



# Pest and Weed Management Plan

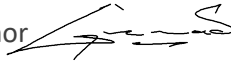
Parkes to Narromine Inland Rail Project

Project # 808 – J013



Job No.: 808 - J013

Principal: Australian Rail Track Corporation, (ARTC)

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### Document Version Control

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0	31/01/2019	Approved Base Document	GO
1	10/10/2019	Six Month Review	GO
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3	10/01/2020	Additional ARTC comments incorporated	GO

# Pest and Weed Management Plan (PWMP)

Parkes to Narromine Inland Rail  
Project # 808 – J013

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## Attachments

Attachment A – Pesticide Application Record Sheet

Attachment B – Washdown Locations

## Glossary of Terms

Term	Definition
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
DPIE	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPL	Environmental Protection License
FFMP	Flora and Fauna Management Plan
IPWMS	Integrated Pest and Weed Management Strategy
LCA	Local Control Authorities
LVAMP	Landscape and Visual Amenity Management Plan
P2N	Parkes to Narromine
OEH	NSW Office of Environment and Heritage
POEO Act	<i>Protection of the Environment and Operations Act 1997</i>
PWMP	Pest and Weed Management Plan
RMM	Revised Mitigation Measures
RtS	Response to Submissions
WoNS	Weed of National Significance

## 1 Scope

### 1.1 Purpose

This Pest and Weed Management Plan (PWMP) focuses on the potential for impacts on the environment that may result from the transport, proliferation and control of pests and weeds during the construction phase of the Inland Rail Parkes to Narromine (P2N) Project (the Project) which will be undertaken by INLink (the contractor). This document has been developed as a standalone Management Plan as per Condition of Approval C8(a).

The Environmental Management System (EMS) and project overview are outlined in the Construction Environmental Management Plan (CEMP) Chapter 1.

## 2 Objective

### 2.1 Pest and Weed Objectives and Targets

The primary objective of this PWMP is to manage pests and control the spread of weeds and plant pathogens within the Project area. Additionally, this PWMP includes measures to prevent the proliferation of weeds and pests in properties adjoining the Project area as a direct result of construction activities.

The following are the key pest and weed objectives and targets against which the implementation of this PWMP will be assessed:

- Regular inspections (at least on an annual basis) for weed and pest infestations and assess the need for control measures during construction are to be undertaken, documented and recorded
- Any outbreak of noxious and/or Weeds of National Significance (WoNS) to be managed in accordance with the Biosecurity Act 2015, the Weeds of National Significance Weed Management Guide, and the requirements of relevant authorities. Actions taken to be documented and recorded
- Inspections for weeds and pests must be undertaken by person(s) appropriately trained in the identification of weeds and pests of significance in NSW and Nationally (Refer to Section 5.11)
- The occurrence of weeds throughout the project area as presented by Umwelt 2016 at 48 survey sites and summarised in Table 4-1 of this plan will not increase due to construction
- All weeds removed during construction will be appropriately transported and disposed of offsite;
- All vermin to be euthanised by an appropriately qualified person using ethically approved techniques
- No materials containing pests, weeds or weed propagules to be imported to the Project site during construction
- No identified proliferation of weeds or pests within properties adjoining the Project site where project interaction has occurred
- Weed management to be undertaken prior to all vegetation clearing works during construction;
- No regulatory non-compliance relating to the management of pests and/or weeds during construction
- All herbicide/pesticide application to be undertaken by SMARTRAIN accredited personnel and information recorded in accordance with requirements of the Pesticides Regulation 2009
- Application of herbicide to be undertaken during optimal seasonal conditions for maximum impact or as required for specific outcomes (e.g. spot spraying)
- No identified offsite impact of herbicide/pesticide application on properties adjoining the Project site.

## 3 References

### 3.1 Key Legislative Requirements

Legislation applicable to the transport, proliferation and control of pests and weeds both nationally and in NSW includes:

- *Protection of the Environment Operations Act 1997*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Biosecurity Act 2015*
- *Local Land Services Act 2013 (Part 10 Pests)*
- *Pesticides Act 1999.*

### 3.2 Standards and Guidelines

Key guidelines, strategies and policies pertaining to the transport, proliferation and control of pests and weeds include:

- Weed Management and Disposal Guide (Transport for NSW)
- NSW Weed Control Handbook (Department of Primary Industries)
- NSW Invasive Species Plan 2018-20211 (Department of Primary Industries)
- NSW Biosecurity Strategy 2013-2021 (Department of Primary Industries)
- NSW Weed Wise Smartphone Application (Department of Primary Industries)
- Weeds of National Significance Weed Management Guide (Commonwealth)
- Central West Regional Strategic Weed Management Plan 2017 – 2022 (Local Land Services NSW)
- North West Regional Strategic Weed Management Plan 2017 – 2022 (Local Land Services NSW)
- Pest Animal Management Plan 2018 – 2022 (Department of Primary Industries)
- A Field Manual for the Surveying and Mapping of Nationally Significant Weeds (McNaught, I., Thackway, R., Brown, L. and Parsons, M 2008)
- Control Manual for Lantana (Van Oosterhout 2004)
- Noxious and Environmental Weed Control Handbook, 4th Edition, NSW Industry & Investment Management Guide.

### 3.3 General Obligations Under Biosecurity Act 2015

The 'General Biosecurity Duty' under the Biosecurity Act 2015 means that any person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable). "Dealing" includes (but is not limited to) activities such as grazing, cropping, fodder production, horticulture, weed control, seed and other plant production, as well as carrying, sale and distribution of these products. In general, if you deal with or carry plant matter as part of a commercial, professional, volunteer or recreational activity or lifestyle, it would be considered that you would know, the risks. Plant matter includes plants, parts of plants and seeds. Any species that poses a biosecurity risk is subject to the General Biosecurity Duty. This provides the Act with more

flexibility to deal with both agricultural and environmental weeds, plants that may pose risks contexts, and invasive species which are not yet present but pose a risk.

### 3.4 State and Commonwealth Approval Requirements

Under Part 5.1 of the NSW Environmental Planning and Assessment Act a declared Critical State Significant Infrastructure (CSSI) infrastructure project is assessed and must be approved by the Minister for Planning. Table 3-1 outlines Conditions of Approval (CoA) (June 2018) for the project from the NSW Department of Planning, Industry and Environment (DPIE) related to pests and weed management during construction.

Part 5.4 Division 1 of the Protection of Environment Operations (POEO) Act 1997 Sections 124-132 outlines requirements to prevent environmental impacts and stipulates offences and penalties applicable to those identified. These conditions form the Environment Protection Licence (EPL) (October 2018). There are no EPL requirements that are related to the PWMP are outlined in **Error! Reference source not found.** below.

Table 3-1 – Conditions of Approval

Ref ID	Details	Where addressed	How addressed
A19d)	<p>For the duration of the works until the completion of construction, the approved ER must:</p> <p>Review documents identified in Conditions C1, C4, and C13 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:</p> <ul style="list-style-type: none"> <li>i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or</li> <li>ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department)</li> </ul>	Section 5.14	<p>The ER has reviewed the identified documents.</p> <p>The works as described in this FFMP will not commence until approval is received from DPIE.</p>
A19e)	<p>For the duration of the works until the completion of construction, the approved ER must:</p> <p>Regularly monitor the implementation of the document listed in Conditions C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval.</p>	Section 5.8	<p>Inspections and audits will be undertaken in accordance with this condition, as outlined in Section 5.8.</p>



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Ref ID	Details	Where addressed	How addressed						
C4	<p>The CEMP Sub-plans must be prepared in consultation with the relevant government agencies and relevant councils identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS.</p> <table border="1"> <thead> <tr> <th></th> <th>Required CEMP Sub-plan</th> <th>Relevant government authorities to be consulted for each CEMP Sub-plan</th> </tr> </thead> <tbody> <tr> <td>(e)</td> <td>Flora and Fauna</td> <td>OEH and Relevant Councils</td> </tr> </tbody> </table>		Required CEMP Sub-plan	Relevant government authorities to be consulted for each CEMP Sub-plan	(e)	Flora and Fauna	OEH and Relevant Councils	Section 3.7	This PWMP has been prepared in consultation with the OEH and the relevant council and is consistent with the CEMP referred to in the EIS.
	Required CEMP Sub-plan	Relevant government authorities to be consulted for each CEMP Sub-plan							
(e)	Flora and Fauna	OEH and Relevant Councils							
C5 a)	The CEMP Sub-plans must state how:								
(a)	the environmental performance outcomes identified in the EIS and Submissions Report, as modified by these conditions, will be achieved.	Section 5.9 Section 5.5	The environmental performance targets are outlined in Section 5.9 and will be achieved through the implementation of this PWMP, including the mitigation measures presented in Section 5.5.						
(b)	the mitigation measures identified in the EIS and Submissions Report, as modified by these conditions will be implemented.	Section 5.5	The mitigation measures relevant to pest and weeds are outlined in Section 5.5 and will be applied through the implementation of this FFMP, including the preparation of Site Environmental Plans.						
(c)	the relevant terms of this approval will be complied with.	This plan	The relevant terms of this approval will be complied with through the preparation and implementation of this PWMP.						
(d)	issues requiring management during construction, as identified through ongoing environment risk analysis will be managed.	Section 4.3 Section 4.4	<p>The environmental risk assessment is outlined in Section 4.3.</p> <p>The ongoing risk assessment process is outlined in Section 3.2 of the CEMP and</p>						

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Ref ID	Details	Where addressed	How addressed
			Section 4.4 of this PWMP, with identified risks managed through Site Environmental Plans.
C6	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of the construction activities to which they apply.	Section 3.7 CEMP – Attachment H	This PWMP will be approved by DPIE in accordance with this condition before the commencement of construction activities, as outlined in Section 3.7.  This PWMP was endorsed by the ER on 14 November 2018. Refer to Attachment H in the CEMP for the ER endorsement letter.
C7	Any of the CEMP Sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP.	Section 3.7	The PWMP will be submitted to DPIE along with, or subsequent to, the submission of the CEMP.
C8	The Flora and Fauna Management Sub-plan must include:	–	–
	(a) a weed management plan	This plan	A Pest and Weed Management Plan has been prepared.
	(b) a hygiene protocol which includes best-practice management measures for the prevention of contamination by pathogens, non-indigenous regenerative plant material and seed. The protocol must apply to the movement of all tools, vehicles, machinery and personnel; and	Section 5.3	The Hygiene Protocol is included in FFMP – Section 5.3, which is also included as Attachment A.
	(c) measures to protect EPBC listed threatened species and ecological communities.	FFMP	Measures to protect EPBC listed threatened species and ecological communities are provided in the FFMP

### 3.5 Response to Submissions Requirements

Revised mitigation measures from the Response to Submission (RtS) that are relevant to the management of pests and weeds are outlined in Table 3-2.

**Table 3-2 – Revised Mitigation Measures (RMMs)**

Ref ID	Details	Where addressed
D10.7	The biodiversity management plan included in the CEMP would detail measures to minimise the potential for biosecurity risks during construction.	Section 5 Table 7.1 in the Submissions Report

### 3.6 Construction Environmental Management Framework Requirements

The Construction Environmental Management Framework (CEMF) (ARTC 2018) sets out the environmental management requirements for construction. The CEMF provides a link between the planning approval phase, detailed design and the construction environmental management documentation. Mitigation measures from the CEMF relevant to the management of pests and weed are outlined in Table 3-3.

**Table 3-3 – Construction Environmental Management Framework Requirements**

Ref ID	Details	Where addressed
7.3	Implement weed management measures, focusing on early identification of invasive weeds and effective management controls;	Section 5
7.5	Weed management is to be undertaken in areas affected by construction prior to any clearing works in accordance with the <i>Biosecurity Act 2015</i> and associated regulations.	Section 5
7.5	Identification and clear documentation of any requirements for qualifications and/or competencies of persons undertaking works to meet <i>Biosecurity Act 2015</i> or associated regulations commitments (i.e. weed management, vehicle/machinery/equipment weed inspections and certifications for site entry).	Section 2 Section 5.13

### 3.7 Stakeholder Consultation and Approval

In accordance with the CoA, this PWMP has been developed in consultation with Office of Environment and Heritage (OEH) and relevant local Councils.

This PWMP as a Sub-plan to the CEMP is required to be approved by the DPIE no later than one month before the commencement of construction activities. This PWMP will be endorsed by the Environmental Representative (ER) prior to the commencement of construction as required by the CoA. Construction will not commence until this HCMMP has been approved by DPIE. This FFMP as approved by the DPIE, including any minor amendments approved by the ER, will be implemented for the duration of construction. This consultation is intended to assist in development and finalisation of the plan. Table 3-4 summarises relevant stakeholder reviews and response to review.

**Table 3-4 – Summary of Consultation**

Stakeholder	Requirement	Status	Response <sup>1</sup>	Response Date
OEH	Consultation	Completed	<ul style="list-style-type: none"> <li>Letter with comments</li> <li>Comments included in Revision C of PWMP</li> </ul>	2 October 2018
OEH	Consultation	C	<ul style="list-style-type: none"> <li>Revised PWMP addressing OEH comments of 25 Jan 2019.</li> <li>Details of responses are provided in Table F2 in Attachment F of the FFMP</li> </ul>	31 January 2019
Parkes Shire Council	Consultation	Completed	<ul style="list-style-type: none"> <li>No comments</li> </ul>	26 September 2018
Narromine Shire Council	Consultation	Completed	<ul style="list-style-type: none"> <li>Comments Sheet</li> <li>Comments included in Revision C of PWMP</li> </ul>	8 October 2018
DPIE	Approval	Completed	<ul style="list-style-type: none"> <li>No comments</li> </ul>	14 February 2019
ER	Endorsement	Completed	<ul style="list-style-type: none"> <li>Endorsement received after comments from ER addressed and verified</li> </ul>	14 November 2018

<sup>1</sup> Evidence of consultation is provided by ARTC as a separate report

## 4 Key Risks

### 4.1 Existing Environment

Most of the proposal site passes through rural land. Several townships with an urban environment are also passed through on route. The project site has an established rail corridor and resultantly has been subject to a high level of disturbance. Most of the existing rail corridor is cleared or consists of non-native vegetation. The community is frequently subjected to disturbances from surrounding land uses, weed spraying and frequent mowing regimes.

Most watercourses have been mapped as cleared/non-native vegetation (Umwelt 2017). The project may impact eight (8) vegetation communities occurring within a 25m buffer of mapped watercourses.

#### 4.1.1 Identified Weeds in Proximity of the Project Alignment

The biodiversity assessment area (Umwelt 2017) was found to be mostly cleared or contain non-native vegetation. Non-native vegetation in this area was characterised by a predominantly dense understorey of non-native grasses, forbs and herbs.

Dominant non-native grasses typically include paspalum (*Paspalum dilatatum*), bearded oats (*Avena barbata*) and urochloa grass (*Urochloa panicoides*). Coffee senna (*Senna occidentalis*) is frequently present in the midstorey. Dominant non-native forbs and herbs include Patterson’s curse (*Echium plantagineum*), red-flowered mallow (*Modiola caroliniana*), cobbler’s pegs (*Bidens pilosa*), saffron thistle (*Carthamus lunatus*) and flaxleaf fleabane (*Conyza bonariensis*).

Weed species such as Mexican Poppy (*Argemone Mexicana*) and Coolatai Grass (*Hyparrhenia hirta*) have been observed since construction commenced in neighbouring properties along the rail corridor.

#### 4.1.2 Non-Native Species Identified and Occurrence within Project Alignment

Table 4-1 lists non-native species identified by Umwelt 2017 during field surveys of forty-eight (48) sites along the project alignment between January and May 2016. The total number of survey sites is also detailed for each weed species, giving an indication of prevalence within the project alignment. It is recognised that the list is not comprehensive, as not all species are readily detected at any one time of the year. Many species flower only during restricted periods of the year, and some flower only once in several years. In the absence of flowering material, many of these species cannot be identified, or even detected.

**Table 4-1 – Non-Native Species and Number of Survey Sites Recorded Along the Project Alignment (Umwelt 2017)**

Common name	Scientific name	Number of survey sites at which identified
Onion weed	<i>Asphodelus fistulosus</i>	1
-	<i>Juncus cognatus</i>	1
Galvanized burr	<i>Sclerolaena birchii</i>	7

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Common name	Scientific name	Number of survey sites at which identified
Bearded Oats	<i>Avena barbata</i>	19
Oats	<i>Avena sp.</i>	5
Prairie Grass	<i>Bromus catharticus</i>	1
Soft Broome	<i>Bromus hordeaceus</i>	2
Broome	<i>Bromus sp.</i>	7
Rhodes Grass	<i>Chloris gayana</i>	13
Stink Grass	<i>Eragrostis cilianensis</i>	10
Ryegrass	<i>Lolium sp.</i>	2
Paspalum sp.	-	6
Paspalum	<i>Paspalum dilatatum</i>	10
-	<i>Setaria parviflora</i>	4
Wheat	-	4
Urochloa Grass	<i>Urochloa panicoides</i>	14
Rats-tail fescue	<i>Vulpia sp.</i>	15
Khaki weed	<i>Alternanthera pungens</i>	1
Slender celery	<i>Cyclosporum leptophyllum</i>	1
Cobblers pegs	<i>Bidens pilosa</i>	7
Greater beggars ticks	<i>Bidens subalternans</i>	1
Safron thistle	<i>Carthamus lanatus</i>	14
Star thistle	<i>Centaurea calcitrapa</i>	2
Skeleton weed	<i>Chondrilla juncea</i>	
Coffee sensa	<i>Senna occidentalis</i>	10
Spear thistle	<i>Cirsium vulgare</i>	9
Flaxleaf fleblane	<i>Conyza bonariensis</i>	20
Creten weed	<i>Hedypnois rhagadioloides</i>	1
Smooth catsear	<i>Hypochaeris glabra</i>	1
Catsear	<i>Hypochaeris radicata</i>	2

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Common name	Scientific name	Number of survey sites at which identified
Prickly lettuce	<i>Lactuca serriola</i>	4
Dwarf marigold	<i>Schkuhria pinnata</i> var. <i>abrotanoides</i>	4
Bindyi	<i>Soliva sessilis</i>	1
Common sowthistle	<i>Sonchus oleraceus</i>	12
Patersons curse	<i>Echium plantagineum</i>	9
Blue heliotrope <sup>2</sup>	<i>Heliotropium amplexicaule</i>	5
Potato weed	<i>Heliotropium europaeum</i>	6
Buchan weed	<i>Hirschfeldia incana</i>	3
Common peppergrass	<i>Lepidium africanum</i>	21
Apple cactus	<i>Cereus uruguayanus</i>	2
Paddy melon	<i>Cucumis myriocarpus</i> subsp. <i>Leptodermis</i>	5
-	<i>Medicago</i> sp.	7
Barrel medic	<i>Medicago truncatula</i>	1
Haresfoot clover	<i>Trifolium arvense</i>	10
Mintweed Salvia	<i>reflexa</i>	2
Vervain Salvia	<i>verbenaca</i>	4
Stagger weed	<i>Stachys arvensis</i>	11
Spiked malvastrum	<i>Malvastrum americanum</i>	3
Red-flowered mallow	<i>Modiola caroliniana</i>	4
Paddy's Lucerne	<i>Sida rhombifolia</i>	1
African olive <sup>3</sup>	<i>Olea europaea</i> subsp. <i>Cuspidate</i>	1
Wireweed	<i>Polygonum aviculare</i>	1
Curled dock	<i>Rumex crispus</i>	3
Pointed toadflax	<i>Kickxia elatine</i>	1
Lesser snapdragon	<i>Misopates orontium</i>	1

<sup>2</sup> Blue Heliotrope is listed as a Regional Priority Weed

<sup>3</sup> African Olive is listed as a Regional Priority Weed

Common name	Scientific name	Number of survey sites at which identified
Twiggy mullein	<i>Verbascum virgatum</i>	3
Black-berried nightshade	<i>Solanum nigrum</i>	3
Purpetop	<i>Verbena bonariensis</i>	3
Common verbena	<i>Verbena officinalis</i>	3
Cathead	<i>Tribulus terrestris</i>	1
African boxthorn <sup>4</sup>	<i>Lycium ferocissimum</i>	6
Silver-leaved nightshade <sup>5</sup>	<i>Solanum elaeagnifolium</i>	2
Tiger pear <sup>6</sup>	<i>Opuntia aurantiaca</i>	1
Mexican Poppy	<i>Argemone Mexicana</i>	2 – Alectown West Road & Nanardine Lane
Coolatai Grass <sup>7</sup>	<i>Hyparrhenia hirta</i>	1 – Peak Hill Railway Road

Three (3) species of weed declared as Weeds of National Significance (WoNS) (under Commonwealth legislation) were identified during field surveys (Umwelt 2017):

- African boxthorn *Lycium ferocissimum*
- Silver-leaved nightshade *Solanum elaeagnifolium*
- Tiger pear *Opuntia aurantiaca*

Six (6) species of weeds are declared as noxious weeds (under NSW legislation) and include African boxthorn (*Lycium ferocissimum*), blue heliotrope (*Heliotropium amplexicaule*), galvanized burr (*Sclerolaena birchii*), Johnson grass (*Sorghum halepense*), Mexican poppy (*Argemone mexicana*), and tiger pear (*Opuntia aurantiaca*).

### 4.1.3 Pest Animals Identified

Three (3) introduced fauna species were identified during field surveys undertaken by Umwelt 2017:

- Domestic dog
- Brown hare
- Sheep.

The following invasive pest species were identified as possibly occurring in the project area (Umwelt 2017):

<sup>4</sup> African Boxthorn is listed as a State Priority Weed

<sup>5</sup> Silver-leaved Nightshade is listed as a State and Regional Priority Weed

<sup>6</sup> Tiger Pear is listed as a Regional Priority Weed

<sup>7</sup> Coolatai Grass is listed as a Regional Priority Weed



- Feral goat
- Red fox
- Feral cat
- Rabbit
- Brown hare (recorded during field surveys)
- Feral dog (recorded during field surveys)
- Feral pig
- Cane toad- considered unlikely to occur.

## 4.2 Regional Weed Strategies

The *Biosecurity Act 2015* is administered by the Minister for Primary Industries. The Act is implemented and enforced by the Local Control Authorities (LCA) or Council.

The Central West Regional Strategic Weed Management Plan 2017 – 2022 has been developed in partnership with Central West Local Land Services and the Central West Regional Weed Committee. This plan outlines two categories of Priority Weeds:

- State Priority Weeds
- Regional Priority Weeds.

Both State Priority Weeds and Regional Priority Weeds have specific measures for the control of individual weed species. These are outlined in the plan. Weeds included in these lists have been put through a Weed Risk Assessment process which identifies outcomes for these weeds.

Similarly, a North West Regional Strategic Weed Management Plan 2017 – 2022 has been developed in partnership with North West Local Land Services and the Central West Regional Weed Committee. This plan outlines two categories of Priority Weeds:

- State Priority Weeds
- Regional Priority Weeds.

Both State Priority Weeds and Regional Priority Weeds have specific measures for the control of individual weed species. These are outlined in the plan. Weeds included in these lists have been put through a Weed Risk Assessment process which identifies outcomes for these weeds.

## 4.3 Risk Assessment Undertaken in EIS

Construction activities have the potential to disturb and distribute weeds and pests. A risk assessment was undertaken in the EIS (GHD 2017) that included the use of desktop database searches, field surveys and mapping and habitat mapping.

The Project would result in the increased movement of vehicles and people to, around and within the proposal site during construction. The main biosecurity risk relates to the spread of weeds that may result from the increased movement of vehicles. Weed seeds could be transported through and within the site on clothing and via vehicle wheels and undercarriages.

## 4.4 On-Going Risk Assessment

A risk management approach will be used to determine the severity and likelihood of an activity's impact on the environment and to prioritise its significance. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of community and other key stakeholders.

The objectives of risk assessment are to:

- Identify activities that have the potential to adversely affect the local environment and/or human health
- Qualitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures
- Quantitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures.

Risk assessments for the Project are based on AS/NZS ISO 31000:2009, the Australian and New Zealand Standard for Risk Assessments. The purpose of risk evaluation is to separate risk to be tolerated from those to be treated, by determining the severity of each risk and developing a prioritised list of risks that require treatment. The severity of each risk is determined from the Project Risk Level Matrix.

A risk register has been developed (Environmental Risk and Opportunities Register Attachment D of the CEMP) and includes a list of activities associated with the Project, related aspects and corresponding risks.

Measures to minimise the identified environmental risks are also provided (Section 3 of the CEMP). On-going risk assessment will be implemented throughout the construction program in accordance with Section 3.2 of the CEMP including through inclusion of identified risks in site environmental plans for management on site. This will ensure new and changed environmental issues are identified and appropriately addressed.

## 5 Management

### 5.1 Pest Management

Should pest population control be required, a qualified specialist will be engaged to undertake this work and provide detailed advice.

Where pest control has been undertaken, a record will be made and maintained on the INLink system.

Monitoring of the effectiveness of the pest control measures as well as notification of neighbouring landholders would be undertaken as advised by the qualified pest specialist.

### 5.2 Weed Management

During pre-clearing surveys at each site records of the type and location of weed species will be documented. Any weed species encountered will be managed as necessary to control the spread.

Weed management is to be completed prior to vegetation removal where practicable. Management of weeds will occur throughout the construction works in cooperation with adjacent land holders to ensure no additional impacts are placed upon adjacent landholders.

The environmental inspections will identify where measures for weed management are required. When an area is identified as requiring weed management, activities will only occur following completion of the appropriate documentation and with the approval of the Environment Manager or delegate. Cleared weed material will either be managed as organic waste on site or disposed of at a site licensed to receive that waste.

Any use of herbicides will be strictly in accordance with the *Pesticides Act 1999*, product label, and the INLink Safety Management Plan. Where approved herbicides are required to be used to control weed species near water, i.e. creeks, drainage depressions and stormwater drains, extra care is to be taken to limit overspray. All herbicides will only be used during suitable weather conditions.

Herbicides will not be used without the prior approval of the Environment Manager or delegate. If a non-glyphosate herbicide is to be used, approval from the Safety Manager and the Environmental Manager is required.

Erosion and sediment control techniques may be implemented to assist with the management of removed vegetation and subsequent exposed subsoils and to prevent further weed outbreaks. This may include but is not limited to:

- On steeper slopes (as determined by the Environmental Manager in relation to soil type, gradient and receiving environment) and the banks of waterways erosion control techniques such as jute matting or geotextile fabric will be used
- Treatment (i.e. seeding or covering) of exposed areas and long-term stockpiles will be assessed by the Environment Manager.

Weeds will be removed during construction and treated or disposed of in accordance with relevant state and commonwealth regulatory requirements. This includes adhering to transport and destination disposal requirements, inspections and documentation. This can include but is not limited to:

- Removal to a licensed waste facility
- Burial on site (location and depth to be approved by the Environmental Manager) and / or
- Stockpiled and treated with herbicide.

## 5.2.1 Types of Weed Control

### **Mechanical weed control**

Mechanical weed control measures will be utilised throughout the duration of the project in large weed infested areas or where seed transfer is significantly high. Weed control will occur prior to the weed plant reaching flowering or reproductive maturity. **Hand Removal weed control**

- Hand removal of weeds will also be periodically required where weed foliage is inter tangled with desirable plants, preventing targeted herbicide treatment. It is important that the entire pest plant, including roots capable of regeneration, be removed or treated.

### **Herbicide weed control**

- Any significant weed infestation will be controlled with an acceptable herbicide.

## 5.2.2 Ongoing Weed Management

Regular inspections will occur monitoring the sites on treatment success and identifying areas requiring additional mitigation measures. Inspections are recorded on the Weekly Environment and Sustainability Inspection Form.

## 5.3 Hygiene Protocol

A hygiene protocol is required by CoA C8(b) and will form part of the briefing provided to all employees, sub-contractors and visitors on the risks of spreading pathogens and weeds and risk mitigation strategies.

The seeds of the noxious weeds and pathogens are predominantly spread by the movements of people, equipment, wind and water. To minimise this dispersal, a process for ensuring best practice hygiene control will be implemented which includes inspecting all plant/machinery and light vehicles for hygiene prior to entering and exiting the site. During clearing and grubbing and topsoil stripping activities all vehicles and plant will be required to adhere to hygiene techniques to ensure that weed seeds and pathogens are not transferred within and outside the Project corridor. Wheel washes have been installed at high risk locations on the project alignment and intermittent onsite plant washdowns occur on site to prevent to spread of seeds and pathogens.

## 5.3.1 Hygiene Protocol - Vehicle Wash-down

Hygiene protocols will be in the form of either vehicle washdowns or otherwise advised by an ecologist. The vehicle wash-down locations have been placed in areas known to contain WoNS, which cannot be physically eradicated, and potential plant pathogens at the site entrance.

This will include:

- Restrict movements of vehicles and plant during topsoil stripping activities
- Schedule topsoil stripping activities outside of dominant seeding period for weed species present in that particular location
- Develop and restrict access to designated haul roads and access tracks
- All vehicles and plant to undertake a wash-down (to remove weed seed) prior to moving into locations in which pre-construction weed species are significantly different or Weeds of National Significance (WoNs) are present and before exiting. A wash-down will involve the following:
  - Remove excessive gross material – ideally done away from decontamination area and where material can be left or collected for disposal. Use dry cleaning methods before wet where possible.
  - Wheel-washes and on site washdowns using water trucks are utilised for vehicles and machinery. Note: when undertaking on site washdowns pay particular attention to cleaning mud flaps and tyres
    - Start at top of the vehicle or equipment and work toward the ground
    - Moving parts of vehicles or equipment e.g. wheels, tracks, tipper tray, buckets have to be moved during decontamination to access all areas
  - Dispose of wash-down water so that it drains back into a low area of the infested zone away from waterways. If this is not possible, empty it into a waste container for responsible disposal offsite.
  - Don't allow wash-down water to drain into clean bushland
- In areas in which pathogens have been identified all plant and vehicles will undertake a wash-down to remove weed seeds and pathogens prior to entering the project boundary and before exiting. A wash-down will involve the following:
  - Remove excessive gross material – ideally done away from decontamination area and where material can be left or collected for disposal. Use dry cleaning methods before wet where possible.
  - Apply disinfectant/detergent. Use a wash-down facility for vehicles and machinery if available, or wash-down on a hard, well-drained surface, for example a road, and on ramps if possible. Note: pay particular attention to cleaning mud flaps and tyres.
    - Start at top of the vehicle or equipment and work toward the ground
    - Moving parts of vehicles or equipment e.g. wheels, tracks, tipper tray, buckets have to be moved during decontamination to access all areas

- Dispose of wash-down water so that it drains back into a low area of the infested zone away from waterways. If this is not possible, empty it into a waste container for responsible disposal offsite.
- Don't allow wash-down water to drain into clean bushland

### 5.3.2 Hygiene Protocol - Personal Wash-down

- Restrict movement of vehicles, plant and people in areas in which pathogens have been identified;
- Develop and restrict access to designated haul roads and access tracks
- Avoid working in wet conditions
- All persons to undertake a personal cleandown (to remove weed seed) prior to moving into locations in which pre-construction weed species are significantly different or Weeds of National Significance (WoNs) are present and before exiting. A personal cleandown will involve the following:
  - Set up a personal cleandown area to wash and dry their face and hands and clean their footwear before entering and exiting the site.
  - Use a brush to remove as much mud or dirt from boots
  - Disinfecting with a solution of 70% ethanol or methylated spirits in 30% water—applied through a spray bottle or a footbath
  - Collect all removed mud, soil and organic matter in a bag or bucket, and keep it out of clean bushland.
- In areas in which pathogens have been identified all people traversing into the area will undertake a clean of their shoes to remove pathogens prior to and after completion of works in the area in which the pathogen is present. A personal wash-down will involve the following:
  - Set up a personal wash-down area to wash and dry their face and hands and clean their footwear before entering and exiting the site.
  - Use a brush or a stick to remove as much mud or dirt from boots as possible
  - Disinfecting with a solution of 70% ethanol or methylated spirits in 30% water—applied through a spray bottle or a footbath
  - Collect all removed mud, soil and organic matter in a bag or bucket, and keep it out of clean bushland.

Note: Several changes of footwear bagged between sites might be a practical alternative to cleaning.

### 5.4 Erosion and Sediment Control

The removal of native and exotic vegetation during clearing activities will leave the topsoil exposed and susceptible to erosion and sedimentation of waterways. Weed propagules present in the topsoil could potentially be transported to areas of vegetation that are currently free from noxious weeds. The Soil and Water Management Plan (SWMP) addresses the specific management measures that will be implemented to minimise erosion and sedimentation during the construction phase of the Project. To ensure the most effective management of exposed areas progressive rehabilitation will occur and

will be undertaken as per the Landscape Design Manual and Procedure (ARTC 2018), and the Landscape and Visual Amenity Management Plan (LVAMP).

### 5.5 Mitigation and Management Measures

The following outlines mitigation measures to be implemented during the construction of the project.

**Table 5-1 – Mitigation and Management Measures**

Ref ID	Details	Responsibility	Source
PW01	Noxious weeds will be managed in accordance with the <i>Biosecurity Act 2015</i> and Weeds of National Environmental Significance (WoNS) are managed in accordance with the Weeds of National Significance Weed Management Guide.	Environmental Manager	Good practice
PW02	Weekly inspections for weed and pest infestations will be undertaken to assess the need for control measures during construction.  Inspections for weeds and pests will be undertaken by person(s) appropriately trained in the identification of weeds and pests of significance in NSW and Nationally.	Environmental Manager	CEMF – Section 7.3
PW03	Site personnel will be trained on the locations and target weed species during toolbox training.	Environmental Manager	Good practice
PW04	Weed management will be undertaken in areas affected by construction prior to any clearing works in accordance with the <i>Biosecurity Act 2015</i> and associated regulations.	Environmental Manager	CEMF – Section 7.5
PW05	Weeds will be managed in accordance with relevant State and Commonwealth regulatory requirements.	Environmental Manager	Good practice
PW06	Weeds will be managed by the following: <ul style="list-style-type: none"> <li>• Spraying with herbicides</li> <li>• Physical removal</li> <li>• Minimisation of area available for weed infestation, through prompt revegetation of bare areas.</li> </ul>	Environmental Manager	Good practice
PW07	The removal of identified weeds with propagules prone to dispersal by wind will be undertaken during low wind conditions and to be transported for offsite disposal under cover.	Environmental Manager	Good practice
PW08	New weed infestation is minimised by management of areas in which weeds (and native vegetation) have been removed or treated.	Environmental Manager	Good practice
PW09	Stabilisation of bare areas will be undertaken as soon as reasonable. E.g. polymer, mulch, hydromulch etc.	Environmental Manager	Good practice

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Ref ID	Details	Responsibility	Source
PW10	Vehicles or equipment being brought onto the site will be involved in ground disturbance activities and/or travelling around the site must be inspected and cleaned prior to commencing work to limit the spread of seeds and plant material between sites. All plant or equipment demobilising from site must be inspected and cleaned prior to leaving.	Environmental Manager	Good Practice
PW11	If pathogens have been identified on the site a Pathogen Management Procedure will be developed and implemented. This will include but is not limited to: <ul style="list-style-type: none"> <li>• Exclusion zones using fencing and signage</li> <li>• Hygiene washdowns for plant, light vehicles and personnel</li> <li>• Toolbox training in relation to location of pathogen and requirements for personnel</li> </ul>	Environmental Manager	Good Practice
PW11	Erosion and sediment control techniques will be undertaken to assist with the management of removed vegetation and subsequent exposed soils and to prevent further weed outbreaks.	Environmental Manager	Good practice
PW14	Application of chemical control such as herbicides will only be applied such that unwanted impacts on surrounding properties (including agricultural land) are avoided. All chemical applications will be communicated and coordinated with the relevant land holders.  Herbicide application will be undertaken during optimal seasonal conditions and in accordance with manufactures guidelines on application rates, intervals etc.  Herbicide application will only be undertaken by suitably qualified personnel so as not pose a threat to site personnel or nearby sensitive receivers.	Environmental Manager	Good practice
PW15	Pest or vermin control using baiting, or trapping will only be undertaken by appropriately qualified and licenced personnel. The use of baits and traps will be communicated and coordinated with the relevant land holders.  Any pest or vermin will be euthanised by an appropriately qualified person using ethically approved techniques.	Environmental Manager	Good practice
PW16	Waste (particularly putrescible waste) will be stored within appropriate pest and vermin proof receptacles within site compounds awaiting collection for offsite disposal.  Waste (particularly putrescible waste) will be removed from site at regular intervals and disposed of appropriately offsite.	Environmental Manager	Good practice



Ref ID	Details	Responsibility	Source
PW17	Documentation (including disposal receipts) will be maintained for all pest animal and weed control activities and will include requirements for qualifications and/or competencies of persons undertaking works.	Environmental Manager	CEMF - Section 7.5
PW18	Any outbreak of noxious and/or weeds of national environmental significance would be managed in accordance with the <i>Biosecurity Act 2015</i> , the Weeds of National Significance Weed Management Guide, and the requirements of relevant authorities.	Environmental Manager	Good practice

## 5.6 Roles and Responsibilities

All site personnel are responsible to ensure that they minimise environmental nuisance or harm by adherence to all Project Management Plans and other documentation. Site personnel are also responsible for ensuring they do not act in contravention of any Environmental Approval, the CoA or the EPL Conditions.

Field Supervisors are responsible for implementation and maintenance of mitigation measures outlined in the PWMP for all activities or work areas under their control.

The Environmental Manager is responsible for routine surveillance and monitoring, organising training for staff, communication of requirements of this Sub-plan, coordination of visual monitoring, and all other responsibilities related to pest and weeds identified within this Sub-plan and overall CEMP. Importantly the Environmental Manager is responsible for the immediate notification of State and/or Commonwealth government authorities of impacts that have mandatory reporting requirements

The Project Manager is responsible for overseeing implementation of this Sub-plan and overall CEMP.

## 5.7 Environmental Incidents, Non-Compliance and Complaints

In the event of a complaint, non-compliance or incident, an investigation will be undertaken to determine the cause of the problem lead by the Environmental Manager. Any identified impacts as a result of pest and weed management, the identified source and corrective actions are to be documented and managed in accordance with Section 6.1 of the CEMP and recorded in the Corrective and Improvement Action Database. Complaints will be handled in accordance with Section 6.3 of the CEMP.

In the event of any non-compliance (an occurrence, set of circumstances or development that is a breach of the approval conditions [CoA or EPL] but is not an incident), the non-compliance will be managed by the Environmental Manager and if required corrective action/s shall be raised. All corrective actions and improvements shall be entered into the Corrective or Improvement Actions Database and will be closed out as soon as practical (to be reviewed while using the Weekly Environmental Checklist).

Environmental incidents and non-compliances will be managed in accordance with Section 6 of the CEMP.

## 5.8 Inspections and Auditing

General inspections and auditing will be undertaken in accordance with Section 7 of the CEMP.

Inspections during Low Impact Works (as defined by the CoA) and topsoil stripping activities and annually thereafter will be undertaken to identify weed infestations and to assess the need for control measures which should be undertaken by a suitably qualified person (as determined by the Environmental Manager).

Any outbreak of noxious and/or weeds of national environmental significance would be managed in accordance with the *Biosecurity Act 2015*, the Weeds of National Significance Weed Management Guide, and the requirements of relevant authorities.

The Environmental Team will undertake environmental inspections to develop and evaluate the effectiveness of environmental controls. This will include:

- Daily visual inspections
- Weekly inspections using the Weekly Environmental Checklist
- Monthly reporting will be recorded through Project Monthly Reports
- Annual independent audits
- ER regular monitoring of the implementation of the documents listed in the CoA.

## 5.9 Performance criteria

The following are key performance criteria against which the implementation of this plan will be assessed:

- No pest or weed will increase in prevalence due to construction.
- No pest or weed will be inappropriately disposed of offsite
- All possible efforts will be made during construction to control the proliferation of pests and weeds.
- No complaints or impacts to properties adjoining the project site relating to pest and weeds or management measures undertaken within the project area to control pests or weeds.
- No complaints or regulatory compliance action taken regarding non-compliance with regulatory requirements relating to the management of pests and/or weeds during construction.

## 5.10 Communication

Stakeholder groups, community and government agency consultation on mitigation measures to prevent the proliferation of weeds and pests during construction outlined in this plan should be undertaken in accordance with consultation requirements outlined in CEMP Chapter 8.

## 5.11 Training and Awareness

General training and awareness will be undertaken in accordance with Section 8 and 9 of the CEMP.

All employees and contractors working on site will undergo site induction training relating to pest and weed management issues. The General Site Induction will address elements including:

- Relevant Legislation

- Environmental Duty of Care
- Obligation of all personnel dealing with species to adhere to the 'General Biosecurity Duty'
- North West Regional Strategic Weed Management Plan 2017 – 2022 and Central West Regional Strategic Pest Animal Management Plan 2018 – 2022
- NSW Weed Wise App (for smart devices)
- Key Sensitive Areas
- Fauna Management
- Environmental No Go Areas
- Identification and Weed Hygiene
- Incidents including definition, management and reporting requirements
- Stop Work Types.

Training will also include Toolbox Talks and Prestart Meetings in which the topics of the site induction will be revisited.

## 5.12 Emergency Planning and Response

Emergency planning and response will be undertaken in accordance with Section 10 of the CEMP.

Any impacts within the project site or at an offsite location will be ceased immediately and appropriate mitigation measures identified and implemented.

All such impacts, their identified source and corrective actions are to be documented and managed in accordance with the CEMP and the PWMP and recorded in the Corrective and Improvement Action Database in accordance with the requirements of the CEMP. If applicable State and or Commonwealth government agencies to be notified of impacts.

## 5.13 Record Keeping

The Environmental Weekly Checklist, monthly reporting and annual independent audits undertaken throughout the construction phase of the project will be documented and kept on record by the Environmental Manager or their delegate for the duration of the Project.

In accordance with the *Pesticides Regulations 2009*, records of use of herbicides/pesticides must be maintained for pesticides applied for commercial or occupational purposes allowing each treatment activity. The application of herbicide/pesticide must only be undertaken by an operator with SMARTTRAIN accreditation or equivalent. A copy of the Pesticide application record sheet is provided in Attachment A.

Documentation will be kept and include requirements for qualifications and/or competencies of persons undertaking works. to meet *Biosecurity Act 2015* or associated regulatory requirements including:

- Qualifications and/or competencies of persons undertaking works to meet Biosecurity Act 2015
- Weed and pest inspection reports
- Vehicle/machinery/equipment inspections
- Weed treatment areas reporting and mapping

- Certifications for offsite transport and disposal of materials Pre-clearance works management measures.

## 5.14 Document Review

General document review will be undertaken in accordance with Section 11 of the CEMP.

This PWMP should be reviewed utilising the Corrective and Improvement Action Database simultaneously with reviews of the overarching CEMP and any amendments cited and cross checked against each plan.

For the duration of the works until the completion of construction, the approved ER must:

- Review the CEMP and Sub-plans and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under the CoA and if so:
  - Make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or
  - Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department).

# Attachment A

## Pesticide Application Record Sheet

TANlink

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## Pesticide Application Record Sheet

Date		Supervisor	
Operator Names			
Operator Address			
Landowner Names			
Address of Landowner			
Property Address			
Time Start		Time Finish	
Location		Chainage	Start Up
Vegetation Description			Finish Down
Personal Protective Equipment Required		Herbicide / Chemical Type	
		Brand	
Equipment		Sequence/Order of Application	
Soil Conditions			
Weather Conditions	Overcast	Cloudy	Sunny
Wind Direction		Gusty:	Yes / No / NA
Wind Speed (Circle)	Medium	Low	Nil
Amount Used (mL of neat)		Concentration	Herbicide (mL) Water (Litre)
MSDS on site	Yes / No	SMARTTRAIN CARD #	
Comments			



# Attachment B Washdown Locations

TANK

# Pest and Weed Management Plan

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# Pest and Weed Management Plan

Parkes to Narromine Inland Rail Project



# Pest and Weed Management Plan

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