plants are susceptible to Phytophthora so the risk of spread is heightened in, or adjacent to, areas of native vegetation.

The likelihood of occurrence increases where:

- Average annual rainfall exceeds 400 mm/year
- Warm, moist conditions occur with poor drainage is present
- Neutral to acidic soils present
- Susceptible plants are present.

Given the climatic conditions, the lower Eyre Peninsula is generally considered to have a moderate to high potential threat of Phytophthora (Golder Associates, 2020). The area south of Bratten Way on 132 kV, south of Structure 665, is likely to have a higher risk of phytophthora based on average annual rainfall (Golder Associates, 2020). Note, Department of Environment and Water classifies a High Risk Management Zone as an area where Phytophthora is confirmed (by laboratory testing) or is suspected from a visual inspection (indicator plants showing typical symptoms of infection).

A review of the available spatial data determined that no Phytophthora infestations have been recorded within the project area as shown in Figure 1 (Government of South Australia, 2020). The closest Phytophthora records to the transmission line within NatureMaps are approximately 3 km from the transmission line.

During the summer weed and Phytophthora survey, the presence of Phytophthora (ie. signs of dieback on indicator native vegetation species) was opportunistically observed by independent consultants along the transmission line. Only one location was identified as having a potential for Phytophthora dieback on the 132 kV line near Structure 640. Further clarification of this potential Phytophthora dieback location by the consultant noted that the death of the tree was most likely to be due to compaction by stock, and not Phytophthora, due to the following reasons:

- Tree was most likely *Eucalyptus odorata* which is not an indicator species for dieback
- There was no indication further downhill of Phytophthora dieback
- Given the distance to any known infestation of Phytophthora (Irongrass Environmental, 2021).

Therefore based on the results of the summer weed and Phytophthora Survey, the easement is classified as a Low or Moderate Risk Management Zone with no known High Risk Management Zones along the transmission line route.

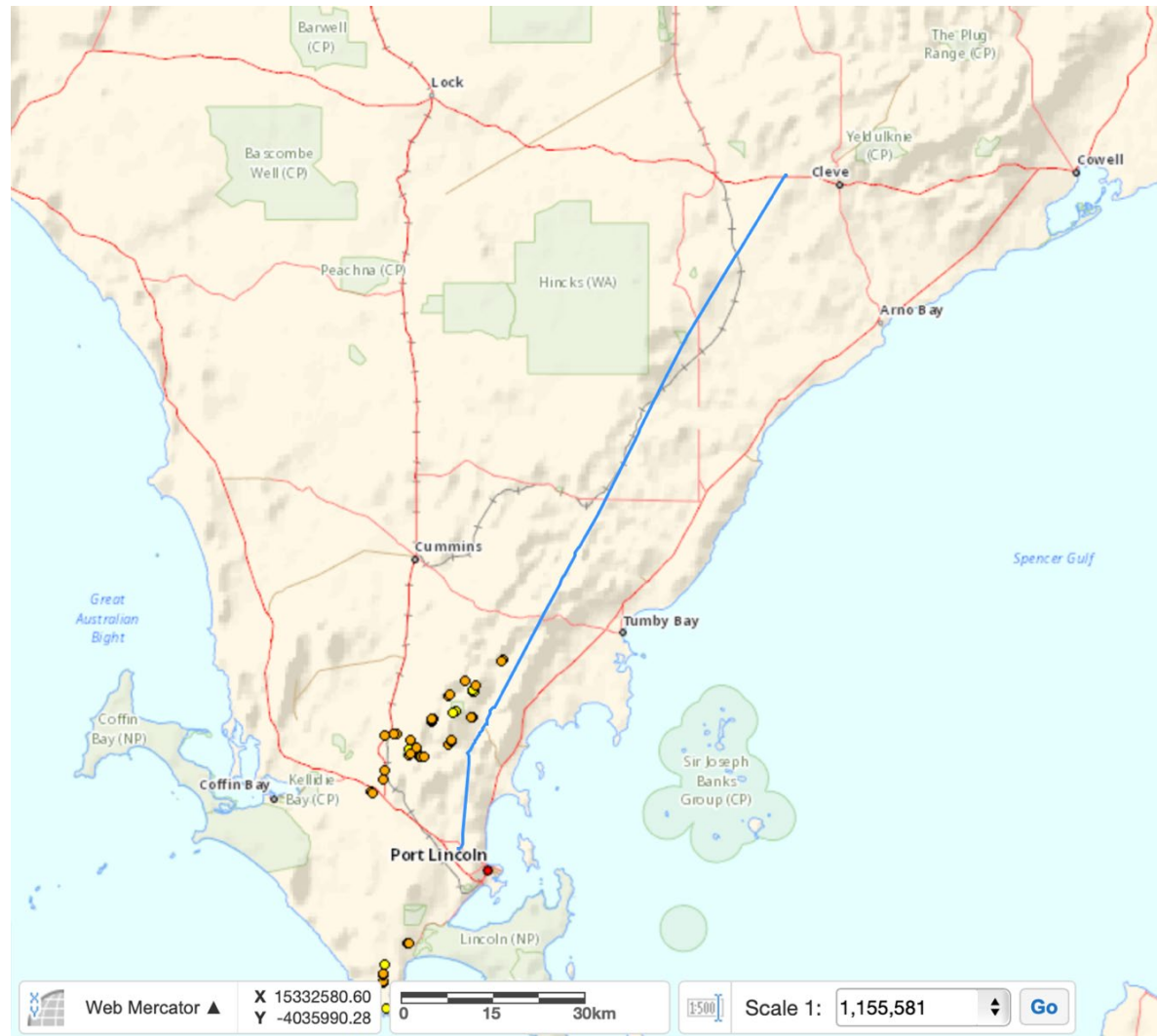


Figure 1: *Phythophthora* records near the 132 kV line (Government of South Australia, 2020)

## **7 CONSTRUCTION IMPACTS**

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### **7.1 Introduction of New Species**

The transport of vehicles, machinery and equipment to the Eyre Peninsula for the project has the potential to introduce new weeds, pests or diseases.

### **7.2 Spread of Existing Species**

Construction activities have the potential to spread of weeds through the movement of soil and plant material on vehicles, machinery and equipment along the transmission line alignment. Further, construction activities involving clearing and disturbance increase the opportunities for weeds to establish in new areas.

Also construction activities have the potential to spread *Phytophthora* through the movement of machinery, vehicles, and equipment along the transmission line alignment as well as on footwear by carrying soil and plant material.

### **7.3 Landholder Complaints**

All landholder complaints in regards to weed infestations in or adjacent to the easement will be reported, investigated and management measures implemented as required.

All landholder complaints will be verbally reported to ElectraNet within 1 hour of identification outlining factual information. Landholder complaints will be reported through ElectraNet's online Incident Management System (IMS). Further information on management of landholder complaints is detailed in the Landholder Liaison Sub-plan.

As part of the investigation of landholder complaints regarding weed infestations, the Downer Environmental Advisor will inspect the impacted area for weeds and implement control measures as detailed in Section 8.5 as required. The Downer Environmental Advisor will notify ElectraNet Environmental Officer of the outcome of the weed inspection, complaint investigation and specific management measures implemented.

### **7.4 Pest Animal Movement**

Construction activities have the potential to increase pest animal occurrence through vegetation clearing providing corridors for pest animals to access previously inaccessible areas and increasing potential predation of native species. There is also a risk of putrescibles attracting pest animals to construction areas, if not properly managed.

## **8 WEED MITIGATION AND CONTROL**

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The following mitigation and control strategies will be undertaken to mitigate the potential impacts associated with weeds.

### **8.1 Weed Zones**

The project area has been divided into weed zones based on the presence of weed species as well as the land use and/or landholder requirements. The weed zones are low, medium, high or managed weed zone as detailed below.

#### **8.1.1 Low, Medium and High Weed Zones**

The three main weed zones are low, medium or high. Areas that have been designated as a low weed zone have few weeds present (approximately 0 to 5 weed species recorded) and are typically located within areas with high environmental value such as a Conservation Reserve or Crown Land.

Medium weed zone areas have some weeds present (approximately 5 to 15 weed species recorded) and are typically located within agricultural land use areas such as pasture or cropping. While high weed zone areas have a higher number of weeds present (approximately 15 or more weed species recorded) and also located



within agricultural land use areas. The designation of the weed zones across the transmission line are provided in Table 4 and Table 5.

## 8.1.2 Managed Weed Zones

These zones have specific weed management requirements. The managed weed zones are listed in Table 4 and Table 5 and detailed below:

- Between 275 kV Str 140-142 and access track into Str 141 from Cowell-Kimba Road
- On 275 kV line from Cowell-Kimba Road to Str 150
- 132 kV between Str 627-632

### 8.1.2.1 275 kV Managed Weed Zones

There two managed weed zones on the 275 kV line associated with cleared pasture/crop paddocks that contain weeds that are not present within native vegetation of the surrounding low weed zone areas.

Since the commencement of construction, weed inspection and management measures have been implemented to create weed free access routes, laydown areas and work areas for vehicles, machinery and equipment within these two managed weed zone areas. These areas are now classified as low weed zones. There will be no vehicle or personnel access outside of the designated access routes and work areas with the implementation of No Go Zone signs and flagging, as required.

### 8.1.2.2 132 kV Managed Weed Zone

There is one managed weed zone on the 132 kV line with specific weed hygiene requirements. Prior to accessing Structures 627-632, all vehicles, machinery and equipment must be washed down to remove soil or other organic materials using the washdown facility within this property. When the work crew have washed down, they can leave this property staying on roads and re-enter this property without the requirement to washdown again.

Then following completion of work between Structures 627-632, all vehicles, machinery and equipment must be washed down using the washdown facility within this property. For the drilling rig that will be travelling along the line from structure to structure, temporary washdown facilities will be established on properties boundaries.

## 8.1.3 Additional Areas

For any additional areas to be used for construction (e.g. quarries) that have not been subject to the baseline weed surveys, these areas have been classified initially as a High Weed Zone. Prior to works commencing, these areas will be inspected by Downer Environmental Advisor and weed control measures implemented as required. These areas will then be reclassified based on the presence of weeds.

The Downer Environmental Advisor will notify ElectraNet Environmental Officer of the outcome of the weed inspections undertaken for areas not covered by the project baseline weed surveys as well as any management measures that are implemented.



Table 4: 275 kV Weed Zones

Str	Weed Zone	Ground Engaging Requirements	General Access Requirements	Washdown Location	Weed Management Requirement
Prior to commencing			Inspect and wash down of all vehicles and machinery prior to commencing onsite	Whyalla office, Shed Tank camp or commercial facilities	
1-24	Low Weed Zone	Inspect and wash down prior to entering from medium weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering from medium weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Whyalla camp and/or commercial facilities. Temporary inspection/clean down for vehicles travelling from Str 25 to 24.	Inspection and management of declared weed species within CAZ including African Rue
25-84	Medium Weed Zone		All vehicles and machinery limited to CAZ		Inspection and management of declared weed species within CAZ including Horehound and Three Cornered Jack
85-167	Low Weed Zone	Inspect and wash down prior to entering from medium weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering from medium weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Whyalla office, Shed Tank camp or commercial facilities Temporary inspection/clean down for vehicles travelling from 84 to 85 or 168 to 167.	Inspection and management of declared weed species within CAZ including Horehound and Skeleton Weed
168-236	Medium Weed Zone		All vehicles and machinery limited to CAZ		Inspection and management of declared weed species within CAZ including African Boxthorn, Bridal Creeper, Gazania, Horehound, Salvation Jane, and Silver Leaf Nightshade
Prior to mobilising to 132 kV line			Inspect and wash down of all vehicles and machinery prior to mobilising to 132 kV	Shed Tank camp, Tumby Bay camp or commercial facilities	

Table 5: 132 kV Weed Zones

Str	Weed Zone	Ground Engaging Requirements	General Access Requirements	Washdown Location	Weed Management Requirement
Prior to commencing or mobilising to 275 kV line			Inspect and wash down of all vehicles and machinery prior to commencing onsite	Shed Tank camp, Tumby Bay camp or commercial facilities	
500-526	Medium Weed Zone	Inspect and wash down when entering from high weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering from high weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 527 to 526	Inspection and management of declared weed species within CAZ including African Boxthorn, Bridal Creeper, Horehound, Lincoln Weed, Silver Leaf Nightshade, Skeleton Weed and Three Cornered Jack
527-531	High Weed Zone		All vehicles and machinery limited to CAZ	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 527 to 528 or Str 531 to 532	Inspection and management of declared weed species within CAZ including Caltrop, Horehound, Silver Leaf Nightshade and Three Corner Jack
532-566	Medium Weed Zone	Inspect and wash down when entering from high weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering from high weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 531 to 532 or Str 567 to 566	Inspection and management of weeds within CAZ including declared weed species, African Boxthorn, Bridal Creeper, Horehound, Lincoln Weed, Silver Leaf Nightshade, Skeleton Weed and Three Cornered Jack, in this zone
567-597	High Weed Zone		All vehicles and machinery limited to CAZ	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 598 or Str 567	Inspection and management of declared weed species within CAZ including African Boxthorn, Bridal Creeper, False Caper, Horehound, Lincoln Weed, Skeleton Weed and Three Cornered Jack
598-626	Medium Weed Zone	Inspect and wash down when entering from high weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering from high weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 597 to 598	Inspection and management of declared weed species within CAZ including African Boxthorn, Bifora, Bridal Creeper, Fountain Grass, Horehound and Three Horned Bedstraw and landholder priority weed, Wild Radish

627-632	Managed Weed Sub Zone 3	Wash down required when entering and exiting property When vehicles have washed down, they can leave property staying on roads and re-enter property without washing down again		Semi-permanent wash down within property for all vehicles working between Str 626-632. Two temporary washdowns (ie. geofabric area) on boundaries for drilling rig only travelling from Str 627 to 626 and 633 to 632	Inspection and management of declared weed species within CAZ including African Boxthorn, Horehound and Three Horned Bedstraw
633-648	High Weed Zone		All vehicles and machinery limited to CAZ	Tumby Bay camp or commercial facilities or washdown bay at 648 or 628	Inspection and management of declared weed species within CAZ including African Boxthorn, Biflora and Bridal Creeper
649-688	Medium Weed Zone	Inspect and clean down when entering from high weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering from high weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 648 to 649 and 689 to 688	Inspection and management of declared weed species within CAZ including African Boxthorn, Blackberry, Bridal Creeper, Cape Tulip Horehound, Salvation Jane and Spiny Rush and landholder priority weed, Wild Radish
689-707	High Weed Zone		All vehicles and machinery limited to CAZ	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 688 and 708	Inspection and management of declared weed species within CAZ including African Boxthorn, Blackberry, Bridal Creeper, Cape Tulip, Fountain Grass, Salvation Jane and Wild Artichoke and landholder priority weed, Wild Radish
708-751	Medium Weed Zone	Inspect and clean down when entering from high weed zone	All vehicles and machinery limited to CAZ Inspect and clean down prior to entering medium weed zone: <ul style="list-style-type: none"> <li>• Dry weather: brush down</li> <li>• Wet weather: wash down</li> </ul>	Tumby Bay camp or commercial facilities Temporary inspection/clean down for vehicles travelling from Str 707 to 708	Inspection and management of declared weed species within CAZ including African Boxthorn, Blackberry, Bridal Creeper, Bridal Veil, Cape Tulip, False Caper, Gorse, Salvation Jane and Spiny Rush and landholder priority weed, Wild Radish

## 8.2 Vehicle and Machinery Hygiene

The spread of weeds and pathogens can be minimised by implementing best practice hygiene standards. All vehicles, machinery and equipment will be inspected upon arrival to the project area to ensure they are free of soil or other organic materials. If required, vehicles, machinery and equipment arriving to the project area will be cleaned down at the camp or commercial washdown facility to remove any soil or other organic materials prior to mobilising onto the transmission lines.

All vehicles, machinery and equipment will be inspected prior to travel between the transmission lines (275 kV and 132 kV) to ensure soil or other organic materials are not transferred between these areas. If required, vehicles, machinery and equipment will be cleaned down at the camp or commercial washdown facility to remove any soil or other organic materials prior to mobilising to the other transmission line.

In addition, inspection and clean down if required, locations have been designated along the transmission line in accordance with the weed zones. There is a requirement for inspection, and clean down as required for vehicles moving from higher to lower weed zones as described in the Table below. The requirements for inspection and clean down along the transmission lines are listed in Table 4 and Table 5.

Table 6: Weed zones inspection requirements

Weed Zone	Inspection and Clean Down as required
Low	When entering from medium or high weed management zone
Medium	When entering from high weed zone
High	No specific requirements

### 8.2.1 Inspection and Clean Down

There are different inspection and clean down requirements for vehicles, machinery and equipment depending on the risk of the spread of weeds associated with the phase of work, weather conditions and location.

For the phase of work, ground engaging or ground disturbance activities (ie. access and clearing, drilling rig) have a higher potential risk of spread of weeds. Therefore all earthmoving plant and machinery will be inspected and washed down prior to entering an area from a higher weed zone.

Following the establishment of the access tracks and structure pads (CAZ), the potential risk of spread of weeds is lower given the vegetation has been cleared, rolled or slashed and typically the topsoil has been removed. Therefore for general access during these phases of work (ie. foundations, assembly and erection), vehicles and machinery will be inspected and cleaned down as required. The requirement for clean down during these works will also be dependent on weather conditions. For example, following rain it is more likely that the wet soil on the access routes and structure pads will become stuck under vehicles and therefore a wet wash down may be required to remove soil. Prior to entering from a higher weed zone, the clean down requirements will be:

- Dry weather: brush down to remove any soil
- Wet weather: wash down.

Lastly, the one managed weed zone has specific inspection and wash down requirements. Prior to entry into this Managed Weed Zone, all vehicles, machinery and equipment must be washed down. In addition following completion of works within the Managed Weed Zone, all vehicles, machinery and equipment must be washed down.

When vehicles, machinery and equipment have inspected and cleaned down prior to entry into a weed zone, they can leave the zone staying on designated access routes, roads, camps and laydown areas and re-enter the same zone without the requirement for inspection and clean down again.

### 8.2.2 Clean Down Facilities

Existing commercial wash down facilities within towns will be utilised where available. However given the length of the transmission line, semi-permanent or temporary inspection and clean down facilities will be established for the project.

Semi-permanent wash down facilities will be established at the two camp sites. The camps are located approximately mid-way on the 275 kV line, Shed Tank Camp, and within Tumby Bay township, Tumby Bay camp.

Additional semi-permanent or temporary clean down facilities will be established along the transmission line to allow for onsite inspection and cleaning of vehicles and equipment as per the requirements in Table 4 and Table 5. The specific location of semi-permanent or temporary clean down facilities along the line are shown on ArcGIS mapping.

### 8.2.3 Constructing Clean Down Areas

Wash down areas, both temporary or semi-permanent, will be appropriately sized to capture wash water, approximately 0.5 m larger than the footprint of the largest machinery or vehicle to be cleaned. The base of the area will be lined with a durable material suitable to capture organic matter which is washed off, such as geofabric.

For semi-permanent washdown areas with a higher use frequency and lifespan, a more durable, impervious surface may be used such as concrete or plastic lined with rock. The perimeter of the wash down area will be bunded approximately 100 mm higher than the surrounding area to capture water runoff. The wash down bay will be graded to ensure wash water is directed to a sediment trap or basin, where required. Sediment traps may require routine desilting or dewatering with disposal of collected materials to a licensed waste disposal area.

Temporary inspection and clean down facilities will consist of an area of geofabric laid out which is large enough to capture all soil and plant material brushed or washed from machinery and vehicles. Following clean down of the vehicle or equipment, the geofabric will be rolled up to prevent spill of soil or plant material and removed for disposal at a licensed waste disposal area.



Figure 2: Examples of clean down facilities

### 8.2.4 Inspection Records

Following the inspection and clean down of all vehicles, machinery and equipment prior to commencing on the project, a *DG-ZH-FM071.2 Hygiene Inspection Form* will be completed. These forms are then filed into the relevant vehicle/machine accounts within the Plant Assessor database. This checklist covers all areas of vehicles, machinery and equipment with potential to hold weeds, soil, seed etc. Inspection of vehicles, machinery and equipment and sign off will be completed by a competent person.

For all other records of the inspection and clean down of vehicles, machinery and equipment, an inspection and wash down log will be completed by the operator. Operators are required to record their washdowns via the QR Code (see example below) or handwritten log books, which are available at semi-permanent and temporary inspection and clean down facilities.



**DOWNER CLEANDOWN/WASHDOWN  
RECORD**

**DOWNER EP LINK  
PERSONNEL**

Downer EPLink personnel please scan the below QR code to complete a record of your vehicle or plant wash down or clean down.



### 8.3 Minimise Disturbance

Ground disturbance and vegetation clearing can initiate weed growth. All ground and vegetation disturbance will be the minimum required for safe access during construction.

Different clearing methodologies will be implemented to minimise disturbance of vegetation rootstock and promote revegetation. See the Biodiversity and Rehabilitation Management Sub-plan for further information on clearing methodologies.

### 8.4 No-Go Areas

No-Go areas will be utilised, where required, to prevent vehicles and personnel entering areas with a high density of weeds adjacent to the access route or work areas (CAZ). In particular, this will be implemented for areas with a high density of declared or priority landholder weed species. This will be implemented to prevent the potential spread of weeds from these areas.

The No-Go areas will be delineated onsite, as required, using:

- Signage; and
- Fencing or flagging.

The No Go areas will also be discussed with work crews at Pre-start work meetings and Toolbox Talks.

### 8.5 Weed Inspection and Control

Fortnightly inspections for weeds on active construction sites, access tracks to active construction sites, laydown areas and camp sites, and adjoining areas which may be impacted by the construction activities, will be undertaken by Environmental Advisors and/or Zero Harm Advisors as part of general inspections of work areas. Where new declared weed infestations are identified, and likely the result from project activities, ElectraNet will be notified immediately.

Weeds will be controlled, as required, during the project using herbicides or physical control. Declared and landholder priority weed species will be targeted for weed control.

Weed control activities will be recorded within a Weed Management Register, which will include:

- Date and location of control
- Weeds targeted during control
- Estimate of weeds controlled
- Control method
- Disposal method
- Personnel involved.

### 8.5.1 Herbicides

Control of weeds using herbicides may be implemented to minimise the spread of weeds in particular declared and landholder priority weed species. Declared and landholder priority weeds will be controlled along the access route and within active work areas.

Typical herbicide types and applications to control weed growth is provided in the Table below. It should be noted that weed growth will be influenced by seasonal variations, such as rain.

Table 7: Typical weed control periods (G. Pedlar, pers. comm. 19/11/20)

Control Description	Herbicide	Application
Full weed removal/bare ground	Foliar	Every 4 weeks
Vegetation cover but prevent seeding	Foliar	Every 8 weeks
Prevent emergence/bare ground	Residual	6 monthly

All weed spraying will be undertaken with permission of the landholder and in accordance with *Agricultural and Veterinary Products (Control of Use) Regulations 2004* (SA) including competency for spraying Group I herbicides, as required.

### 8.5.2 Physical Control

Physical removal of weeds may be implemented to establish clean work areas and minimise the spread of declared and landholder priority weed species, as required. Hand removal of weeds is effective for smaller juvenile or isolated plants, while machinery may be required for more established plants with deeper root systems or larger areas of weed infestation.

Declared weeds within the seed phase that are physically removed will be transported to licensed waste disposal area for disposal. Confirmation has been provided by the Eyre Peninsular Landscape board that a permit is not required for the movement of declared plants for disposal at a licensed waste disposal area for deep burial as long as there is no risk of weeds spreading to other areas (B. Murphy, Pers. comm. 07/06/21). Management measures, such as covering loads or placing weeds within suitable containers for transport, will be implemented to mitigate the risk of spreading weeds to other areas.

## 8.6 Rehabilitation

Progressive rehabilitation of disturbed areas, for locations not required for ongoing maintenance works, will be implemented to reduce the establishment of weeds. This rehabilitation will commence as soon as practicable after the area is no longer required.

Declared weeds growing in topsoil and stockpiled vegetative matter will be controlled by spraying or physical removal prior to respreading across disturbed areas during rehabilitation. For further information on rehabilitation requirements refer to the Biodiversity and Rehabilitation Management Sub-plan.

## 9 OTHER MANAGEMENT REQUIREMENTS

### 9.1 Pest Management

To minimise the impacts of pest animals from the project the following will be implemented:



- Vegetation clearing and disturbance will be the minimum required for safe access during construction to minimise the creation of predator access routes.
- Progressive rehabilitation of disturbed areas, for locations not required for ongoing maintenance works, will be implemented.
- Waste will be stored appropriately to discourage pest animals including covering putrescible and organic wastes.
- Regular servicing of all bins and disposal to a licensed waste disposal area.
- Baiting for relevant feral animals that may impact on Western Grasswren prior to construction in the Department of Defence Cultana Training Area. Refer to the Biodiversity and Rehabilitation Management Sub-plan for further details on this baiting program.

## 9.2 Disease Management

To minimise the impacts of diseases from the project the following will be implemented:

- Vehicles, machinery and equipment will be inspected upon arrival to the project area to ensure they are clean and free of dirt, mud or other organic materials.
- All vehicles and personnel will stay to designated tracks and work areas.
- Vegetation clearing and disturbance will be the minimum required for safe access.

Other specific management measures for disease are detailed below.

### 9.2.1 Phytophthora

During the summer weed survey, native vegetation along the transmission line was inspected for signs of Phytophthora dieback. In particular, the area with a high to moderate risk of Phytophthora infestations on the 132 kV line south of Structure 665 was inspected for signs of dieback. Phytophthora dieback was not observed along the easement or access tracks during the weed survey.

During construction, the following indicators of Phytophthora dieback will be opportunistically observed by Downer Environmental Advisors for locations south of Structure 665:

- Death or dieback of indicator native vegetation species
- Test pH of soil as Phytophthora only present in acidic to neutral soils (Irongrass Environmental, 2021).

Hygiene inspection and clean down measures will be implemented if any areas of Phytophthora dieback are identified during the construction phase. This will include temporary hygiene inspection and clean down requirements for vehicles travelling out of known Phytophthora dieback zones. Inspection and washdown will include:

- Machinery and vehicles brushed down to remove soil
- Disinfection using a light spray to kill phytophthora that has not been removed by dry brushing
  - Disinfection using 1 part sodium hypochlorite (pool chlorine) to 1500 parts water for vehicles and equipment or
  - Disinfection using 1 part household bleach to 4 parts water for smaller tools and brush down equipment
- Allow disinfectant to penetrate for at least one minute (and preferably 10 minutes) before leaving hygiene station
- No washdown effluent to drain into native vegetation or surface waters
- Inspection of machinery and vehicles to ensure clean then completion of washdown log

### 9.2.2 Footrot

For footrot, the Department of Primary Industries and Regions - Port Lincoln will be called in spring/summer each year of the project to confirm if there have been reported cases of footrot for the season within the Eyre Peninsula.

## 9.3 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.

Specific training for key operational staff prior to the commencement of works will include inspection and cleaning of vehicles, machinery and equipment to prevent the spread of weeds and diseases.

The site induction for all staff, sub-contractors and visitors will include weed, pest and disease identification and management.

## **9.4 Mitigation and Management Measures**

The following table outlines the mitigation and management measures that will be implemented as far as practicable throughout the project to prevent potential impacts of weeds, pests and disease.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
<b>Pre-execution Phase</b>					
WPD	Prior to site works, undertake a construction site inspection to ground-truth site conditions.	Planning Phase	This sub-plan	Environmental Advisor	Baseline winter and summer weed surveys have been undertaken by independent consultants to verify the presence of weed species within the project area.
WPD NRBM	Establishment of entry/exit points to the Project area. No additional access points to the site are to be established.	Access tracks and points	ArcGIS mapping	Construction Manager	Scouting of preferred access tracks and exit/entry points has been undertaken. Designated access tracks including entry and exit points shown on ArcGIS mapping. No additional access tracks or points to be established without prior approval by ElectraNet.
S&S EPBC	Develop, implement, monitor and review a documented process or management plan that controls all aspects of the management of weeds, pests and pathogens 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"> <li>• a risk assessment process</li> <li>• management of site-specific weed, pest and pathogens</li> <li>• specific management of phytophthora</li> <li>• management of entry and egress points</li> <li>• detailing disturbance prevention measures</li> <li>• provisions for prevention of introduction, spread and transference of contamination between properties</li> <li>• vehicle and equipment washdown requirements.</li> </ul>
WPD	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	Personnel undertaking the works will be competent for their role and tasks. Specialist environmental training, such as vehicle inspection and washdown, will be delivered for key personnel as required. All personnel are required to undertake the Project Induction which includes weed, pest and disease identification and management prior to commencement onsite.
SEMP WPD EPBC	Ensure all vehicles, plant and earthmoving equipment are clear of significant soil/ vegetative matter prior to site mobilisation.	Prior to commencing onsite	DG-ZH-FM071.2 Hygiene Inspection Form	Construction Manager	All vehicles, machinery and equipment will be inspected, and cleaned as required, to remove all soil and plant material, prior to entering the project area. Completion of Hygiene Inspection Form as record of inspection of clean vehicles, machinery and equipment.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					Hygiene Inspection Forms and filed on relevant Plant Assessor accounts for all vehicles, machinery and equipment for the project.
<b>Execution Phase</b>					
SEMP WPD	Prepare factsheets of weed and pest species for dissemination to site staff.	Ongoing throughout the Project	DG-ZH-ST013 Zero Harm Worker Consultation Standard	Environmental Advisor	Factsheets on key weed and pest species will be developed for communication with site staff via Noticeboards, Toolbox Talks, Work Packs etc.
WPD EPBC	Schedule works to move from clean areas to infected areas to minimise spread of existing weeds species.	Ongoing throughout the Project	DA-ZH-ST071 Flora and Fauna Management	Construction Manager	Weed Zones have been established based on the presence of weed species as detailed in Section 8.1. Inspection and clean down requirements will be in accordance with the Weed Zones (ie. inspection and clean down required when travelling from a higher weed zone to a lower weed zone) as detailed in Section 8.2.
EPBC	Implement a minimum of bi-annual fox baiting and annual cat baiting within 6 months of construction.	Cultana Training Area	Biodiversity & Rehabilitation Sub-plan	Environmental Advisor	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	Management of entry/exit points so that site soils (potentially containing weed propagules) are not tracked to or from the site or between landholders.	Access tracks and points	ArcGIS mapping	Construction Manager Environmental Advisor	All vehicles and machinery restricted to CAZ including use of designated access tracks and entry/exit points. Designated access tracks and entry/exit points shown on ArcGIS mapping. Implementation of inspection and clean down requirements for vehicles, plant and earthmoving equipment for Weed Zones in accordance with Section 8.2.
SEMP WPD NRBM	Restrict vehicle access to defined tracks and work areas and away from locations with known weed presence.	Project area	DA-ZH-ST071 Flora and Fauna Management	Construction Manager Site Supervisor	Use of designated access tracks and entry/exit points in accordance with ArcGIS mapping. Where necessary, signs and/or flagging will be erected to restrict access into infested weed areas.

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
SEMP WPD	Prohibition of importation of weeds/seeds/ propagules or infested material into the work site. Maintain records to verify sources.	Project area	DA-ZH-ST071 Flora and Fauna Management	Construction Manager Environmental Advisor	All fill or other soil based materials imported into the project area to be verified as weed and phytophthora free. Record from the supplier confirming the fill or soil material being weed free.
SEMP	Topsoil stockpiles managed to ensure they do not become infested with weeds.	Project area	DA-ZH-ST071 Flora and Fauna Management	Environmental Advisor	Weed growth on stockpiles will be inspected and management measures, such as weed control or covering, will be implemented as required.
WPD EPBC	No water, soil or plant material to be removed from Phytophthora infested areas.	Project area	DA-ZH-ST071 Flora and Fauna Management	Construction Manager Environmental Advisor	No movement of soil/vegetative matter or water from known Phytophthora infested areas. All fill or other soil based materials imported into the project area to be verified as weed and phytophthora free. Record from the supplier confirming the fill or soil material being phytophthora free.
WPD EPBC	Management of Phytophthora infested areas.	Project area	DA-ZH-ST071 Flora and Fauna Management	Environmental Advisor	No areas of Phytophthora dieback were observed along the easement or access tracks during the summer weed survey. Ongoing inspection for indicators of Phytophthora dieback for locations south of Structure 665: <ul style="list-style-type: none"> <li>• Death or dieback of indicator native vegetation species</li> <li>• Test pH of soil (Phytophthora only present in acidic to neutral soils)</li> </ul> Hygiene inspection and clean down measures will be implemented if any areas of Phytophthora dieback are identified during the construction phase. This will consist of: <ul style="list-style-type: none"> <li>• An area of builders plastic or other impermeable material laid out which is large enough to capture all soil and plant material brushed from machinery and vehicles</li> <li>• Machinery and vehicles brushed down to remove soil</li> <li>• Disinfection using a light spray to kill phytophthora that has not been removed by dry brushing <ul style="list-style-type: none"> <li>○ Disinfection using 1 part sodium hypochlorite (pool chlorine) to 1500 parts water for vehicles and equipment or</li> <li>○ Disinfection using 1 part household bleach to 4 parts water for smaller tools and brush down equipment</li> </ul> </li> </ul>

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					<ul style="list-style-type: none"> <li>Allow disinfectant to penetrate for at least one minute (and preferably 10 minutes) before leaving hygiene station</li> <li>No washdown effluent to drain into native vegetation or surface waters</li> <li>Inspection of machinery and vehicles to ensure clean then completion of washdown log</li> <li>Fold up builders plastic to prevent spill of soil/plant material and removal for disposal at a licensed waste disposal area</li> </ul>
WPD	Removal of ground cover and exposure of soil to be minimised to reduce opportunities for weed establishment.	Project area	DA-ZH-ST071 Flora and Fauna Management	Construction Manager	Area of disturbance to be minimised to as low as operationally practicable as detailed in Section 8.3.
SEMP S&S	Regular monitoring of weeds.	Ongoing throughout works	DA-ZH-FM116.9 Environmental Inspection Checklist	Environmental Advisor and/or Zero Harm Advisor	<p>Fortnightly informal inspection of weeds on active construction sites (including stockpiles), and adjacent areas as part of ongoing inspection of works.</p> <p>Fortnightly completion of Environmental Inspection Checklist which includes weed identification.</p> <p>Where new declared weed infestations are identified, and potentially result from project activities, ElectraNet will be notified immediately.</p> <p>Implementation of weed control measures, such as spot spraying of declared weeds, as required.</p>
SEMP NRBM	Ensure waste is appropriately stored to discourage pest animals including covering putrescible and organic storages associated with crib rooms and offices.	Ongoing throughout works	DA-ZH-FM116.9 Environmental Inspection Checklist	Environmental Advisor	<p>All putrescible waste to be stored in covered bins or vehicles onsite.</p> <p>Regular servicing of all bins and disposal to a licensed waste disposal area.</p> <p>Fortnightly inspection of waste management through Environmental Inspection Checklist.</p>
ECS EPBC	Vegetative matter consisting of declared weeds to be removed for disposed at a licenced green waste facility and not used on site for rehabilitation or provided to landholders.	Ongoing throughout works	DA-ZH-ST071 Flora and Fauna Management	Construction Manager	<p>Removed declared weed species will be stored and removed for disposal at a licensed waste disposal area.</p> <p>During transport of declared weed species, management measures to be implemented, such as covering loads or placing weeds within suitable containers, to mitigate the risk of spreading weeds to other areas.</p>

Ref	Mitigation Strategy	Location / Activity	Downer Procedure	Responsibility	Management Measure & Monitoring of Controls
					Declared weeds in topsoil and stockpiled vegetative matter will be controlled by spraying or physical removal prior to respreading across disturbed areas during rehabilitation. Soil or vegetation consisting of declared weed species will not be provided to landholders.
SEMP	Management measures to be implemented should a landholder complain about weed infestation in or adjacent to the easement.	Ongoing throughout works	INX Landholder Liaison Sub-plan	Environmental Advisor	All landholder complaints in regards to weed infestations in or adjacent to the easement will be reported, investigated and management measures implemented as required as detailed in Section 7.3. All landholder complaints will be verbally reported to ElectraNet within 1 hour of identification outlining factual information. Landholder complaints will be reported through ElectraNet's online Incident Management System (IMS). Further information on management of landholder complaints is detailed in the Landholder Liaison Sub-plan.
SEMP	All environmental incidents identified during the project must be recorded, reported and managed effectively.	Ongoing throughout project	INX	Environmental Advisor	All environmental incidents will be verbally reported to ElectraNet within 1 hour of identification outlining factual information. Environmental incidents and hazards will be reported through ElectraNet's online Incident Management System (IMS).
<b>Post-execution Phase</b>					
SEMP WPD	Disturbed areas to be progressively rehabilitated following construction work to reduce the opportunity for weed re/establishment.	Completion of works at each location	DA-ZH-FM116.9 Environmental Inspection Checklist	Construction Manager	Implementation of progressive rehabilitation of disturbed areas, for locations not required for ongoing maintenance works.
WPD	Post construction inspection to ensure appropriate weed control has been implemented and opportunities for weed establishment minimised.	Following completion of works	Post Construction Checklist	Environmental Advisor	Inspection of the disturbed areas for declared weed species. Implementation of management measures, such as spot spraying or manual control, as required.



## 10 MONITORING & REPORTING

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 weed, pest and disease management.

Monitoring & Reporting Requirements	Responsibility	Reference
<b>Pre-execution Phase</b>		
Undertake pre-construction survey to identify presence and location of weeds throughout construction areas.	Environmental Advisor	WPD
<b>Execution Phase</b>		
Record from the supplier confirming the fill or soil material imported into the Project area is weed and Phytophthora free	Environmental Advisor	SEMP
ElectraNet must be informed immediately of the discovery of any Weeds of National Significance (WoNS) or other new weeds, pests or pathogens on landholder properties, which are likely the result of Project Activities	Environmental Advisor	S&S
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
<b>Post-execution Phase</b>		
Following completion of works, inspection of the disturbed areas for declared weed species through Post Construction Checklist	Environmental Advisor	WPD

## 11 REFERENCES

- Animal Health Australia, 2018, *National Farm Biosecurity Manual*, Grazing Livestock Production
- Commonwealth of Australia, 2014, *Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomic**
- George Pedlar Ag, 2020, *Winter Weed Summary Report*, Prepared for Downer
- George Pedlar Ag, 2021, *Summer Weed Summary Report*, Prepared for Downer
- Golder Associates, 2020, *Eyre Peninsula Reinforcement Project - Weed, Pest and Disease Management Plan*, Prepared for ElectraNet
- Government of South Australia, 2018, *Weed Control Handbook for Declared Plants in South Australia*
- Government of South Australia, 2020, *NatureMaps*, Available at: <https://data.environment.sa.gov.au/NatureMaps/Pages/default.aspx> (Access on 19/11/20)
- Iron Grass Environmental Rehabilitation Services, 2021, *Weeds Survey for Proposed Transmission Upgrade Eyre Peninsula - August 2020 and February 2021*, Prepared for Downer
- Landscape South Australia Eyre Peninsula, 2020, *Pest Plants*, Government of South Australia, Available at: <https://landscape.sa.gov.au/ep/plants-and-animals/pest-plants-and-animals/pest-plants> (Access on 19/11/20)
- Natural Resources Eyre Peninsula, 2017, *Strategic Plan for the Eyre Peninsula Natural Resources Management Region 2017-2027*, Government of South Australia and Australian Government

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## **APPENDIX 1 - WEED PRESENCE**

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