

Jemena Northern Gas Pipeline Pty Ltd

Northern Gas Pipeline

Draft Environmental Impact Statement

APPENDIX J – WEED MANAGEMENT PLAN

Public

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Northern Gas Pipeline Construction Weed Management Plan

Jemena Pty Ltd



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APPENDIX B - WEED SURVEY METHODOLOGY

APPENDIX C - QLD GOVERNMENT QUEENSLAND BIOSECURITY QUEENSLAND CHECKLISTS; VEHICLE AND MACHINERY INSPECTION PROCEDURE

APPENDIX D - WEED HYGIENE DECLARATION FORM

1 INTRODUCTION

This Weed Management Plan is a supporting document of the Environmental Impact Statement (EIS) prepared for the Northern Gas Pipeline (NGP) project. The environmental risk assessment conducted as part of the EIS process identified a number of potential impacts from weeds associated with the NGP project activities. These impacts are potentially greatest during the project construction phase associated with land clearing, accessing and trafficking remote areas, and importing materials.

This Weed Management Plan (Construction) (henceforth referred to as the 'weed management plan') describes the weed management measures that will be implemented during the project construction phase to mitigate environmental risks to 'as low as reasonably practicable', so that the potential impacts of the NGP construction phase are minimised. The weed management plan is a requirement of the EIS Terms of Reference (ToR) issued pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) and *Environmental Assessment Act* (NT). It also provides a framework for compliance with the conditions of Environmental Authority EPPG03497815 issued under the *Environment Protection Act* (Qld) for the NGP project in Queensland (Qld).

For this Weed Management Plan we define the following terms. Clean areas are those areas that have been cleared of topsoil and vegetation matter (ie after clear-and-grade activities) this includes existing cleared access tracks. Vehicles can travel in these areas without requiring any weed hygiene. In contrast, dirty areas are those areas where vehicles and equipment are operating with topsoil and vegetation matter eg clear-and-grade and reinstatement activities. Weed zones are areas defined after the weed survey that are classified by presence, species and density of weeds.

1.1 Scope and objectives

The scope of the weed management plan is to outline the weed management measures that will be implemented to manage weeds during the Project construction phase. The project operational phase risks will be addressed through an Operational Environmental Management Plan (OEMP) and associated procedures to be developed prior to commencement of operations.

The objectives of this weed management plan are to:

- comply with all applicable legislation, regulations, conditions and regional weed management plans
- address the specific weed management requirements of land owners/occupiers
- provide controls for construction activities to avoid introducing new weed species into the construction footprint
- avoid or control the spread of existing weed species into new areas within the construction footprint
- detail the monitoring, reporting and incident response procedures appropriate for the management measures

The weed management plan is applicable to all construction activities associated with the Project and will be used by all personnel (including contractors) involved in project activities.

1.2 NGP Project overview

The NGP is a gas pipeline project which will involve the construction of 622 km of pipeline linking existing gas pipelines in the Northern Territory (NT) and Queensland (Qld). The pipeline will commence at Warrego, approximately 45 km north-west of Tennant Creek, and will terminate 7 km south-west of Mount Isa where it will connect to the existing Carpentaria Gas Pipeline (Figure 1-1). The Construction Contractor has

responsibility for implementation of the mitigation measures outlined in this WMP; Jemena will take possession post-construction and will be responsible for mitigation of operational risks to biodiversity.

1.2.1 Construction activities with potential weed impacts

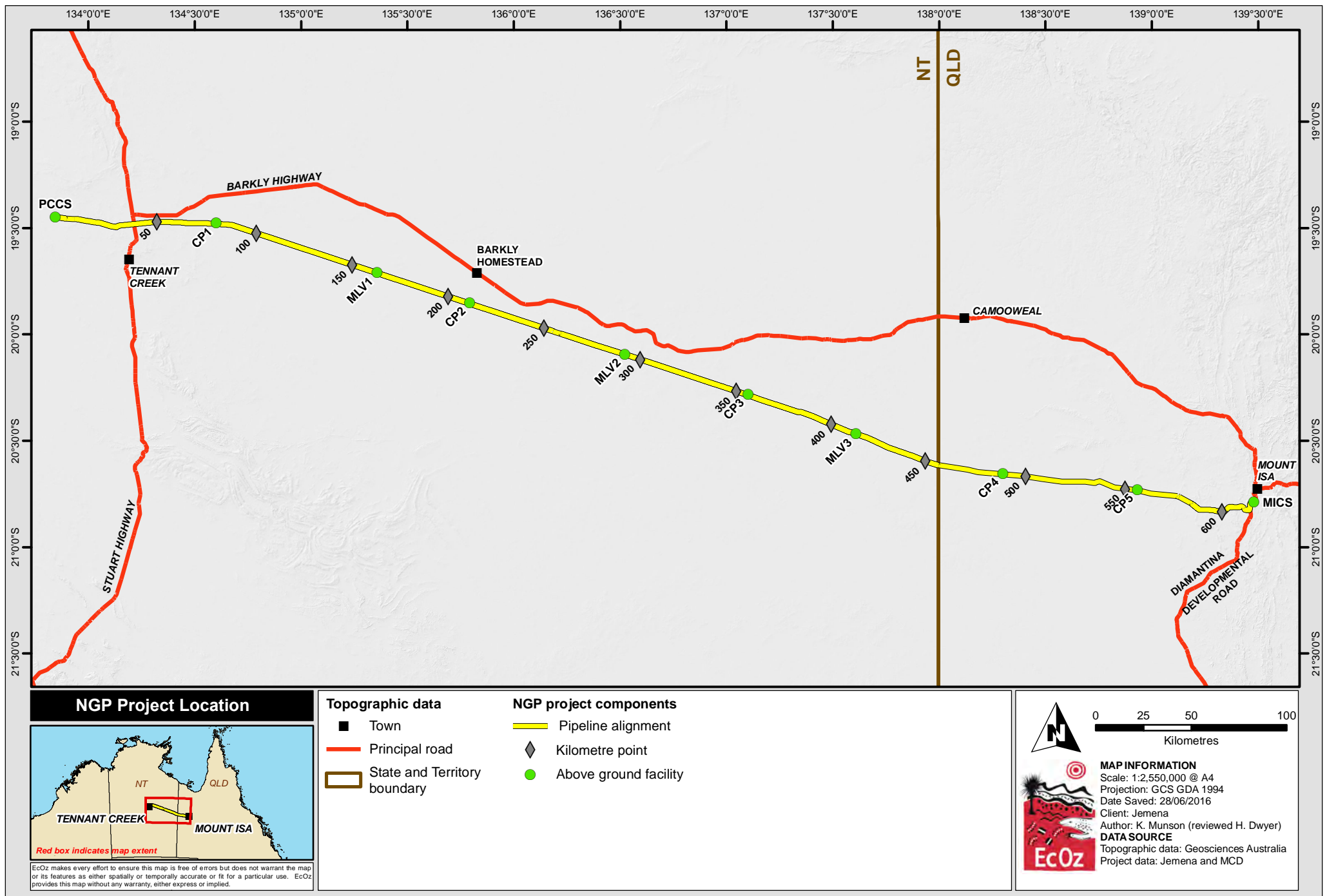
This weed management plan specifically addresses the following activities associated with construction of the NGP pipeline and ancillary infrastructure that have the potential to cause impacts on biodiversity through weed introduction:

- transport of machinery, equipment and personnel, and importing of materials, to the construction area.
- initial land clearing and removal of topsoil along the 30 m wide construction Right of Way (ROW).
- construction activities within the construction ROW, including trenching and installing the 622 km pipeline, and installation of permanent facilities (cathodic protection and main line valves)
- construction and operation of temporary construction camps along the construction ROW.
- construction and operation of temporary laydowns for storage of materials.
- widening of existing, or construction of new, access tracks to link the construction ROW with the Barkly Highway and other public roads.
- construction of temporary water storage dams along the construction ROW.
- backfilling and reinstating the ROW.
- construction of permanent compressor stations at either end of the pipeline; Phillip Creek Compressor Station (PCCS) near Tennant Creek, and the Mount Isa Compressor Station (MICS) near Mount Isa.

All works listed above will be undertaken within the 'construction footprint'.

1.2.2 Construction schedule

Construction is currently scheduled to commence in early 2017 and the pipeline system is planned to be operational in 2018. The exact timing is dependent on a number of factors including the timeliness of the required approvals, access agreements with relevant stakeholders and weather conditions.



Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\JEMENA\IS (NT)\01 Project Files\Ch2\Figure 2-2. Map of NGP pipeline route and above-ground facilities locations.mxd

Figure 1-1. Map of Project location

1.3 Legislative approvals, permits and licences

1.3.1 Pipeline Licences

The primary approvals required for construction and operation of the NGP and associated facilities are Pipeline Licences issued pursuant to the *Energy Pipelines Act (NT)* and *Petroleum and Gas (Production and Safety) Act 2004* in Qld. The issue of Pipeline Licences is conditional upon the NGP project obtaining all environmental approvals required under Commonwealth, NT and Qld legislation.

1.3.2 Primary environmental approvals

The NGP project requires environmental assessment and approval pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (*EPBC Act*), *Environmental Assessment Act (NT)* (*EA Act*) and *Environment Protection Act 1994* (Qld). This weed management plan is a requirement of the Terms of Reference (ToR) issued pursuant to the *EPBC Act* and *EA Act*; the document also provides a framework for compliance with the conditions of Environmental Authority EPPG03497815 issued under the *EP Act 1994* for the NGP project in Queensland (Qld).

The tables below cross-reference the requirements of the EIS ToR (Table 1-1) and EA conditions (Table 1-2) with the relevant sections of this weed management plan.

1.3.3 Weed-related approvals, permits and licences

Commonwealth, state and territory governments have agreed on the declaration of 32 Weeds of National Significance (WoNS), based on their invasiveness, potential for spread and environmental, social and economic impacts.

WoNS are recognised as having potentially significant impacts on:

- human health and safety
- pastoral and agricultural industries
- water quality and supply
- native flora and vegetation communities
- biodiversity and cultural values.

Land owners and land managers are responsible for the control and management of WoNS, and state and territory governments are responsible for the requisite legislation, regulation and administration. The relevant NT and Qld legislation is provided in Table 1-3 and Table 1-4.

Table 1-1. Cross-reference between NT and Cth EIS Terms of Reference requirements and Weed MP

ToR section	Details	Weed MP Reference
2.2	The EIS should provide an overview of the construction, operation and decommissioning/closure phases of the proposed action and describe relevant activities. Aspects to be covered include weed hygiene facilities.	Section 1.2.1
3	The EIS should describe and map, where relevant: <ul style="list-style-type: none"> • The presence, or likely occurrence, of introduced and invasive species (both flora and fauna) within and adjacent to the Project area, and regionally, including weed species declared under the <i>Weed Management Act</i> 	Figure 3-6
3	Prior to commencement of works, a weed survey, should be undertaken, incorporating all areas that disturbance is likely to occur within as a result of the Project, in consideration of the following: <ul style="list-style-type: none"> • Weed data is to be collected in accordance with the Northern Territory Guidelines • If any reportable weeds are located during the survey process, the Weed Management Branch must be notified within 14 days • During the survey process liaison should occur with all landholders affected by the proposed pipeline • Weed data collected should inform: <ul style="list-style-type: none"> ○ Requirements for control of priority weeds, prior to clearing and/or disturbance ○ Detailed hygiene plans ○ Treatment and destruction of priority weed materials following mechanical removal • Consultation with weed management authorities in Queensland should also occur to ensure data relating to high priority weed infestations in Queensland is also obtained to assist in weed spread prevention planning. 	A weed survey across the construction footprint is prior to construction. The results of that survey will inform an updated weed management plan. Refer to Section 3.3 for existing data and Appendix B for survey methodology.
5.4.3	The EIS should contain a Biodiversity Management Plan that outlines clear and concise methods to mitigate likely impacts to biodiversity. All mitigation and monitoring measures should be substantiated..... focusing on: <ul style="list-style-type: none"> • Weed control measures (e.g. prevention and spread of weeds) and hygiene protocols (e.g. wash-down points, weed protocols at border crossings etc.) as required under the <i>Weed Management Act</i> (NT) 	A Biodiversity Management Plan is presented as an Appendix to the EIS. Specifics relevant to weed management are contained within Section 5 of this report

Table 1-2. Cross-reference between Qld Environmental Authority conditions and Weed MP

Approval section	Condition	Weed MP Reference
C17	The release of treated sewage effluent or greywater authorised in condition C16 must: (g) be to a contaminant release area that is kept vegetated with groundcover that is: i. not a declared pest species*	Refer Water Management Plan
E22	Backfilled, reinstated and revegetated pipeline trenches and right of way must be: (d) vegetated with groundcover which is not a declared pest species, and which is established and self-sustaining	Section 5.3
F5	Significantly disturbed areas that are no longer required for the on-going petroleum activities, must be rehabilitated within 12 months (unless an exceptional circumstance in the area to be rehabilitated (e.g. a flood event) prevents this timeframe being met) and be maintained to meet the following acceptance criteria: (e) either: i. groundcover, that is not a declared pest species, is growing; or ii. an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained.	Section 5.3
F6	All significantly disturbed areas caused by petroleum activities which are not being intended to be utilised by the landholder or overlapping tenure holder, must be rehabilitated to meet the following final acceptance criteria measured against the highest ecological value adjacent land use or the pre-disturbed land use: (a) greater than or equal to 70% of native ground cover species richness (b) greater than or equal to the total per cent of ground cover (c) less than or equal to the per cent species richness of declared plant pest species	Section 5.3

*Qld refers to weeds as declared pest species

Table 1-3. Weed legislation in the Northern Territory

Legislation/policy	Approvals, permits and licences
<i>Weeds Management Act</i>	<p>This Act declares undesirable species of plants as weeds, and requires these species to be controlled, eradicated or prevented from entering the NT depending on their classification. Weeds are classified into one of three classes:</p> <ul style="list-style-type: none"> • Class A declared plant: to be eradicated • Class B declared plant: growth and spread to be controlled • Class C declared plant: not to be introduced into the NT <p>The Act specifies how weeds in each of the classes must be treated. Weed management plans for specific weeds are endorsed under this Act.</p>

Table 1-4. Weed legislation in Queensland

Legislation/policy	Approvals, permits and licences
<i>Land Protection (Pest and Stock Route Management) Act 2002</i>	<p>This Act identifies three classes under which a plant species can be declared a weed. Land owners or land managers must undertake prescribed control actions depending on the class of weeds present. Classes are defined as follows:</p> <p><u>Class 1 declared plant:</u></p> <ul style="list-style-type: none"> • Is not commonly present in QLD and, if introduced, would cause an adverse economic, environmental or social impact. • Is subject to eradication from the state <p>Landowners must take reasonable steps to keep land free of Class 1 weeds. It is a serious offence to introduce, keep or supply a Class 1 pest without a permit issued by the Department of Primary Industries and Fisheries</p> <p><u>Class 2 declared plant:</u></p> <ul style="list-style-type: none"> • Is established in QLD and have, or could have, an adverse economic, environmental or social impact • Requires coordination and are subject to programs led by local government, community or landowners <p>Landowners must take reasonable steps to keep land free of Class 2 weeds. It is a serious offence to introduce, keep or supply a Class 2 pest without a permit issued by the Department of Primary Industries and Fisheries.</p> <p><u>Class 3 declared plant:</u></p> <ul style="list-style-type: none"> • Is established in QLD and has, or could have, a substantial adverse economic, environmental or social impact <p>Landowners may be required to manage Class 3 weeds in or near environmentally significant areas such as protected areas, important habitats for threatened species or areas of interest only.</p> <p>Note that the <i>Land Protection (Pest and Stock Route Management) 2002 Act</i> will be replaced by the <i>Biosecurity Act 2014</i> from the 1st of July 2016 (Biosecurity Qld 2015).</p>

1.3.4 Strategic management plans

The NT section of the construction footprint falls entirely within the Barkly region. This area is covered by the *Barkly Regional Weed Management Plan* (WMB 2015a). Importantly for the NGP project, the plan identifies priority weeds and pathways for weed spread.

The Queensland section of the construction footprint is within the Mount Isa City Council. The *Land Protection (Pest and Stock Route Management) Act 2002* (Qld) states that all local councils must develop a Local Government Area Pest Management Plan. This management plan is enforced under the Local Law provisions of the *Local Government Act 1993*. In response, the Mount Isa local council has developed the *Mount Isa City Council – Local Government Area Pest Management Plan – 2014-2018*, for the purpose of controlling the spread of pest population within the area (MICC 2014). Additional weeds can be declared and control enforced under the Local Government Area Pest Management Plan. No new weed species have been declared within the MICC (2014). However, a number of weeds that are not declared within Qld are declared within the NT and management of these species are recommended under the plan. This management plan is enforced under the Local Law provisions of the *Local Government Act 1993*.

Queensland also has a provision for a certified weed hygiene inspector under the Biosecurity law - Department of Agriculture and Fisheries Weed Hygiene Declaration.

1.3.5 Guidelines and standards

Guidelines associated with the management of weeds in the Northern Territory include the following:

- Australian Weeds Committee – The Australian Weeds Strategy
- Northern Territory Government – Northern Territory Weed Management Handbook 2014
- Department of Natural Resources, Environment, The Arts and Sport – Guidelines for Weed Data Collection in the Northern Territory (2015)

2 ENVIRONMENTAL MANAGEMENT FRAMEWORK

The NGP project environmental management framework is illustrated in Figure 2-1 below. This weed management plan forms part of the approvals' phase environmental assessment and management documentation. Implementation will occur through the Jemena and Construction Contractors Environmental Management Systems (EMS).

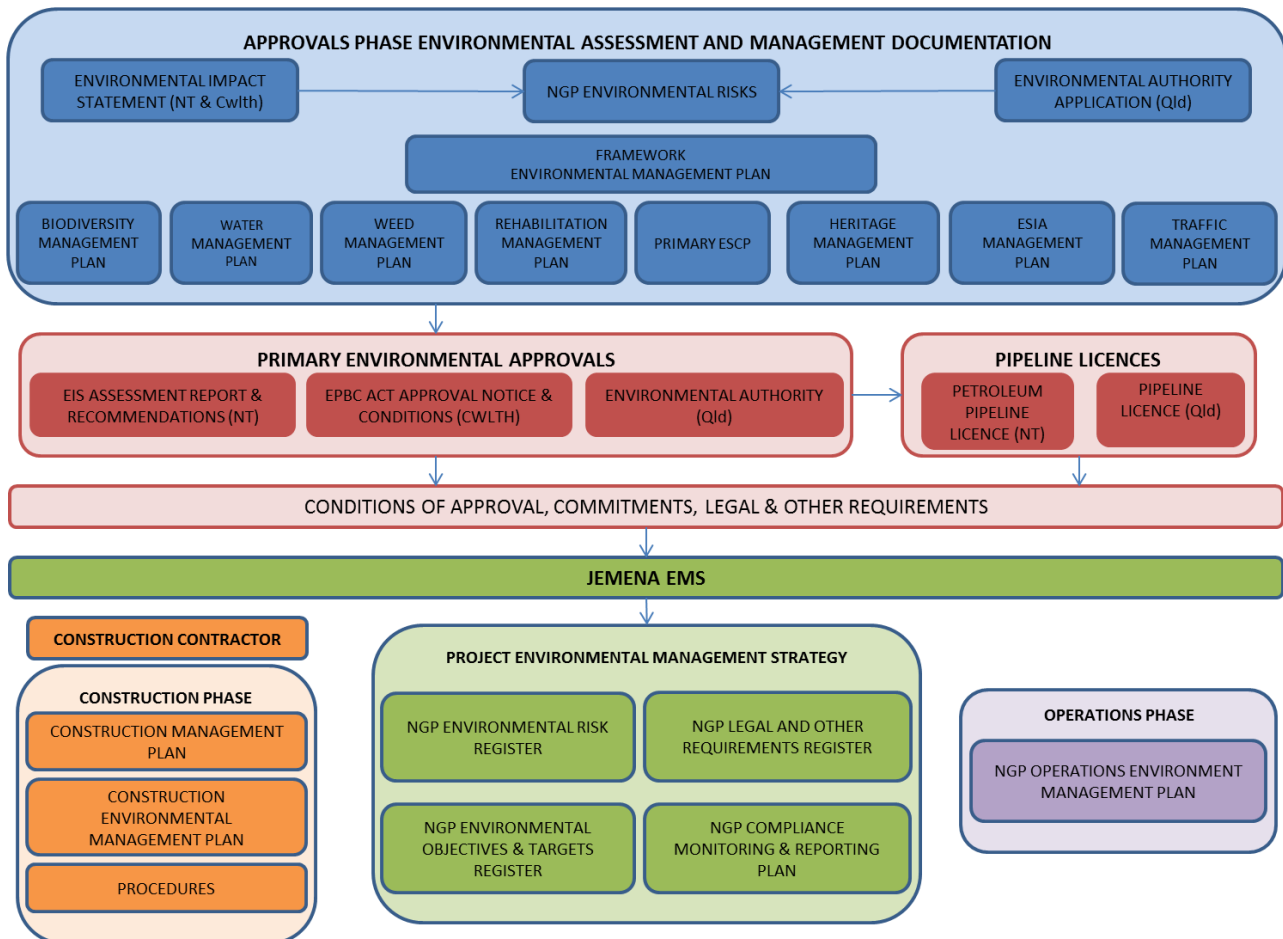


Figure 2-1. NGP project environmental management framework

The Jemena EMS forms part of the companies Health, Safety, Environment and Quality (HSEQ) Strategy. The EMS provides a framework for identifying and managing environmental risks, and for compliance monitoring and reporting. During the NGP project construction phase, environmental risk management is delegated by Jemena to the pipeline Construction Contractor. Jemena is responsible for over-arching compliance monitoring and reporting in accordance with the primary environmental approvals and pipeline licences.

During construction, the constructors and any sub-contractors will operate under an EMS, which provides the structure and supporting documents for environmental management for all aspects of the company and construction projects. The EMS forms part of the Construction Contractors Management System which is accredited to *AS/NZS ISO 9001:2008 – Quality Management System*, *AS/NZS ISO 14001:2004 – Environmental Management System* and *AS/NZS 4801:2001 – Occupational Health and Safety Management System*.

The weed management measures and monitoring programs documented in this weed management plan will be implemented through the Construction Environmental Management Plan (CEMP) and associated procedures prepared by the Construction Contractor prior to commencement of construction. The CEMP assigns project-specific roles and responsibilities for environmental management and establishes a framework for the provision of environmental induction and training, complaints management, and meeting the NGP project internal and external environmental monitoring and reporting requirements.

All construction staff and sub-contractors will be inducted prior to commencing works. The induction will include an explanation of the environmental management framework and requirements of management plans, including this weed management plan.

Operational weed management requirements prescribed through the environmental approvals processes will be implemented through an Operational Environment Management Plan (OEMP) prepared by Jemena. Both the CEMP and OEMP will be consistent and integrated with the Jemena EMS.

3 EXISTING ENVIRONMENT

3.1 Climate

The pipeline alignment borders the division of two major rainfall zones (as defined by BoM 2005), the Northern Australia region which is influenced by the monsoonal tropics with wet summers and dry winter conditions; and the central arid zone which is generally dry with low rainfall throughout the year. In general, rainfall in the region is summer dominant and marked by only occasional winter rain.

Annual rainfall is highly variable, but the majority of rainfall - and thus weed seed germination and growth - occurs between December and March of each year, under the influence of the seasonal monsoon weather system in Northern Australia (Figure 3-1).

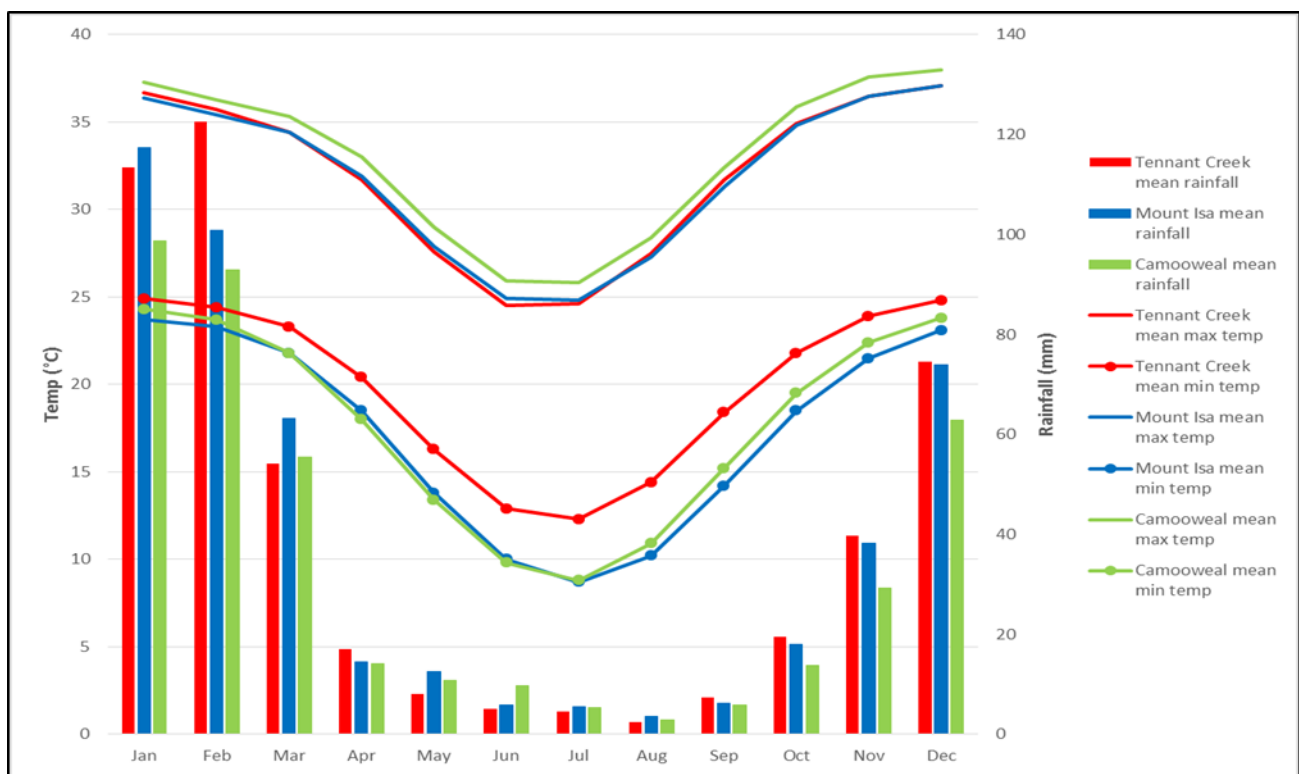


Figure 3-1. Regional climate information (data sourced from BOM 2016)

3.2 Water, vegetation and habitat

Weeds pose a risk to habitat quality (terrestrial and aquatic) and biodiversity, and can also impact on the productivity of land (e.g. for cattle grazing). The environmental context as relevant to weed management is summarised below.

Land use

The majority of land traversed by the Project is used for cattle grazing. Tennant Creek and Mount Isa townships are located close to either end of the pipeline, and mining is a major land use in and around Mount Isa. The vast majority of the construction footprint and surrounds is sparsely populated and remote.

Existing infrastructure in the region include the Stuart Highway, Barkly Highway, and Darwin to Adelaide Railway line. Existing gas pipelines occur at either end of the NGP pipeline, which will tie-in to the existing infrastructure.

Numerous smaller roads and station tracks traverse the area. The shoulders of roads and tracks are common areas for weeds to establish due to clearing along the roadside (which provides opportunity for weed establishment in disturbed areas) and traffic, which can bring weed seeds into the area.

Land form and vegetation

The construction footprint passes through four bioregions; from west to east the Davenport and Murchinson Ranges, the Tanami, the Mitchell Grass Downs and the Mount Isa Inlier (see Figure 3-2). Desktop based weed data indicate that the majority of weeds in the region are restricted to the Mitchell Grass Downs bioregion (see Section 3.3).

The vegetation within the construction footprint can broadly be categorised as Acacia woodlands/shrublands, Eucalyptus woodlands, or tussock/hummock grasslands (see Figure 3-3). The landforms within the construction footprint are generally rocky hills at the westernmost and easternmost ends (i.e. around Tennant Creek and Mount Isa respectively) with alluvial plains and black soil plains comprising the majority of the middle of the construction footprint (see Figure 3-4). Some rocky plains are interspersed throughout.

Watercourses

The majority of the watercourses traversed by the construction ROW are broad and braided, and located at the eastern end of the alignment (see Figure 3-5). They mostly flow internally, and make up the headwaters of the Lake Eyre Basin. Watercourses can rapidly transport weeds and weed seeds vast distances, and are often impacted by weed infestations as a result.

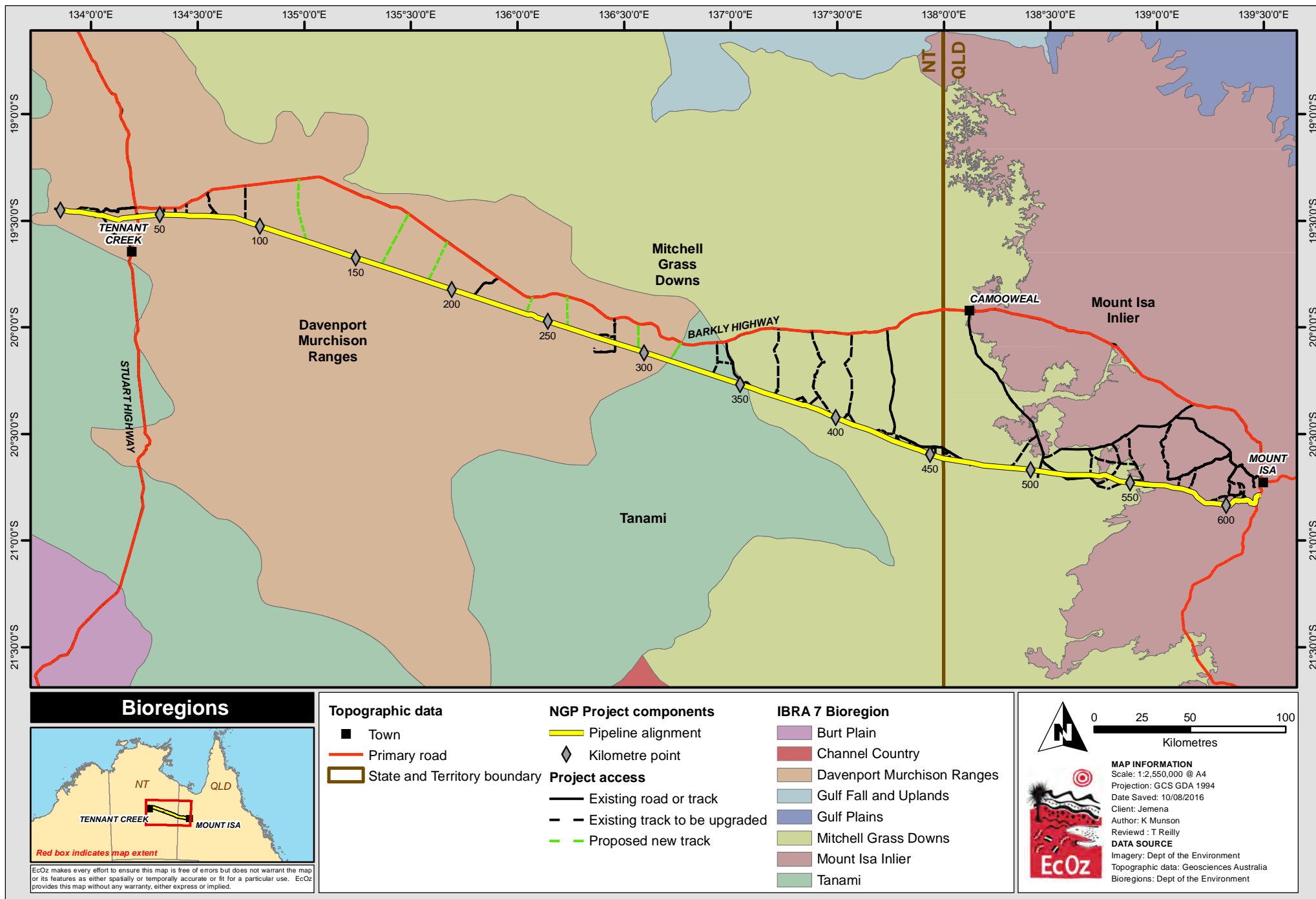
Sensitive areas and sites of conservation significance

There are no Sites of Conservation Significance located within the construction footprint, although a number are located nearby. The closest SOCS is the Frew River flood-out swamps, which is approximately 45 km south of pipeline KP 200.

Sensitive vegetation types those considered significant under the Northern Territory *Land Clearing Guidelines* (NRETAS 2010). These vegetation types are either unique to the region and/or have high biodiversity values. The region of the NT in which the construction footprint occurs contains two of these sensitive vegetation types – riparian vegetation and wetlands. These vegetation types would potentially be significantly impacted by the introduction of new weed species or the proliferation of existing weeds. It is noted that riparian vegetation along the Ranken, James, Blue Bush and Georgina Rivers is mostly poor quality due to the existing impacts of cattle and weeds. Due to the semi-arid environment watercourses and wetlands are mostly dry, and flow or fill up only following rainfall. The wetlands provide significant habitat during wet periods, when they fill and provide a refuge for birds and many other species, and their biodiversity values could be impacted by weeds.

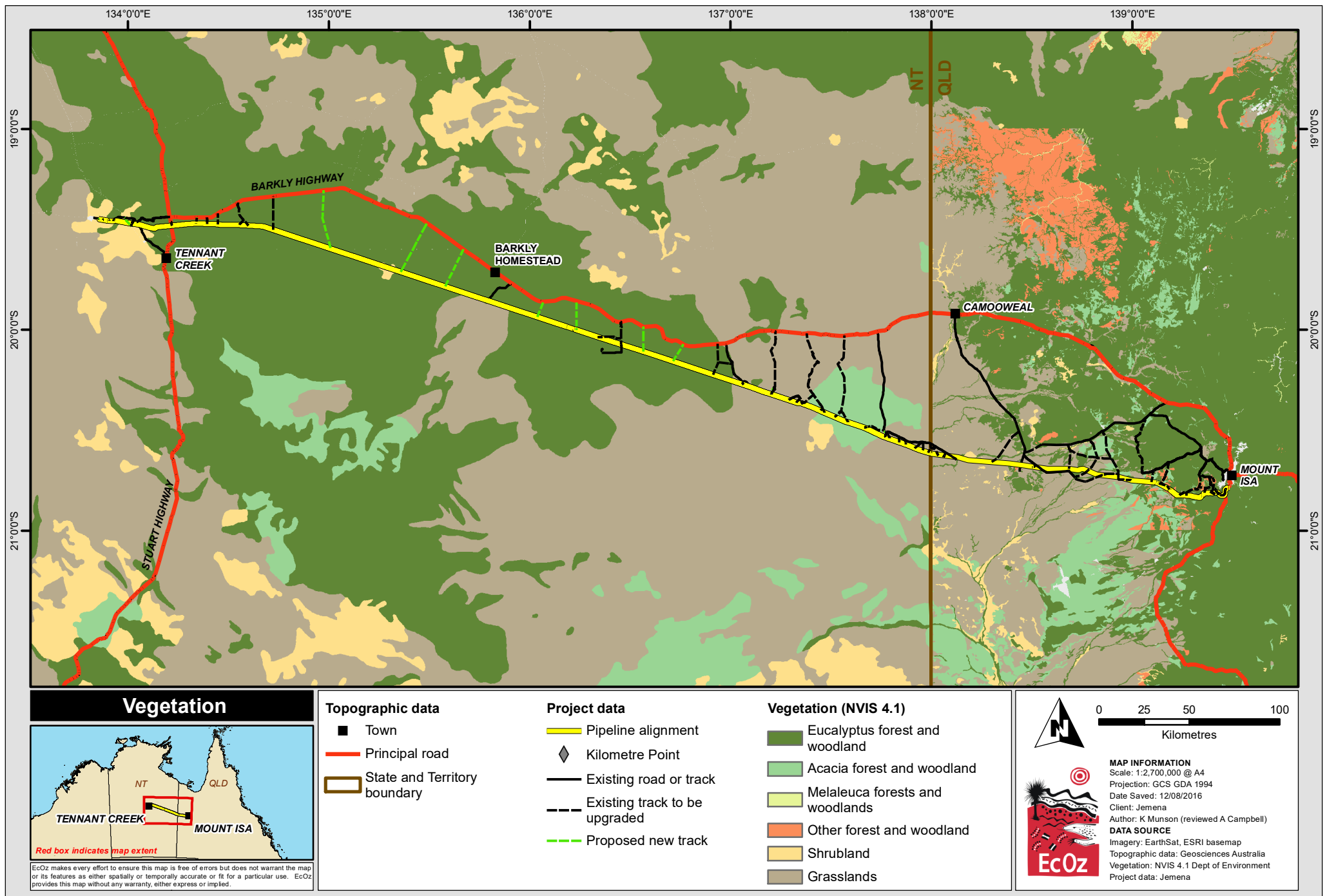
Threatened species

A total of 22 threatened species (listed under the NT or Cth legislation) were identified as being known to, or having potential to, occur within the region of the Project footprint. A threatened species survey was undertaken to investigate the presence of suitable habitat and trap for particular threatened species. The results of the field surveys confirmed the presence and/or identified suitable habitat conditions (i.e. potential presence) of a number of threatened species (refer to Threatened Species Survey Report, Appendix G of the EIS). This includes one reptile, three mammals, three birds and two plants. Weeds are a key threatening process for a number of these species due to the potential to alter habitat, reduce biodiversity, impact food sources, and alter fire regimes.



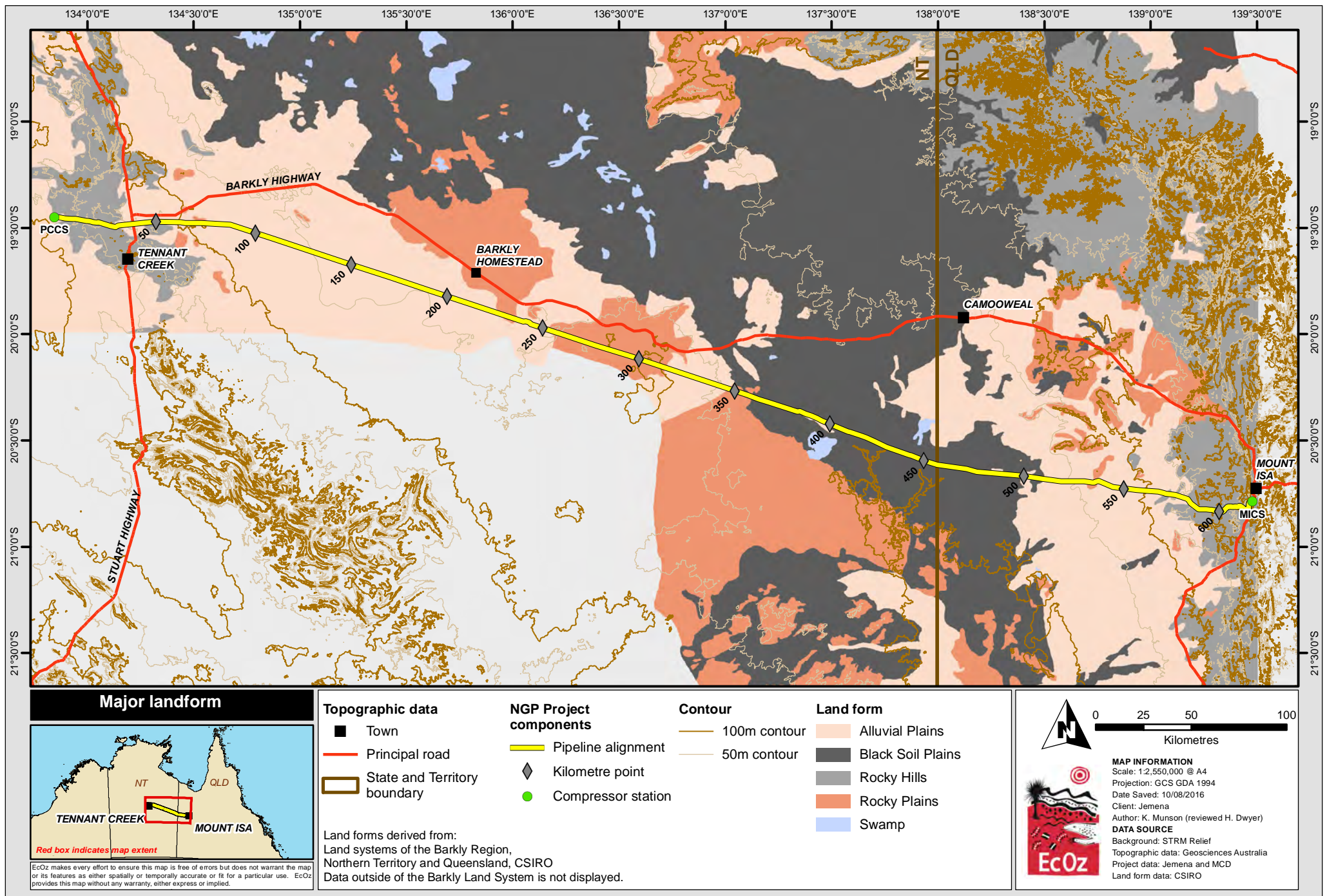
Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\JEMENA\EIS (NT)\01 Project Files\Ch6\Figure 6-1. Map showing the bioregions intersected by the Project footprint.mxd

Figure 3-2. Map of bioregions traversed by the construction footprint



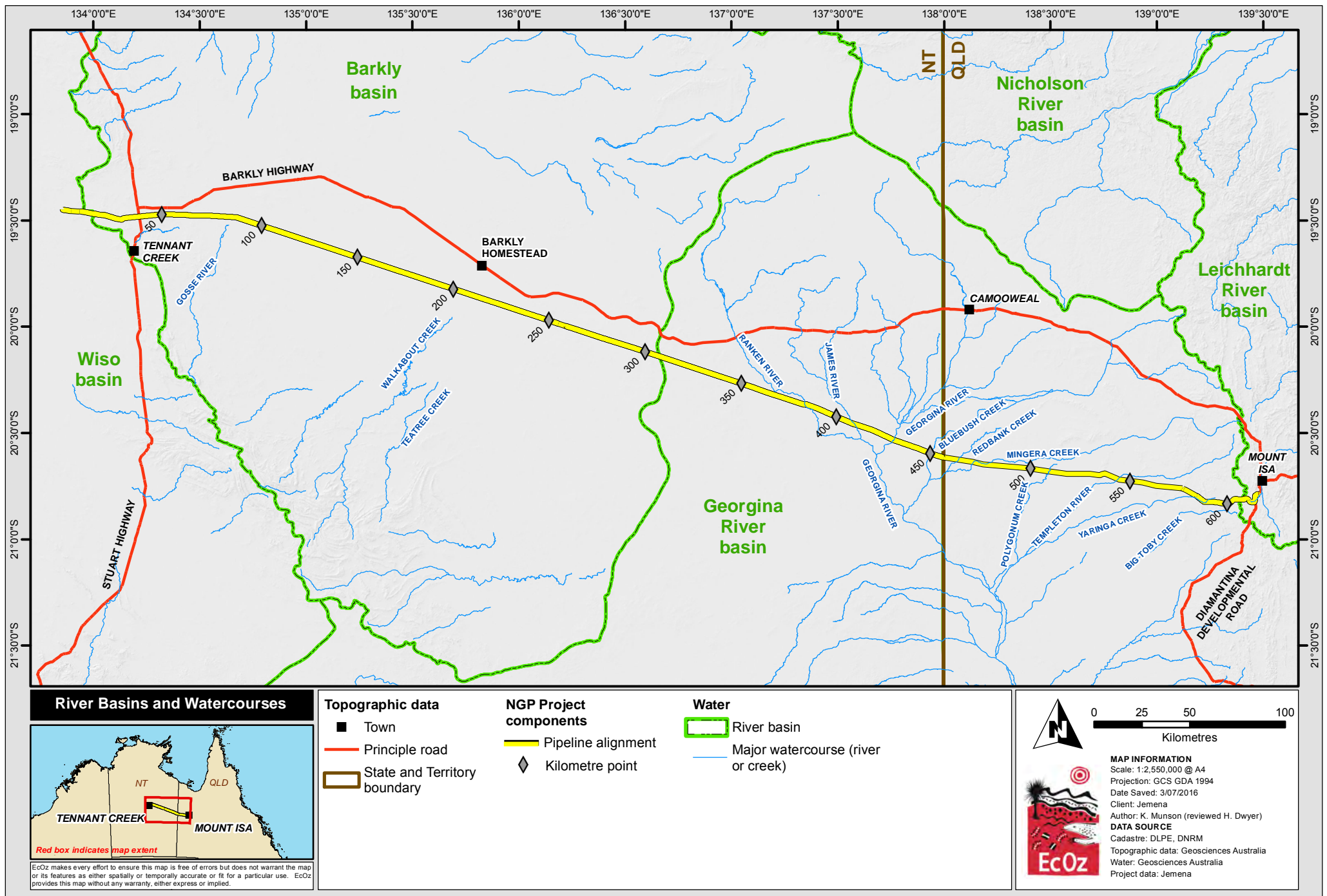
Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\JEMENA\EIS (NT)\01 Project Files\Ch3-ExisEnv\Figure 3-3. Map of vegetation within the construction footprint and surrounding region.mxd

Figure 3-3. Map of vegetation within the construction footprint and surrounding region



Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\JEMENA\EIS (NT)\01 Project Files\Ch7-EMP\Water\Figure 7-5. Map of the topography and landform along the construction ROW.mxd

Figure 3-4. Map of the major landforms within the construction footprint and surrounding region



Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\JEMENA\EIS (NT)\01 Project Files\Ch3-ExisEnv\Figure 3-4. Map of watercourses traversed by the construction ROW and major river basins.mxd

Figure 3-5. Map of watercourses traversed by the construction ROW and major river basins

3.3 Weeds

Weed data presented below are sourced from desktop research and opportunistic observations made during threatened species surveys for the EIS. A weed survey of the entire construction footprint will be undertaken pre-construction. Weed survey methodology is summarised in Appendix B, and is in accordance with NT and Qld requirements. The weed survey data will be used to inform specific controls for weeds, and this weed management plan will be updated as required.

Desktop data

In the NT, weed data are held by the Weeds Management Branch in the Department of Land Resource Management (DLRM). A total of 22 weed species (declared under the NT *Weeds Management Act*) have been recorded within the region of the construction footprint (search area encompassed the Tanami Davenport/Murchison Ranges, Mitchell Grass Downs bioregions within 20 km of the construction ROW).

In Qld, weed data are held by Biosecurity Queensland in the Department of Agriculture and Fisheries. Twenty-eight weed species (as declared under the *Land Protection (Pest and Stock Route Management) Act 2002*) have been recorded within the region of the construction footprint (search area encompassed Northwest Highlands and Mitchell Grass Downs bioregions).

Figure 3-6 depicts known weed records in the region surrounding the construction footprint. Refer to Appendix A for further information on the desktop weed study and detailed results.

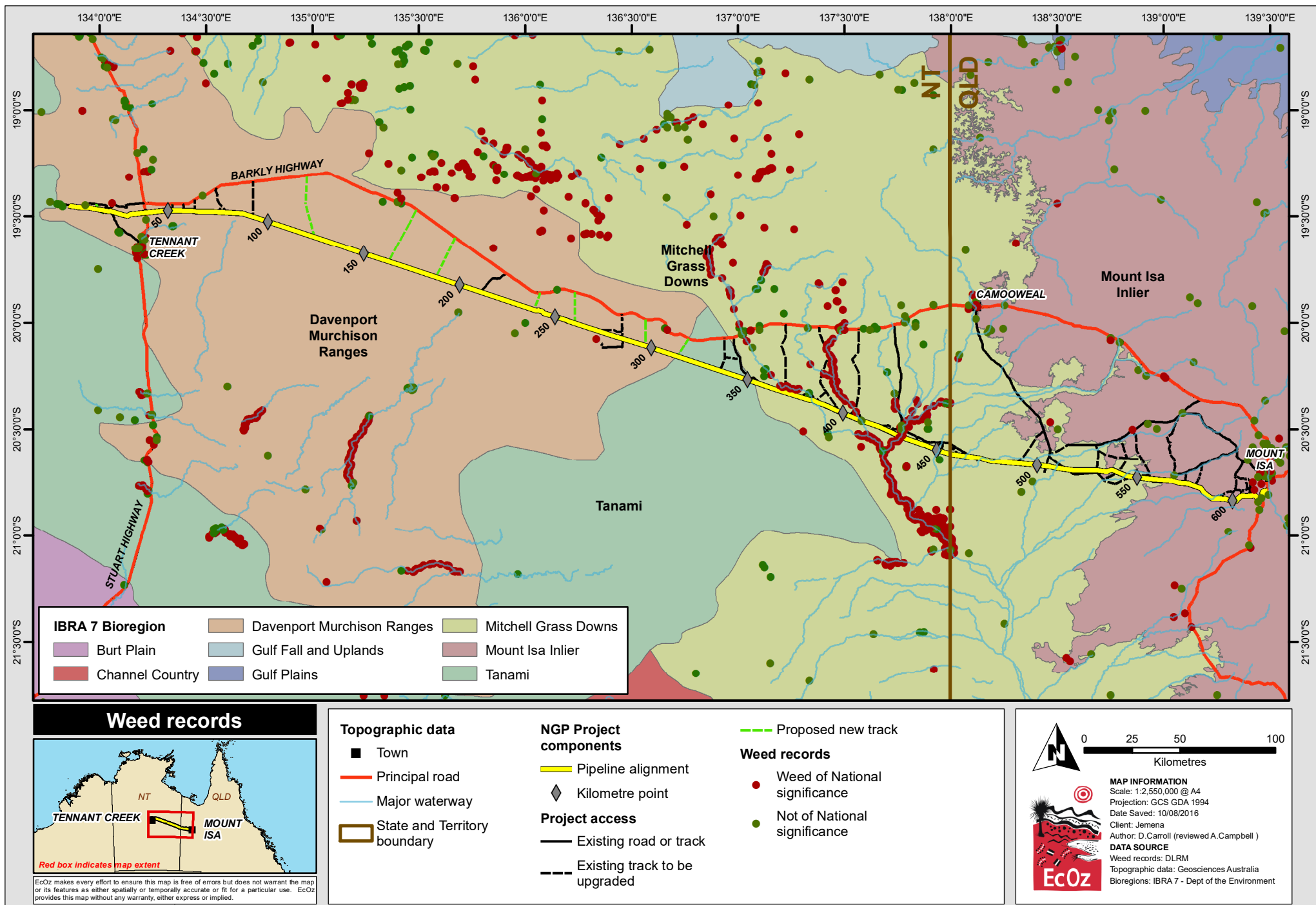
Weed species in the region surrounding the construction footprint typically occur within watercourses/alluvial flats, disturbed areas (i.e. roadsides), around infrastructure such as fences and water points, and on heavy clay and/or loam soils. The majority of weed records are within the Mitchell Grass Downs bioregion.

Field data

Incidental and opportunistic weed records were made during the threatened species and water crossing surveys conducted in April and May 2016.

Opportunistic weed observations made in the field noted that the following weeds were present within (or close to) the construction footprint.

- Noogoora Burr (*Xanthium strumarium*) – dense (but small) infestations recorded on the banks of the Ranken River
- Buffel Grass (*Cenchrus ciliaris*) – recorded near Mt Isa, Tennant Creek, and Barkly Homestead
- Kapok Bush (*Aerva javanica*) – recorded near Barkly Homestead
- Parkinsonia (*Parkinsonia aculeata*) – low density of saplings on floodouts of Georgina River
- Mesquite (*Prosopis pallida*) (identification to be confirmed during weed surveys) – located along some small drainages within the black soil plains.



Path: Z:\01 EcOz_Documents\04 EcOz Vantage GIS\JEMENA\EIS (NT)\01 Project Files\Ch6\Figure 6-7. Map of declared weed records in the region of the Project footprint.mxd

Figure 3-6. Map of declared weed records in the region of the construction footprint

4 RISK ASSESSMENT

A comprehensive risk assessment was undertaken for the EIS. That process identified a number of risks to biodiversity as a consequence of weeds, namely:

- proliferation of existing weeds within the construction footprint
- introduction of new weeds into the construction footprint

The EIS risk assessment process defined the risks further into activity based risks, for which management and mitigation measures are required. These are:

- introduction of new weeds, or proliferation of existing weeds, caused by the transportation of personnel, machinery and materials.
- establishment of new weeds, or proliferation of existing weeds, within the construction footprint due to land clearing, which provides ideal conditions for opportunistic weed species to recolonise.
- proliferation of existing weeds due to stockpiling of cleared vegetation along the construction ROW.
- proliferation of existing weeds during reinstatement and rehabilitation of the construction footprint due to the spread of weed contaminated topsoil along the construction ROW.
- altered habitat due to the proliferation of existing weeds, or establishment of new weeds, due to changed vegetation composition, reduction in habitat diversity, and altered fire regimes.

The focus of this weed management plan is to describe the management and mitigation measures that will be undertaken to reduce these risks to an acceptable level. Other management plans for this project are referenced where relevant.

5 WEED MANAGEMENT MEASURES

This section documents the weed management measures that will be implemented to reduce risks associated with construction activities associated with the NGP project to As Low As Reasonably Practicable (ALARP). For each potential impact identified through the environmental risk assessment process the sections below outline:

- environmental objectives
- management actions required to achieve those objectives
- monitoring that will be undertaken to measure performance
- reporting requirements
- performance indicators
- corrective actions to be applied if performance indicators are not being met.

5.1 Introduction of new weeds

The introduction of new weeds to the construction footprint is a potential risk related to the transportation and movement of personnel, materials, machinery and equipment. This includes movements within the construction footprint, and between the construction footprint and outside areas. This is especially relevant to new machinery, vehicles and materials and equipment which are imported to the construction footprint, as these can be a vector for weed seeds, plants or soil that contains remnants of weeds not currently present in the region.

Prior to transport to the construction site, vehicles, machinery and equipment must undergo weed hygiene inspections carried out by a trained Weed Hygiene Inspector in compliance with the Qld Government Biosecurity Queensland Checklists; Vehicle and Machinery Inspection Procedure¹ (AFF 2013), see Appendix C.

As part of the training of staff, relevant workers (e.g. on-site environmental officers) will receive training in weed hygiene inspections, and will attend one of the following courses:

- RTD 2312A - Inspect Machinery of Plant Animal and Soil Material,
- RTD2313A - Clean machinery of plant, animal and soil material or
- TAFE QLD AHC BIO201A - Inspect and clean machinery for plant, animal and soil material

A Weed Hygiene Declaration Form (Appendix D) will be filled out for all inspected vehicles, machinery and equipment to provide a record of the inspection and results. Declaration forms will be provided to landholders or other stakeholders as required.

¹ Qld guidelines have been used in lieu of NT guidelines for weed inspections and weed hygiene.

Objective: No new weed species will be introduced into the construction footprint as a result of construction

Management actions	Monitoring	Performance indicators	Corrective actions
Undertake a weed survey of construction footprint prior to construction to provide a baseline of existing weeds, and inform the identification of new weeds within construction footprint.	Weed survey	All existing weeds within construction footprint are identified and mapped	Undertake weed survey prior to construction or disturbance
Facilitate weed hygiene inspector training for relevant employees and contractors.	Training logs	Staff are trained in weed hygiene and inspections	Additional training
All vehicles, equipment and machinery for the project shall be thoroughly cleaned, washed down and declared "Clean" (i.e. weed free) on Weed Hygiene Declaration Forms, prior to mobilisation to the construction footprint.	Spot-checks on vehicles, machinery and equipment arriving at site to ensure inspections are completed correctly Environmental audits	All vehicles and machinery are subject to a weed hygiene inspection before use at site	Enforce weed hygiene inspections Incident investigations and remedial actions based on investigation
Any vehicles, equipment and machinery entering the construction footprint must be accompanied by a valid and properly authorised weed hygiene declaration with the exception of delivery vehicles on public roads and clean access tracks taking supplies direct to camps.			
All construction materials are to be inspected for weeds, seeds and soil prior to transport to site. All materials must be stored in dedicated laydowns that are cleared of vegetation and declared weed free prior to stockpiling of materials.			
Transport to construction footprint is to be via approved transport routes (existing railway and roads, and Project access tracks); no travelling off designated transport routes is to occur.	In Vehicle Monitoring System (IVMS)	No unauthorised travel off dedicated Project transport routes	Incident investigations and remedial actions based on investigation
Any soil or fill material that is imported must be checked for weed seeds and accompanied by a Weed Hygiene Declaration form.	Spot checks of soil and fill material suppliers	No weed contaminated soil or fill is imported into the construction footprint	Incident investigation Removal of imported fill
	Environmental audits		
Any plant species used to vegetate wastewater irrigation areas at construction camps will not be a declared weed species.	Environmental audits	No weeds planted in irrigation areas	Remove weeds and replace with non-weed species
Recording and reporting	Weed hygiene declarations IVMS records Incident register <u>Vehicle and Equipment Weed Hygiene Inspection Register</u> <u>NB:</u> all vehicles and equipment are subject to a daily inspection report by the operator Environmental audit report Weed survey report and map		

Management actions		Monitoring	Performance indicators	Corrective actions
Responsibility	Construction Manager – construct laydowns and wash bays as per design Trainer – train relevant staff in Weed Hygiene Inspections Construction Contractor Environmental Manager – implementation and monitoring of management measures, spot checks, inspections			

5.2 Proliferation of existing weeds

Prior to construction, the construction footprint will be surveyed to map existing weeds within the construction footprint or immediate surrounds. The information from the weed survey, combined with the desktop search results, will be used to map and categorise weed management zones (“weed zones”). Weed zones will be determined based on:

- weed species identified during the weed survey (including species type and density)
- weed classes according to NT and Qld legislation
- location of state, territory and property boundaries
- likely construction activities within each zone
- proximity to watercourses or sensitive vegetation

The weed zones will inform weed control and weed hygiene requirements. The weed zones will only apply to initial land clearing and topsoil removal works, and reinstatement and rehabilitation works; i.e. those works undertaken in potential risk areas (see below). The method for determining weed zones, and specific controls required for each zone, will be confirmed with the NT DLRM following the weed survey, and this weed management plan will be updated with the additional information.

All vehicles and machinery working with topsoil or vegetation will be considered to be working in a potential risk area, in that there is the potential for these activities and these vehicles to spread weed seed and/or vegetative material throughout the construction footprint. Vehicles and machinery with approval to operate the potential risk area will include those involved in vegetation clearing, topsoil removal, weed control, and those involved in reinstatement activities (refer to Section 5.3). This will apply to vehicles and machinery establishing access tracks, clearing and establishing the construction ROW, clearing and establishing temporary construction infrastructure (camps and water storage dams), and establishing the compressor station sites. Vehicles and equipment working in high risk weed zones will be required to use weed hygiene facilities when moving to a low risk weed zone. Weed hygiene inspections will be undertaken on these vehicles between weed zones where required.

As a minimum, weed hygiene will be undertaken for any equipment handling vegetation or topsoil for the following works:

- moving between the Qld and NT jurisdictional border
- moving between high and low risk weed zones
- as required by on State and Territory legislation

Vehicles and equipment that are not working with topsoil or vegetation will be considered to be working in ‘clean’ weed areas (e.g. trenching and pipeline laying equipment), provided they comply with access track restrictions (see below). These vehicles will not be subject to use of the weed hygiene facilities, provided they do not leave the clean work areas. Vehicles and machinery working in clean areas will be restricted to movements along approved access tracks, transport routes and ‘clean’ construction areas.

Where required, weed control will be undertaken in as determined from the findings from the of the pre-construction weed surveys. Suitably qualified staff will undertake chemical control in accordance with relevant NT and Qld guidelines as required to minimise the risk of spreading existing weeds through the pipeline alignment.

Access tracks will be surveyed for weeds prior to access being granted. Existing access tracks that do not require any works prior to use will be designated 'clean'. Any access tracks that are widened or improved prior to use will be designated as potential risk and weed zones, weed control, and hygiene protocols will be established that are consistent with those implemented for the construction ROW. Once clearing and earthworks are complete along the access tracks they will be considered 'clean'. Approved access tracks will be clearly sign posted and a map showing the location of all approved access tracks will be provided to all workers during site inductions. Sealed roads (e.g. Stuart Highway and Barkly Highway) and railway lines will also be approved transport routes.

There will be allocated wash-down bays (i.e. weed hygiene facilities) at each of the construction camps. Mobile weed hygiene facilities will be established along the construction ROW for use by vehicles working in potential risk areas. The weed hygiene facilities to be used along the construction ROW will be moved with the forward progression of clearing and topsoil removal activities. This will allow jurisdictional property border and weed zone weed hygiene to be implemented as required.

Note that the weed hygiene inspections and wash-down procedures will be exempt in the following circumstances:

- any vehicle or machinery travelling exclusively in the 'clean' areas
- emergency vehicles and authorised site vehicles responding to an emergency
- where an emergency has occurred and Project vehicles are evacuating or moving within the construction footprint in response to the emergency
- landholders and their guests moving around their own properties

Objective: No proliferation of existing weeds throughout the construction footprint as a result of construction

Management actions	Monitoring	Performance indicators	Corrective actions
Prior to construction, conduct a weed survey of the construction footprint and identify weed management zones. Map weed management zones and provide this to all staff working in potential risk areas, along with information on controls required for each zone (e.g. no access, weed hygiene). Map will also show the location of weed hygiene facilities.	Weed survey	All existing weeds within construction footprint are identified and mapped	Undertake weed survey prior to construction or disturbance
Train workers on the identification and reporting of weeds during site inductions. Workers and contractors to report suspected weeds to Environmental Manager immediately.	Training logs environmental audits	Staff are inducted and trained in weeds	Review and update site induction material
A weed identification booklet for the weed species known to occur within the construction will be provided to all staff. Fact sheets will be displayed at camps and in crib huts.		Weed identification booklets and factsheets are available and displayed	Additional training for weed inspectors
Implement weed hygiene inspector training for relevant employees and contractors.			Develop and display booklet and factsheet
Assign areas where initial land clearing and topsoil removal is to be undertaken as potential risk and implement appropriate controls for vehicles and machinery.	Pre-clear inspections	No new weed species identified within construction footprint.	Revise weed management procedure
Undertake weed control where required in accordance with the weed management procedure.	environmental audits	No outbreak of	

Management actions		Monitoring	Performance indicators	Corrective actions
Stockpile weed infested vegetation and topsoil separately to vegetation and topsoil that is free of weeds; do not move soil between weed zones.			weeds on topsoil stockpiles	
Complete weed inspections of all vehicles and machinery working with topsoil or vegetative material moving from a high risk to a low risk weed zone.		Spot checks of machinery hygiene records environmental audits	All vehicles and machinery have a valid weed hygiene declaration.	Toolboxes for operators Incident investigations and remedial actions based on investigation
Personnel working in high weed risk zones will also be subject to weed hygiene, specifically checking boots and clothes for seeds prior to moving between weed zones or into 'clean' areas. Operators will be trained in this as part of the weed inspection training.				
Access tracks and dedicated transport routes are to be surveyed for weeds and declared 'clean' prior to main construction traffic using them.		IVMS Monthly environmental audits	No unauthorised travel or works outside of clean areas No new weed species identified within the construction zone.	Toolboxes to inform workforce of weed management zones. Incident investigations and remedial actions based on investigation.
Construction traffic and machinery will only travel on 'clean' work areas, other than vehicles and machinery approved for dirty worksAll vehicles and machinery must have a valid vehicle and machinery weed hygiene declaration.				
If required undertake control of weed populations (either by chemical or physical means) in identified clean areas Suitably qualified workers, or a weed control contractor, are to implement controls as required.		Weed surveys Environmental audits	No weed infestations within construction footprint	Implement chemical controls within construction footprint
Recording and reporting	Weed hygiene declarations IVMS records Incident register Inspection logs Monthly environmental audit report Weed identification booklets Weed maps for weed zones and clean and potential risk areas			
Responsibility	Construction Manager – construct wash bays as per design Constructors – undertake weed hygiene inspections and wash-downs, report suspected weeds to Environmental Manager Trainer – train relevant staff in Weed Hygiene Inspections, site inductions Construction Contractor Environmental Manager – implementation and monitoring of management measures, spot checks, inspections			

5.3 Reinstatement/rehabilitation activities

Following the construction and installation of the pipeline, the trench will be backfilled with subsoil before cleared topsoil is spread back across the ROW. This is termed 'bulk reinstatement'. During rehabilitation, disturbed land will be re-contoured to match the surrounding landform and topography, following which the

originally cleared vegetation will be re-spread over the area to provide groundcover. Revegetation will rely on the seed stock in the topsoil and cleared vegetation. Bulk reinstatement and rehabilitation will occur progressively as construction progresses along the ROW.

During the bulk reinstatement and rehabilitation it will be important to confirm that the original weed zones mapped prior to construction remain accurate. Weed zones will be flagged prior to works and reinstatement and rehabilitation machinery operators provided with maps and instructions for the controls required between weed zones. All bulk reinstatement and rehabilitation works will be considered to be within a potential risk area and only vehicles and machinery approved for dirty works will access the area.

Weed hygiene (blow downs or wash-downs) will be implemented between weed zones to ensure that existing infestations and weeds present within areas of the construction footprint are not spread throughout as a result of the spreading of soil and vegetation. Weed inspections of machinery will be required between weed zones to check for seeds and soils that may contain weeds. The weed zones will inform targeted monitoring.

Rehabilitation monitoring will be conducted following construction. For weeds, the most important time will be the first year after construction, after a wet season has occurred and provided rainfall and seeding conditions in the rehabilitated areas. Weed monitoring will be undertaken following one wet season, and will specifically target weed zones (i.e. areas where weeds were identified prior to construction) and the sections of construction footprint surrounding these zones to check for potential weed spread. The entire construction footprint will also be surveyed for new weeds.

Objective: No proliferation of existing weeds, or introduction of new weeds, throughout rehabilitated construction footprint.

Management actions	Monitoring	Performance indicators	Corrective actions
Construction footprint will be progressively reinstated.	Rehabilitation monitoring program	Construction footprint is progressively reinstated.	Commence reinstated.
Undertake chemical control of weed populations in identified control zones along the construction ROW, within topsoil stockpiles, and along access tracks, prior to undertaking rehabilitation works, as required.	inspections Environmental audits	No weed infestations within construction footprint prior to reinstatement	Implement chemical controls within construction footprint
No topsoil or vegetation is to move between zones..	Spot checks of machinery marking and operator knowledge of weed management zones Environmental audits	Weed No weed infestations within construction footprint prior to reinstatement	Update maps or amend flagging
Provide mapping of weed management zones.			Toolboxes for operators Additional training
Train workers on the identification and reporting of weeds during site inductions. Relevant operators should be trained in weed inspections.	Training logs Spot checks of machinery hygiene records	Relevant staff are trained in weed hygiene and inspections Weed hygiene inspections are complete	Tool box training for operators in weed hygiene and inspections
Replace removed topsoil and cleared vegetation back to original location.	Environmental audits	No movement of soil or vegetation between weed zones. Weed hygiene inspections are completed and wash-downs or blow-downs are appropriately installed used	Upgrade or move weed hygiene facilities
Any active revegetation (i.e. seeding or planting) must not use declared weed species.			Toolboxes to inform workforce of required controls between weed zones and in potential risk areas
Do not spread topsoil or vegetation from across weed zones.			
Weed hygiene inspections and wash-downs or blow-downs are to be undertaken between weed zones as required. Weed hygiene declaration forms are to be completed for each inspection.			
Undertake rehabilitation monitoring after the first wet season, and until completion criteria are met. Monitoring is to confirm that existing weeds have not proliferated, and no new weeds have emerged, within rehabilitated areas.	Rehabilitation monitoring program	No proliferation of existing weeds within rehabilitated areas, compared to baseline, pre-construction, weed survey data. No new weeds have emerged in rehabilitated	Weed control (physical or chemical) as required. Controls to be informed by weed management handbooks and specific weed plans.

Management actions		Monitoring	Performance indicators	Corrective actions
			areas.	
Recording and reporting	Weed hygiene declarations Training logs Incident register Inspection logs Monthly environmental audit report Weed maps for weed zones and clean and potential risk areas			
Responsibility	Jemena – Rehabilitation monitoring Construction Manager – construct wash bays as per design Constructors – undertake weed hygiene inspections and wash-downs Trainer – train relevant staff in Weed Hygiene Inspections Construction Contractor Environmental Manager – implementation and monitoring of management measures, spot checks, inspections and pre-reinstatement survey			

5.4 Landholder specific requirements

Objective: All specific landholder requirements will be adhered to.

Management actions	Monitoring	Performance indicators	Corrective actions
Identify landholder weed management and access requirements and include all actions in the Landholder Line List*.	Spot checks to ensure operators are complying with specific landholder agreements Environmental audits	No complaints from landholders All landholder requirements are implemented	Remedial actions as required Incident investigation Liaison with landholder
Develop on-going (post-construction) communications strategy to ensure landholders are kept informed of rehabilitation measures and on-going weed management measures.	Communications log	Landholders are kept informed of post construction progress	Meetings and communications with landholders
Recording and reporting	Landholder land access agreements Communications log Inspection logs Environmental audit reports		
Responsibility	Jemena – landholder land access agreements and communications Construction Contractor Environmental Manager – implementation and monitoring of management measures, spot checks		

* A Landholder Line List is the industry document that through consultation records all landholder access and construction requirements.

5.5 Statutory weed control requirements

In the NT, weed management plans outline the legal requirements for management of certain high priority weeds, as identified by the NT DLRM. Under the *Weed Management Act* (NT) it is an offence to not comply with the requirements of a weed management plan. Statutory weed management plans are available for a number of weeds that the construction footprint traverses (see Section 3.2):

- *Weed Management Plan for Bellyache Bush* (*Jatropha gossypifolia*), (DLRM 2013)
- *Weed Management Plan for Chine Apple* (*Ziziphus mauritiana*), (DLRM 2015a)
- *Weed Management Plan for Mesquite* (*Prosopis* species), (DLRM 2015b)
- *Weed Management Plan for Neem* (*Azadirachta indica*), (DLRM 2015c)
- *Draft Weed Management Plan for Prickly Acacia* (*Acacia nilotica* subsp. *indica*), (DLRM 2015d)
- *Athel Pine: National Best Practice Management Manual, Managing Athel Pine and other Tamarix Weeds in Australia*, (NTG 2008)

The statutory weed management plans provide detail on the declaration status of weeds, why they are considered a priority, and what controls are required for their eradication or control of their growth and spread.

Following the weed survey of the construction footprint, and confirmation of the existing weeds within the construction footprint, weed management will be undertaken in accordance with the requirements of the statutory weed management plans. For weeds not covered by statutory weed management plans, guidance

on controls will be from *The Territory Weed Management Handbook* (WMB 2014) and the *Local Government Area Pest Management Plan – 2014-2018 Mount Isa City* (MICC 2014 – Qld only).

Any physical or chemical controls required under statutory weed management plans will be undertaken by a certified weed control contractor. Records of all weed control activities will be kept to allow the success of controls to be assessed, and to guide follow-up monitoring and controls.

This weed management plan will be updated with a summary of specific controls required for high priority weeds covered by statutory weed management plans; and examples of the information to be included are provided in Table 5-1 and Table 5-2.

Table 5-1. A summary of chemical weed treatment options from statutory weed management plans in the NT

Priority Weed	Treatment Options	Active Ingredient	Application Rate	Optimal Treatment Time	Notes
Bellyache bush <i>Jatropha gossypifolia</i> *	Foliar Spray	Fluroxpyr	500 mL/100 L of water plus wetting agent	Apply foliar spray between January and April, when actively growing	The addition of a wetting agent is essential when apply herbicides using foliar spray
		Metsulfuron-methyl	10 g/100 L water plus wetting agent		
	Boom spray	Fluroxpyr	3 L/ha plus wetting agent	Apply when actively growing	
	Cut stump or basal bark treatment	Fluroxpyr	3 L/100 L diesel	Any time of year; best suited to adult plants.	Treatment can be used year round but is most effective when applied to actively growing plants.

*Information summarised from DLRM 2013

Table 5-2. A summary of non-chemical control options from statutory weed management plans in the NT

Priority Weed	Treatment option	Notes
Bellyache bush <i>Jatropha gossypifolia</i> *	Physical removal	Individual seedling and juvenile plants can be removed by hand or using a mattock. The entire root mass should be removed. This method is only effective or feasible when plant numbers are limited.
	Slashing, mulching or cutting	Slashing will kill mature plants and can improve the effectiveness of herbicide application through aiding access to seedlings. It will not eradicate bellyache bush in itself.
	Stick-raking	Stick-raking can kill plants and clear access paths, although this will result in significant soil disturbance and seedling recruitment. Fire or herbicide treatment will be required as a follow up.

*Information summarised from DLRM 2013

6 WEED MONITORING AND MITIGATION

6.1 Monitoring

6.1.1 Pre-construction weed survey

Prior to construction a weed survey will be conducted of the entire construction footprint. The weed survey will identify and map the location and extent of existing weeds within the construction footprint. This data will be used to develop weed management zones, which will be mapped and provided to the constructors. The data will also provide the baseline for comparison of post-rehabilitation monitoring.

A suitably qualified Environmental Consultant will be engaged to undertake the weed survey, develop weed zones and provide maps and required information on weed zones to Jemena and the Constructors.

If any reportable weeds are located during the survey process, the Weed Management Branch will be notified within 14 days.

6.1.2 Monitoring for new weeds

At the commencement of the construction phase all vehicles and major earthmoving machinery will be subject to a weed hygiene inspection and must be accompanied by a Weed Hygiene Declaration. This must be undertaken prior to mobilisation to the construction site, and in accordance with Appendix C and D. In addition other materials will be inspected for weed seeds, plant material and soil and must also be declared clean prior to mobilisation to site.

Monitoring and reporting will be coordinated by the Construction Contractor Environmental Manager. It is the ultimate responsibility of the Construction Project Manager to ensure that monitoring is undertaken in accordance with this, and all other, management plans. The Construction Contractor will operate under a Weed and Pest Management Procedure, which includes the requirements of this management plan, and templates for weed hygiene inspections and weed checklists.

The Construction Contractor Environmental Manager will be responsible for inspections of construction areas, including the laydowns, active construction footprint, potential risk and 'clean' work areas, and wash-down facilities. They will also be responsible for completing spot checks on vehicles, machinery, equipment and materials to ensure that the weed hygiene inspections have been undertaken adequately and that they are accompanied by a weed hygiene declaration.

Wash-down facilities will be constructed at each construction camp and used to keep vehicles, machinery and equipment clean and weed free. The wash-downs will be constructed to retain and recycle water through the system and trap weed seeds in a sump. Sumps will be cleaned out as required and waste removed and disposed off-site by a licenced contractor.

Monthly environmental audits will include inspections of laydowns, construction areas and wash-downs to ensure that they are managed in accordance with this weed management plan.

6.1.3 Monitoring of existing weeds

The Construction Contractor Environmental Manager will be responsible for monitoring as outlined in Section 5. This will include spot checks of vehicles and machinery for weed hygiene and weed hygiene declarations, checks on potential risk and 'clean' works approvals and markings on vehicles, flagging of potential risk and 'clean' areas and weed zones, and general weed monitoring for signs of new or existing weed proliferation within the construction footprint. With the exception of spot checks, this monitoring will be undertaken as

part of the site monitoring program, and results will be recorded internally and reported to Jemena as per the CEMP.

All areas of the construction footprint, including access tracks, the construction ROW, temporary construction camps and water storage dams, compressor stations and laydowns will be subject to environmental audits by a third party Environmental Consultant. This will include surveying for weeds within the construction footprint and comparing data to pre-construction information to identify whether new weeds are spreading. Any weeds germinating within the construction footprint will be treated with controls stipulated in Section 5.5, noting that germination is unlikely due to short construction period and timing of the works in the dry season.

In Vehicle Monitoring System (IVMS) will be used, as appropriate, to track vehicle movements and ensure that any vehicle deviation from the approved access tracks and transport routes is identified.

6.1.4 Reinstatement/Rehabilitation monitoring

The construction ROW will be progressively reinstated as construction progresses. Other temporary construction infrastructure such as access tracks, construction camps and water storage dams will also be progressively reinstated when no longer required. Prior to reinstatement construction areas will be surveyed to ensure that the pre-construction weed zones remain valid. This pre-reinstatement survey may be undertaken as part of the Construction Contractor monitoring, and monthly environmental audits. The aim will be to identify whether any new weeds or existing weeds require treatment prior to reinstatement and rehabilitation, and to ensure that weed zones and potential risk and 'clean' works areas are correct, flagged out and mapped appropriately. Post-reinstatement rehabilitation monitoring will be conducted as part of the Construction Contractor monitoring, and environmental audits as the Project progresses.

On-going rehabilitation monitoring is detailed in the Environmental Management Plan (Chapter 13 of the EIS). Weed monitoring will be an essential element of the on-going rehabilitation monitoring program and will be undertaken initially after the first wet season post-rehabilitation, and continually managed throughout the life of the Pipeline thereafter. The monitoring will target original weed zones to check for proliferation of existing weeds as compared to pre-construction conditions. The entire construction footprint will also be monitored for signs of new weeds or new infestations of existing weeds. Data will be compared to pre-construction conditions and the Qld EA conditions outlined in Table 1-2. Controls will be implemented as required under NT and Qld legislation (and summarised in Section 5.5), environmental approvals conditions, and landholder land access agreements.

6.1.5 Non-conformance and corrective actions

All monitoring data will be recorded in internal spreadsheets and compared to performance indicators. Any non-conformance will be documented and reported in internal reports.

The severity of the non-conformance or incident will determine the reporting requirements and remedial action. The Construction Manager should be notified of any non-conformance within 24 hours of an incident occurring.

The performance indicators stipulated in section 5 provide the overarching indicators for the site, against which management methods can be assessed. If it is identified that the performance indicators are not being met, corrective actions must be implemented. Corrective actions are provided in section 5 for each applicable management measure.

6.2 Review and audit program

Compliance with the management and monitoring measures outlined in the weed management plan will be monitored through:

- environmental inspections undertaken by an Construction Contractor Environmental Representative
- environmental compliance audits.
- 6-monthly internal project audits by the Construction Contractor will include environmental audit criteria

Findings of inspections and audits will be reported to project managers and, where relevant, regulators to ensure transparency of auditing and compliance with this weed management plan. Any issues identified during the inspections and/or audits will be corrected as per Section 5.

This weed management plan is an evolving document that should be reviewed and updated annually, or in response to changes to construction plans. Importantly, it will be updated following the weed survey to include data on existing weeds within the construction footprint and information on weed management zones.

7 REPORTING AND INCIDENT RESPONSE

7.1 Reporting

The findings of inspections, audits and monitoring will be recorded and reported internally. The Construction Contractor will complete internal reports during the construction phase as per their Construction Environmental Management Plan. Additionally, an annual return including an Update Report will be submitted to Qld DEHP outlining disturbance, rehabilitation and monitoring activities, and providing details on all valid complaints.

Following each monthly environmental audit the Environmental Consultant will provide an audit report to the Construction Contractor and Jemena which will outline the findings of each audit. Audit findings will be compared to performance indicators and non-conformances will be highlighted to guide the implementation of corrective actions.

7.2 Incident management

For the purposes of internal company reporting, incidents include:

- complaints from landholders or land managers
- non-compliance with property weed management agreements
- non-compliance with weed hygiene procedures and/or vehicle inspection procedures
- an introduction of a new (declared) weed species to work areas
- the proliferation of existing weeds within the construction footprint.

Any occurrence of the above listed incidents will trigger an incident investigation to identify the causes and impacts of the incident and implement remedial actions to avoid reoccurrence.

7.3 Complaint management

Prior to the commencement of construction activities, Jemena will ensure that contact details are available for community complaints relating to the impact of construction activities on weed management. Contact details will include:

- a 24-hour telephone number where complaints can be made
- a postal address where written complaints can be sent
- an email address where electronic complaints can be sent

Prior to the commencement of construction activities, details of how complaints can be made will be advertised in the local newspapers and on Jemena's website. Contact details for making complaints will be provided to landholders, land occupiers, indigenous groups and parties with resource interests along the construction footprint.

In the event of a complaint being made to the construction Contractor, they will ensure the complaint is recorded and is actioned for resolution. Investigation of the complaint, responsibility for complaint management, management actions and the outcome of resolution will be recorded in the Complaints Register. The following details will be included:

- the date and time of the complaint.
- the means by which the complaint was made (telephone, mail or email).
- any personal details of the complainant that were provided, or if no details were provided, a note to that effect.
- the nature of the complaint.

- any action(s) taken in relation to the complaint, including timeframes for implementing the action. If no action was taken in relation to the complaint, the reason(s) why no action was taken.

The Construction Contractor will ensure that any complaint is actioned within 24 hours of the complaint being received. Jemena shall provide an initial response to any complaints made in relation to the project during construction or operation within 48 hours of the complaint being made.

8 COMMITMENTS WITHIN THIS PLAN

Commitments made within this plan are summarised in Table 8-1 below.

Table 8-1. Commitments contained within this plan

Commitment	Relevant section
Weed management measures will be implemented to manage weeds during the project construction phase, including reinstatement and rehabilitation, and will be implemented by all personnel (including contractors) involved in project activities.	Section 5
Weed management measures will be implemented to reduce risks associated with construction of the NGP Project to As Low As Reasonably Practicable (ALARP).	
Regular monitoring of work sites against environmental objectives will be undertaken by the Construction Contractor, who will prepare a report that will include information obtained from: <ul style="list-style-type: none">• vehicle and machinery hygiene inspection reports• weed control activity sheets It will also include information relating to incidents and non- conformances	
Third party environmental auditors will undertake regular audits of all work sites and assess compliance with this weed management plan	
New weeds	
Facilitate weed hygiene inspector training for relevant employees and contractors	Section 5.1 Section 6.1.2
All vehicles and machinery for the project shall be thoroughly cleaned, washed down and declared “Clean” (i.e. weed free) on Weed Hygiene Declaration Forms, prior to mobilisation to the construction footprint. Vehicles and machinery must be accompanied by a valid and properly authorised weed hygiene declaration.	
All construction materials are to be inspected for weeds, seeds and soil prior to transport to site. All materials must be stored in dedicated laydowns that are cleared of vegetation and declared weed free prior to stockpiling of materials.	
Transport to construction footprint is to be via approved transport routes (existing railway and roads, and Project access tracks); no travelling off designated transport routes is to occur.	
Install dedicated weed hygiene facilities in accordance with weed risk zone mapping.	
Undertake a weed survey of construction footprint prior to construction to provide a baseline of existing weeds, and inform the identification of new weeds within construction footprint	
Prior to undertaking construction activities, employees and contractors will be provided with training and/or site induction related to	

Commitment	Relevant section
<p>weed management procedures including:</p> <ul style="list-style-type: none"> • Weed identification information • The requirements for management, monitoring and corrective actions <p>A weed identification booklet for the weed species currently found within the project corridor will be provided to relevant operators</p>	
Existing weeds	
Prior to construction, conduct a weed survey of the construction footprint and identify weed management zones. Map weed management zones and provide this to all staff working in potential risk areas, along with information on controls required for each zone (e.g. no access, weed hygiene). Map will also show the location of weed hygiene facilities.	Section 5.2, 5.5 and 6.1.3
Train workers on the identification and reporting of weeds during site inductions. Workers and contractors to report suspected weeds to Environmental Manager immediately.	
A weed identification booklet for the weed species known to occur within the construction will be provided to all staff. Fact sheets will be displayed at camps and in crib huts.	
Implement weed hygiene inspector training for relevant employees and contractors.	
Stockpile weed infested vegetation and topsoil separately to vegetation and topsoil that is free of weeds; to be determined based on weed zones.	
Personnel working in potential risk areas will also be subject to weed hygiene, specifically checking boots and clothes for seeds prior to moving between weed zones or into 'clean' areas. Operators will be trained in this as part of the weed inspection training.	
Access tracks and dedicated transport routes are to be surveyed and declared 'clean' prior to main construction traffic using them.	
Construction traffic and machinery will only travel on 'clean' work areas, other than vehicles and machinery approved for dirty works.	
Undertake chemical or physical control of weed populations as required by the weed management plan. Suitably qualified staff, or a weed control contractor, are to implement controls.	
Bulk reinstatement and rehabilitation	
Construction footprint will be progressively rehabilitated, and within 12 months of completion of works	Section 5.3 and 6.1.4
Prior to bulk reinstatement, progressively survey the construction ROW, topsoil stockpiles and cleared vegetation stockpiles to identify weeds prior to respreading of topsoil and vegetation.	
Undertake chemical control of weed populations in identified control zones along the construction ROW, within topsoil stockpiles, and along access tracks, prior to undertaking rehabilitation works, as required.	
No topsoil or vegetation is to move between weed zones.	
Vehicles must have a valid weed hygiene declaration	

Commitment	Relevant section
Train workers on the identification and reporting of weeds during site inductions. Relevant operators should be trained in weed inspections.	
Replace removed topsoil and cleared vegetation back to original location.	
Undertake rehabilitation monitoring after the first wet season, and continually manage rehabilitation throughout the life of the Pipeline thereafter. Monitoring is to confirm that existing weeds have not proliferated, and no new weeds have emerged, within rehabilitated areas.	
All inspections, audits and monitoring data will be recorded in internal spreadsheets and compared to performance indicators. Any non-conformance will be documented and reported in internal reports.	
Landholder requirements	
Identify specific weed management and access requirements for land owners and include in Landholder Line List	Section 5.4 and 7.3
Include landholder weed management requirements in site induction materials as required	
Develop on-going (post-construction) communications strategy to ensure landholders are kept informed of rehabilitation measures and on-going weed management measures	

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Acronyms

ALARP	As Low As Reasonably Practicable
APGA	Australian Pipelines and Gas Association (see also APIA)
APIA	Australian Pipeline Industry Association (see also APGA)
AS	Australian Standard
BoM	Bureau of Meteorology
Cwlth	Commonwealth
DLRM	Department of Land Resource Management (NT)
DNRM	Department of Natural Resources and Mines (Qld)
EA	Environmental Authority
EA Act	Environmental Assessment Act (NT)
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPBC Act	Environment Protection and Biodiversity Conservation Act
EPP (Water)	Environmental Protection (Water) Policy
ha	hectare
IVMS	In Vehicle Monitoring System
MICS	Mount Isa Compressor Station
MVS	Major vegetation subgroups
NGP	Northern Gas Pipeline
NT	Northern Territory
NT EPA	Northern Territory Environmental Protection Authority
NZS	New Zealand Standard
OEMP	Operational Environmental Management Plan
Qld	Queensland
ROW	Right Of Way
ToR	Terms of Reference
WoNS	Weeds of National Significance

Glossary

bioregion	A biogeographic region is a complex, landscape scale ecosystem that is comprised of interacting climate, lithology, geology, landforms and vegetation
Clean zone	Weed free areas, including areas which have already been cleared of topsoil and vegetation, dedicated access tracks and transport routes, and areas mapped as weed free prior to construction.
Construction footprint	Footprint for construction including construction ROW, facilities, access roads, ancillary infrastructure and camps.
Construction ROW	30 m wide corridor within which the pipeline construction will occur
Landholder Line List	A Landholder Line List is the industry document that through consultation records all landholder access and construction requirements.
Potential Risk zone	Area in which declared weeds, weed seed or weed vegetative material occurs, including: <ul style="list-style-type: none"> • areas in which vegetation clearing and/ or top soil removal has not yet occurred • areas in which rehabilitation activities including back filling and reinstatement is taking place • areas in which existing weeds were identified in the pre-construction survey
Weed free areas	Areas in which no declared weeds occur
Weed hygiene	The process of inspecting and/or cleaning from vehicles and machinery all dirt and vegetation that has the potential to carry weed seed and/or weed reproductive material prior to moving into an area that is declared clean or weed free
Weed management zones	Areas of the construction footprint in which declared weed species have been identified and/or mapped, either pre-construction or during construction. Different zones will require different controls.

Appendix A - Desktop Weed Study

Existing weed records

The likely occurrence of weed species within and adjacent to the Project area was assessed by collating existing regional weed records for each of the bioregions that will be traversed by the construction footprint, as well as specific weed records for the construction footprint. This data is presented below.

Desktop assessment – Northern Territory

Weed records in the Northern Territory are held by the Weeds Management Branch in the Department of Land Resource Management (DLRM).

The NT Weed Dataset records the density and location of weed populations and their movement over time. Weed records for the NT section of the construction footprint were from DLRM in March 2016. Weed records were extracted for each of the bioregions that the construction footprint traversed, to provide a list of weed species that would potentially be found within the pipeline corridor and nearby adjoining access tracks. The resulting weed data was further queried to select weed records within the 20 km wide planning corridor. Data is presented in Table 9-1. The desktop weed data will inform on-ground weed surveys that will be conducted prior to construction to confirm the location of existing weeds within the construction footprint.

Table 9-1. NT regional weed records, and record of occurrence within the project corridor

Family	Common Name	Genus	Class	WoNS	Bioregion*	Recorded in Planning Corridor
TAMARICACEAE	Athel pine	<i>Tamarix aphylla</i>	A/C	Yes	MGD / DMR / TAN	No
EUPHORBIACEAE	Bellyache bush	<i>Jatropha gossypifolia</i>	A/C	Yes	MGD / DMR	Yes
SOLANACEAE	Thornapple - Longspine	<i>Datura ferox</i>	A/C	No	MGD	No
FABACEAE	Mesquite	<i>Prosopis spp.</i>	A/C	Yes	MGD / DMR	Yes
ASTERACEAE	Parthenium	<i>Parthenium hysterophorus</i>	A/C	Yes	DMR	No
BORAGINACEAE	Patterson's curse	<i>Echium plantagineum</i>	A/C	No	DMR	No
FABACEAE	Prickly acacia	<i>Vachellia nilotica</i>	A/C	Yes	MGD / DMR	Yes
ZYGOPHYLLACEAE	Caltrop	<i>Tribulus terrestris</i>	B/C	No	MGD / DMR / TAN	Yes
EUPHORBIACEAE	Castor oil plant	<i>Ricinus communis</i>	B/C	No	TAN	No
FABACEAE	Coffee senna	<i>Senna occidentalis</i>	B/C	No	DMR / TAN	No
LAMIACEAE	Hyptis	<i>Hyptis suaveolens</i>	B/C	No	MGD / DMR / TAN	No
PAPAVERACEAE	Mexican poppy	<i>Argemone ochroleuca</i>	B/C	No	MGD	Yes
POACEAE	Mission grass - perennial	<i>Cenchrus polystachios</i>	B/C	No	DMR	No
POACEAE	Mossman river grass	<i>Cenchrus echinatus</i>	B/C	No	MGD / DMR / TAN	Yes
ASTERACEAE	Noogoora burr	<i>Xanthium strumarium</i>	B/C	No	MGD / DMR / TAN	Yes
FABACEAE	Parkinsonia	<i>Parkinsonia aculeata</i>	B/C	Yes	MGD / DMR / TAN	Yes
APOCYNACEAE	Rubber bush	<i>Calotropis procera</i>	B/C	No	MGD / DMR / TAN	Yes
FABACEAE	Sicklepod	<i>Senna obtusifolia</i>	B/C	No	MGD / DMR / TAN	No
MALVACEAE	Sida – Spiny head	<i>Sida acuta</i>	B/C	No	MGD / DMR / TAN	No
MALVACEAE	Sida – Flannel weed	<i>Sida cordifolia</i>	B/C	No	DMR	No
MALVACEAE	Sida – Paddys lucerne	<i>Sida rhombifolia</i>	B/C	No	MGD / DMR	No
ASTERACEAE	Star burr	<i>Acanthospermum hispidum</i>	B/C	No	MGD / DMR	No

*MGD – Mitchell Grass Downs, DMR – Davenport Murchinson Ranges, TAN - Tanami

Desktop assessment – Queensland

Weed records in Queensland are held by Biosecurity Queensland in the Department of Agriculture and Fisheries. Weed data is grouped with invasive animal records and broadly attributed to reference grid cells. New data sets are compiled annually, so weeds are not represented unless they have been recorded in a given year.

The NGP route crosses through two bioregions within the Mount Isa region; the Mount Isa Inlier and the Mitchell Grass Downs. Pest data for the years 2008 to 2014 were combined and weed data was selected within cells that fall within the two bioregions, to provide a regional list of weed species that would potentially be found within the pipeline corridor and nearby adjoining access tracks. The resulting weed data was further queried to select weed records within cells intersected by the 20 km wide planning corridor. This data is summarised in Table 9-2, and will be used to inform the pre-construction weed survey.

The annual pest distribution survey data set has been used in conjunction with the *Mount Isa City Council Local Government Area Pest Management Plan – 2014-2018* (MICC 2014), to identify weed species of concern within the region and provide a list of species to target during the survey. Weed species of concern are those declared under the Queensland *Land Protection (Pest and Stock Route Management) Act 2002*, and those species that are declared within the NT *Weed Management Act 2001* and have management recommendations outlined within the Mount Isa City Council Local Government Area Pest Management Plan – 2014-2018 (MICC 2014). Survey and management of the four NT listed species within the Qld section of the NGP route will ensure that pipeline construction activities does not inadvertently result in these species being spread from Qld into the NT

Weed records

A list of weeds species currently recorded within the Mitchell Grass Downs and Mount Isa Inlier bioregion is presented below in Table 9-2.

Table 9-2. QLD Regional weed records

Family	Common Name	Genus	Class	WoNS	Bioregion	Recorded in Planning Corridor	Mt Isa Pest Management Plan
CACTACEAE	Harrisia cactus	<i>Harrisia spp.</i>	Class 1	No	MGD	No	Yes
POACEAE	Mexican feather grass	<i>Nassella tenuissima</i>	Class 1	No	MGD	No	No
CACTACEAE	Prickly pear	<i>Opuntia spp.</i>	Class 1	No	MII / MGD	No	No
ACANTHACEAE	Thunbergia	<i>Thunbergia annua</i> , <i>T. fragrans</i> & <i>T. laurifolia</i>	Class 1	No	MII	Yes	Yes
SOLANACEAE	African boxthorn	<i>Lycium ferocissimum</i>	Class 2	Yes	MGD	No	No
EUPHORBIACEAE	Bellyache bush	<i>Jatropha gossypifolia</i>	Class 2	Yes	MII / MGD	Yes	Yes
RHAMNACEAE	Chinee apple	<i>Ziziphus mauritiana</i>	Class 2	No	MII	Yes	Yes
CACTACEAE	Coral cactus	<i>Cylindropuntia fulgida</i> var. <i>mamillata</i>	Class 2	Yes	No Record	No	Yes
ASTERACEA	Fireweed	<i>Senecio madagascariensis</i>	Class 2	No	MGD	No	No
FABACEAE	Mesquite	<i>Prosopis glandulosa</i> , <i>P. pallida</i> & <i>P. velutina</i>	Class 2	Yes	MII / MGD	Yes	Yes
CRASSULACEAE	Mother of millions	<i>Bryophyllum spp.</i> and Hybrids	Class 2	No	No Record	No	Yes
FABACEAE	Parkinsonia	<i>Parkinsonia aculeata</i>	Class 2	Yes	MII / MGD	Yes	Yes
ASTERACEAE	Parthenium	<i>Parthenium</i>	Class 2	Yes	MII / MGD	No	Yes

Family	Common Name	Genus	Class	WoNS	Bioregion	Recorded in Planning Corridor	Mt Isa Pest Management Plan
		<i>hysterophorus</i>					
FABACEAE	Prickly acacia	<i>Vachellia nilotica</i>	Class 2	Yes	MII / MGD	Yes	Yes
CACTACEAE	Prickly pear	<i>Opuntia stricta</i>	Class 2	Yes	No Record	No	Yes
POACEAE	Rats tail grass	<i>Sporobolus spp.</i>	Class 2	No	MGD	No	No
APOCYNACEAE	Rubber vine	<i>Cryptostegia grandiflora</i>	Class 2	Yes	MII / MGD	No	Yes
SALVINIACEAE	Salvinia	<i>Salvinia molesta</i>	Class 2	Yes	MII	No	Yes
ACANTHACEAE	Thunbergia	<i>Thunbergia grandiflora</i>	Class 2	No	MII	Yes	No
TAMARICACEAE	Athel pine	<i>Tamarix sp.</i>	Class 3	Yes	MII / MGD	Yes	Yes
BIGNONIACEAE	Cat's claw creeper	<i>Macfadyena unguis-cati</i>	Class 3	Yes	MGD	No	No
ANACARDIACEAE	Broadleaved pepper tree	<i>Schinus terebinthifolius</i>	Class 3	No	MII / MGD	Yes	No
VERBENACEAE	Lantana	<i>Lantana camara, L. montevidensis</i>	Class 3	Yes	MII	Yes	Yes
SALICACEAE	Pencil Willow	<i>Salix chilensis</i>	Class 3	Yes	MGD	No	No
ACANTHACEAE	Barleria	<i>Barleria prionitis</i>	Qld – None NT – A/C	No	MII		Yes
MELIACEAE	Neem	<i>Azadirachta indica</i>	Qld – None NT – B/C	No	MII / MGD		Yes
ASTERACEAE	Noogoora burr	<i>Xanthium strumarium</i>	Qld – None NT – B/C	No	MII / MGD	Yes	Yes
APOCYNACEAE	Rubber bush	<i>Calotropis procera</i>	Qld – None NT – B/C	No	MII / MGD	No	Yes

*MGD – Mitchell Grass Downs, MII – Mount Isa Inlier

Appendix B - Weed survey methodology

A weed survey will be conducted of the construction footprint prior to construction. The weed survey methodology is outlined below and is consistent with the Northern Territory Guidelines. Weed management authorities in Queensland have, and will continue to be engaged regarding their weed survey requirements.

Field maps

Field maps will be developed prior to undertaking the weed survey. This will enable priority locations to be identified for further investigation on-ground i.e. landscape features that provide pathways for weed germination and spread. The priority locations will be visited and inspected for the presence of weeds. The following locations will be identified from aerial imagery along the pipeline route, for closer inspection:

- Roads
- Railway
- Tracks (existing and historic)
- Fence lines
- Cattle tracks
- Creeks
- Depression
- Drainage
- River
- Swamp

Areas within the pipeline route that contain existing weed records will also be visited for closer inspection. The weed survey will target high priority weeds; i.e. Class A and C in the NT and Class 1 and 2 in Qld.

Standard weed data collection

Weed data collection standards have been developed by the Northern Territory Weeds Management Branch and Biosecurity Queensland to provide a consistent and reliable dataset to assess the density, location and movement of weed species. The collection of consistent weed data informs strategic decision making on control measures, reporting and funding requirements for weeds within an area.

In the NT the Northern Territory Weed Data Collection Manual provides standards for the collection of weed attribute data (WMB 2015b). Biosecurity Queensland has developed the Queensland spatial pest attribute standard, July 2012, V7 for the collection of weeds data in Qld. For the Project weed survey weed data will be collected using attributes developed in the NT and Qld guidelines.

The required weed attributes will be programmed into a handheld Android GPS enabled device, using the Cybertracker field data collection program.

Occurrences of targeted declared weed species located during the survey will be recorded using the Cybertracker program and including the following attributes:

- Site Id
- Weed name
- ID confidence
- Weed health
- Date of record
- Coordinate position
- Recorder and organisation
- Infestation size
 - 20 m diameter
 - 50 m diameter
 - 100 m diameter
- Infestation density

- 1 = Absent, no weeds of this species in the area
- 2 = < 1%, Very few, not many weeds eg: single plant, perhaps with seedlings
- 3 = 1 – 10%, More than one or two isolated plants but not a lot eg, a few small plants
- 4 = 11 – 50%, A lot, up to half the area covered eg: a tree, dense patches of weeds
- 5 = > 50%, Dominant cover is weed, more than half covered eg: thickets, monocultures

The survey data will be reported to either the Northern Territory Weeds Branch or Biosecurity Queensland within 14 day of being located. Weed data will be submitted as an excel spreadsheet.

Appendix C - Qld Government Queensland Biosecurity Queensland Checklists; Vehicle and Machinery Inspection Procedure

Vehicle and Machinery **INSPECTION PROCEDURE** Biosecurity Queensland Checklists 2013



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GENERAL INFORMATION

Purpose

These inspection procedures are designed to implement a consistent approach across Queensland for the inspection of vehicles, equipment and machinery. This will allow persons to carry out a thorough routine inspection of these items to reduce the potential for the spread of weeds and their reproductive material. This document may also assist users of an inspection service to understand and fulfil their requirements, comply with legislation and address their duty of care.

Background

The movement and transport of machinery, vehicles and equipment that are contaminated with weed seed is a source of spreading declared plants from infested areas to weed free locations or areas with minimal infestations. This form of spread has the potential to move declared pest plant's reproductive material over long distances from the original source or a core infestation area.

Many isolated outbreaks in Queensland are a result of poor vehicle, machinery and equipment hygiene. As a result there have been many new outbreaks that have now spread beyond controllable methods.

Each year numerous outbreaks of parthenium weed are discovered along roadsides after viable seeds have fallen from contaminated vehicles.

There is an ongoing risk that weed seeds will fall from contaminated machinery or vehicles on private properties or remote locations and go undetected resulting in a major outbreak that cannot be contained.

There is a need for competent and consistent inspection of vehicles, equipment and machinery from service providers, companies and industry to meet client demands and satisfy legislative obligations and address their relevant duty of care and client requests.

Weeds cost Queensland \$600 M in lost production, land degradation, control costs and the spread of weeds continually threatens our primary industries, environment and social amenity.

The potential for litigation is a real threat for industry groups and government departments as acts of negligence and failures in "duty of care" have the potential to result in legal action or large compensation settlements.

Possible sources of contamination

- Heavy machinery may contain weed seed contaminated mud on the tracks, tyres or attached implements (e.g. dozers, excavators, graders).
- Farm machinery and vehicles that have been used in infested paddocks are at risk of contamination via mud on wheels, seeds trapped in radiators, cabin floor mats (e.g. tractors and 4WD).
- Implements such as slashers, ploughs, mulchers, post-hole diggers may be contaminated with weed seeds after being used in infested paddocks and should be cleaned prior to moving to other areas.
- Harvesting machinery and headers may contain weed seed in augers, bins and behind guards from harvesting crops that are infested with weeds.
- Wheeled loaders, mining and construction equipment may contain contaminated mud trapped on these items.



- Cars, trucks and 4WD that have driven off-road through weed infestations may contain weed seed caught in the radiator, mud guards, tyres and underbody.
- Trucks that have transported livestock from infested areas may contain viable seed that has fallen or been passed through stock (e.g. prickly acacia, giant rats tail grass).

Areas of higher risk

Vehicles, machinery and equipment driven or operated in certain areas of Queensland have a higher risk of becoming contaminated with the reproductive material of weeds because of certain pest plants that occur in those areas for example:

- Vehicles, machinery and equipment that have been used, driven or sourced from the Central Highlands are at greater risk of being contaminated with parthenium weed seed.
- Coastal and sub -coastal areas from the New South Wales border to Rockhampton, and areas near Moura, Mackay, Townsville, Ingham and Mareeba contain current infestations of giant rats tail grass.

Generalised distribution maps of all Queensland's declared pest plants are available on the department's web site www.daff.qld.gov.au. However, persons with specific local knowledge should be consulted such as land owners, local government weed officers and state biosecurity officers.

Legislative obligations

All declared pest plants, require consideration in regards to preventing the spread of their reproductive material. Some such as parthenium weed and giant rat's tail grass being prolific seed producers are highly competitive and form dense infestations that are a high risk for contaminating with their seed, vehicles or machinery that are driven or operated in these infested areas. Others such as mother of millions reproduce from leaves and fragments of stems.

Section 46 of the *Land Protection (Pest and Stock Route Management) Act 2003* states

"Moving or transporting vehicles and other things on roads

- (1) *This section applies to a person who moves or transports a vehicle or other thing on a road if the person knows, or ought reasonably to know; soil or other organic material in or on the vehicle or thing is likely to contain the reproductive material of a declared pest plant.*
 - (2) *The person must not, without reasonable excuse, move or transport the vehicle or thing unless the person has taken reasonable steps-*
 - (a) *to restrict the release of the reproductive material when the vehicle or thing is moved or transported; or*
 - (b) *to ensure the vehicle or thing is free of the reproductive material.*
- Maximum penalty—200 penalty units."*

reproductive material of an animal or plant means any part of the animal or plant that is capable of asexual or sexual reproduction.

Examples of reproductive material of a plant—

- 1 *seed or part of seed*
- 2 *bulb, rhizome, stolon, tuber or part of a bulb, rhizome, stolon, tuber*
- 3 *stem or leaf cutting*

vehicle means anything used for carrying anything or any person by land, water or air, and includes equipment or machinery capable of moving on land.

road includes an area—



- (a) dedicated to public use as a road; or
- (b) open to or used by the public and is developed for , or has as one of its main uses, the driving of motor vehicles.

How to minimise the risk of transporting weed seeds on vehicles and machinery

The following are some suggested ways to minimise risk (this is not a exhaustive list):

- Avoid driving off the road in areas known to contain declared pest plants such as giant rat's tail grass, parthenium weed or other that present a risk of vehicle or machinery contamination.
- Do not drive through infested paddocks.
- Ensure clothing and footwear are free of mud and seeds before stepping back into vehicles.
- Avoid driving or working in contaminated areas in wet or dewy conditions.
- Clean vehicles, machinery and equipment suspected of carrying weed seed.
- Work clean areas or start in areas with the least amount of infestation and work towards infested or high density areas.
- Keep roads, laneways and buffer zones free of weeds.
- Where possible work infested areas separately and cleandown prior to moving between areas.
- Avoid slashing and other works through infestation during peak seed production times.
- Clean down machinery and implements before proceeding into clean areas.
- Secure loads (e.g. grain, fodder) if they are suspected of containing weed seed.

Training

All persons undertaking vehicle or machinery inspections will undertake competency based inspection training and receive a satisfactory assessment before inspecting any vehicle or machinery.

Competency Criteria

After completing competency based training, such as module AHC BIO201A 'Inspect and clean machinery for plant, animal and soil material' provided by a Registered Training Organisation (RTO); a person will be able to:

Element	Performance criteria
1. Check machinery and support vehicles	2. Machinery and equipment are checked for contamination according to written guidelines and legislative requirements. 3. Machinery and support vehicles are made safe for checking, supported safely, with free moving parts pinned or supported as required. 4. Covers and guards removed safely. All points identified in legislation or operating procedures are identified and inspected for contamination.
2. Clean machinery and	1. Machinery is made safe for cleaning, supported safely, with free moving parts pinned or supported as required.



equipment	<ol style="list-style-type: none"> 2. Correct equipment for cleaning selected. 3. Points listed in appropriate regulations, checklists or enterprise procedures are cleaned and checked. 4. Guards replaced safely and checked. <p>Areas on other equipment likely to accumulate contaminants identified, inspected and cleaned</p>
3. Report inspection results	<ol style="list-style-type: none"> 1. Waste materials are disposed of according to enterprise operating procedures and relevant legislative requirements. 2. Records of cleaning are recorded on appropriate forms according to enterprise policy and procedures.

What is an inspection

Some weed seeds such as parthenium weed seed and grass seed is small and can lodge behind or within many mechanical or structural components of machines. An inspection involves a competent person examining the vehicle, machinery or equipment presented for inspection to ensure it has been adequately cleaned to reduce the potential for weed spread. An inspection cannot guarantee that an item is free of weed seed due to:

- Inaccessible areas that may not be visible during cleaning and inspection.
- Holes or rusted parts where weed seed may be located and go undetected.

Why

The objective of the cleandown and inspection of vehicles, machinery and equipment is effective risk management. It cannot eliminate risk.

- Cleaning and inspection indicates that a person has *“taken reasonable steps to ensure the vehicle or thing is free of the reproductive material”* to satisfy legislative requirements.
- There is an ongoing demand for inspections to be carried out to ensure adequate precautions have been taken to reduce the potential for introducing weeds and declared plants into areas with minimal or no infestations.
 - Landholders are demanding that exploration and mineral companies complete cleandowns and inspection prior to commencing work or projects on their properties.
 - Some organisations demand cleandown of their contractor’s vehicles and machinery prior to entering job sites.

Who

- Any person who has the appropriate competency to conduct inspections.

Safety and location

- The area where the inspection is to be conducted must be a safe working area for the person completing the inspection and all others present.
- Consideration must also be given to surrounding traffic conditions.



- The inspector must wear adequate protective clothing (appropriate footwear, eye protection).
- The vehicle or machinery must be made safe by turning off ignition, engaging the parking brakes and other locking devices for any free moving parts.
- This location must be free of mud and water to allow the inspection to be carried out avoiding re-contamination of the item.

Equipment

- Torch
- Screwdriver
- Putty knife
- Endoscope
- Mirror

Inspection Process

3. The client contacts the inspector to arrange the date and time for the inspection and to provide details of the items being presented for inspection.
4. The item must be cleaned by the client prior to being presented for inspection.
5. The client should be encouraged to clean down on site/farm or at an approved cleandown facility (refer to Vehicle and Machinery Cleandown Procedures Biosecurity Queensland Checklists 2013).
6. The inspector shall direct the person in charge of the item/s to an appropriate location for inspection taking into consideration traffic conditions and personal safety of those present.
7. The machine must be completely switched off and the inspector shall not attempt to enter or inspect machinery unless another person is present.
8. First confirm that the description and identification numbers of all items to be inspected are correct. Record the identification number and odometer or operation hours on the inspection form.
9. An inspector may request the operator to remove guards or standard inspection plates or to position moving components of the item as necessary to facilitate inspection.
10. A separate inspection form shall be completed for each item to indicate parts of the item that have passed or failed the inspection.
11. Every relevant part listed on the inspection form must be checked to a sufficient degree to determine whether or not the part has been cleaned and is free of soil and plant material.

Important points to check are:

- a) between dual wheels/rims, muffler surrounds, wheel guards and mud guards;
 - b) spare tyres, toolbox, tracks and track frames;
 - c) turret pivot areas and axle beams;
 - d) engine bays where grease and oil stains may accumulate soil and plant material in the residue;
 - e) radiators;
 - f) the underside of the machinery (guards and belly plates should be removed for inspection);
 - g) hollows, crevices and exposed welded plates;
 - h) the interior of the cabin.
12. If the inspector is satisfied that the part has been cleaned the form should be completed.
 13. If the inspector is not satisfied that the part has been sufficiently cleaned, the nature of the problem must be briefly noted on the Inspection Form.
 14. If only minor additional work is required (material shaken down during transport) then the inspection may be completed once that contaminant has been removed.
 15. If the item is in not free of soil and plant material the inspection the driver/operator should be directed to carry out further cleaning of the relevant areas.
 16. Should the item be failed, it must be cleaned and reinspected at a later convenient time/date for all parties. A new inspection checklist and inspection form will be issued.

17. On completion, an inspection form/certificate will be issued to the person in charge of the item and a duplicate retained by the inspector.

Remember, the key to a successful inspection is more than just checking the above areas – you must ensure that your inspection is thorough, systematic and consistent.

INSPECTION CHECKLISTS

Checklist - Cotton pickers

Inspect the following areas as an initial guide:

Row units:

Pass ☐

Fail ☐

- Examine the picking heads externally for cotton trash or soil and plant material.
- Open all picking head inspection doors to expose moisture racks, doffers, spindle bars and rotor assemblies
- Manually rotate and inspect the rotor assemblies
- Open rear inspection doors on air ducts located at rear of picking heads
- Raise picking heads to inspect underside.

Note: the picking heads are held up by hydraulics – DO NOT climb, underneath unless heads are safely blocked in the raised position.

Driver's cabin:

Pass ☐

Fail ☐

- Inspect externally under and around drivers cab.
- Inspect under mats or carpets in cab.
- Inspect the air conditioning system (where fitted) including ducts and filters.

Horizontal air ducts

Pass ☐

Fail ☐

- Remove/open all cover inspection panels (these ducts convey cotton from the front picking section to the basket).

Basket:

Pass ☐

Fail ☐

- Inspect basket roof.
- Access the internal parts of the basket through hinged door on the roof (ladder required to climb into the basket).
- Tip or elevate basket (depending on model) to inspect underside, drive shaft assemblies, blower fan, and hollow basket support frames located on the LHS of some models.

Note:

The meshed surface area of the basket will NOT support a person's weight – walk on the perforated metal walkways ONLY which run from back to front of the machine.

The basket is lifted by hydraulics – DO NOT climb under basket unless it is properly and safely secured in its raised position.

Inspect air ducts from the top

Undercarriage/chassis:

Pass ☐

Fail ☐

- Inspect all underside of machine, Chassis rails and telescopic rear axle if fitted

Engine:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove cover panel to expose top of radiator (this can be done when basket is in raised position). • Remove or open all screens on the engine, radiator and fuel bays. • Inspect radiator core and grill. • Inspect for void between oil cooler and radiator (oil cooler may be hinged or on slide). • Remove and inspect air filters/cleaners, pre-cleaners and cyclone style dust separators. • Inspect sound deadening foams and heat shields for soil and plant material (foams become impregnated with dust). 		
Tyres and rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect all parts of tyres and rims, including inner side of rim • Inspect between dual wheels (if fitted). • Check for wheel mounted counter – weights. • Inspect gashes or cuts in tyres. 		
All other areas:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect any sections or channels that are hollow and determine if there is a possible entry point for contamination. • Inspect behind any plates that are covering a compartment or space that may have collected soil and plant material. 		

Checklist - Wheeled tractors

Inspect the following areas as an initial guide:

Tyres and rims:

Pass ☐

Fail ☐

- Inspect all parts of tyres and rims, including inner side of rim
- Inspect between dual wheels (if fitted).
- Check for wheel mounted counter – weights.
- Inspect gashes or cuts in tyres.

Engine:

Pass ☐

Fail ☐

- Inspect radiator core and grill.
- Inspect for void between oil cooler and radiator (oil cooler may be hinged or on slide).
- Remove and inspect air filters/cleaners, pre-cleaners and cyclone style dust separators (if unable to clean satisfactorily, these may require destruction).
- Inspect sound deadening foams and heat shields for soil and plant material (foams become impregnated with dust).

Drivers cab (where present):

Pass ☐

Fail ☐

- Inspect externally under and around drivers cab.
- Inspect under mats or carpets in cab.
- Inspect void space and skirt under suspended seats.
- Inspect air conditioner filters (if fitted), (large tractors may have a false cabin roof housing the air-conditioner unit, remove or open false roof).
- Inspect integrity of rubber door and window seals, if torn, soil and plant material will be sucked into them and trapped.
- Inspect void space behind consoles and dash for soil and plant material residues.

Chassis and vehicle body:

Pass ☐

Fail ☐

- Inspect inside of chassis rail ledges and back axle-beam and undercarriage of this area.
- Inspect for hollow sections in front axel tubes. Inspect all tool boxes and battery boxes often under the cab steps or in engine bay.
- Inspect for void spaces in rear brake assemblies. Hollow sections in drawbars and hollow sections in retractable/extendable type three point linkages.
- Inspect single counter-weights; multiples may need to be removed to facilitate inspection of void spaces.
- Inspect mud guards and wheel flares for hollows and crevices.
- Inspect roll cages or roll over bars for holes and gaps where attached to the vehicle.
- If 4WD drive, check for torque tube (front drive shaft guard) for holes or poor attachment.
- Inspect PTO (Power Take Off) area, PTO shaft, universal joints, and shaft covers/PTO tubes.



<ul style="list-style-type: none"> Inspect wiring looms and split protective conduit for soil and plant material residues. <p>Note: some agricultural tractors will have a rear carry-all mounted on the three point linkages or a forward mounted forklift or bucket/scoop attachment – these should be inspected carefully. Particular attention should be given to the following:</p>		
Buckets, blades, scoops, carry all, forklift:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all areas of the blade for holes or double skins. Inspect and remove cutting teeth, adaptors and wear plates on blades. Inspect hydraulic arms and supports for hollows that may contain soil and plant material. 		
All other areas:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect any sections or channels that are hollow and determine if there is a possible entry point for contamination. Inspect behind any plates that are covering a compartment or space that may have collected soil and plant material. 		

Checklist - Implements – PTO rotary hoe

The following areas highlight some of the main areas of concern on Power Take-Off (PTO) driven rotary hoes:

<ul style="list-style-type: none"> Inspect rotary tynes and mounting bolts for soil, tynes may need to be removed or loosened from their adaptors on the horizontal shaft to allow removal of soil from the void. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Remove or loosen the skid/wear plate from the vertical gear casing (note that this casing is oil filled, thus remove or loosen only those bolts securing the plate). 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the body of the hoe for double skins or void spaces that could contain soil due to inadequate or incomplete weld joints etc. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all areas where mud flaps are attached or plates overlap. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Check for hollow section reinforcing ribs. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the three point linkage attachment points and PTO knuckles and tube, universal joints and shafts. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect all ground engaging areas of the hoe for signs of wear for the ingress of soil or plant material. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Rotate the rotary shaft and probe for plant material that may be caught in the bearing housings at the ends or middle if twin shafted. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the frame and supports and mounts for the trailing wheels – these are often hollow sections. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect the trailing wheels for the rotary hoe, these wheels are usually hollow and made from two pieces of metal welded together – with wear the metal and welds crack and the wheels fill with soil. 	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>

Checklist - Track type dozers

Drivers cab	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect externally under and around driver's cab. Inspect under mats or carpets in cab. Remove/lift seat; remove/lift floor pans to allow inspection of top of transmission. Inspect air conditioner filter (if fitted) – shake/tap filter to check if clean. 		
Tracks/track frame	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Examine tracks carefully. Ensure inspection/cover plates are removed to allow inside track area. Check idler wheels (these support the tracks). 		
Belly plates	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Should be removed to allow inspection. 		
Rear plates	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> At back of dozer should be removed to allow inspection. 		
Hydraulic cover plates	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Should be removed to allow inspection. 		
Engine	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect radiator core and engine area for residues. Remove and inspect the air filter/cleaner. Inspect the void space between the oil and radiator cores. 		
Battery box	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Lift/remove the battery to inspect for contamination (battery box may be at side/rear or under seat). 		
Fuel cells	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Are removable therefore soil and plant material can pack between the tank and the frame. 		
Blade	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Ensure that edge of blade top/bottom is not split – this allows soil to be packed very tightly in the hollow. Inspect cutter points/wear blades. 		

<ul style="list-style-type: none"> Inspect truncation arms. Inspect the pivot points and adaptors at the rear of the front blade – these allow the blade to change height and angle. Sometimes soil has compacted and is difficult to dislodge. Inspect all hollow sections. 		
Ripper support frame	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect Frame if hollow if any contaminants have entered this section. The tynes may need to be removed. 		
Tynes	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Tynes need careful inspection. 		
Ripper points	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Inspect any pin holds on the ripper points. 		
All other areas	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> Check if any sections or channels are hollow and determine if there is a possible entry point for contamination. Check if plates are covering a compartment or space that may have collected soil and plant material. 		

Checklist - Mini tractors

Inspect the following areas:

Tyres and rims:

Pass ☐

Fail ☐

- Inspect all parts of tyres and rims, including inner side of rim.
- Check for gaps in split type rims.
- Inspect cuts and gashes in tyres.
- Inspect wheel mounted counterweights.

Chassis:

Pass ☐

Fail ☐

- Inspect inside of chassis rail ledges.
- Carefully inspect the chassis for hollow areas and cover plates that may conceal void spaces.
- Inspect void spaces in the area between gearbox and engine (several models have a large void opening accessible from underneath).
- Inspect void spaces in counter-weights, multiples may need to be removed to facilitate cleaning.
- Inspect hollow sections in subframe under motor linking the chassis rails.

Engine:

Pass ☐

Fail ☐

- Remove grill (usually 2 wing nuts), inspect and remove wire mesh screen from front of radiator, inspect fan shroud at rear of radiator.
- Remove and inspect air filter cover, remove dust dish from air filter cover, remove and check air filter/cleaner (if unable to be cleaned satisfactorily, these may require destruction).
- Inspect around fuel tank and brackets for soil and plant material buildup.
- Inspect all areas in bonnet and in engine bay for hollows.

Other areas:

Pass ☐

Fail ☐

- Inspect external rear brake assemblies and common shaft for brake and clutch pedals.
- Inspect foot plates and mounting brackets.
- Inspect hollow sections in mudguards, joints between mud flaps and guard, wiring looms under guards.
- Inspect tool box under seat or under fuel tank, remove contents if necessary.
- Inspect torn seats and exposed foam at rear of seat (soil and plant material can become lodged in the cushioning).
- Inspect rear axels for track width adjustment pin holes. Inspect the drawbar and mounting.
- Inspect the three point linkages and operating levers.

Checklist - Excavators

Inspect all areas, with special attention to:

Cabin:

Pass ☐

Fail ☐

- Inspect any rubber floor mats and floor surface.
- Inspect all door rubbers, internal door panelling and windowsills.
- Remove cabin wall lining and clean behind.
- Remove and clean under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Inspect all air-conditioning vents, including air-conditioning filter – may have to remove panelling
- Inspect cleanliness of cabin roof, both inside and out.
- Inspect ladder to cabin, if applicable (may have hollow frame) and under each footstep.
- Remove all light covers and inspect cavity behind.
- Inspect any drainage holes in cabin housing flush to verify clean.

Body & Engine Bay:

Pass ☐

Fail ☐

- Inspect air-filter and pre-cleaner.
- Inspect all surfaces of engine block including between tappet covers.
- Clean inside fan-belt flywheels (harmonic balancer).
- Remove all non-affixed engine covers to allow access and inspect all surfaces.
- Check engine covers for hollow support framework - flush to verify clean.
- Inspect either side of radiator for vertical hollow support structures. Flush to verify clean.
- Check all wiring harnesses for internal cleanliness.
- Counterweight – on some models the counterweights must be removed to allow inspection.
- Batteries - Loosen batteries and inspect under.
- Flush radiator and oil cooler from both sides to verify fin/core cleanliness.
- Check to ensure that sump and engine block is clean.
- Check all lights and cavities behind.

Tracks, Rollers & Frame:

Pass ☐

Fail ☐

- Track Rock guards – must be removed to allow access to inside track frames.
- If rock guards have been removed, check where bolts attach to frame as it may be a hollow cavity, which requires flushing.
- Individual rubber track pads removed (if applicable – small excavators).
- Motor cover plates to be removed and inspect inside drive motor.
- Rollers – each countersunk bolthole must be individually cleaned.
- Track frame ends – are hollow and require flushing to verify.
- Remove all non-affixed covers & plates.
- Roll tracks – one revolution required to inspect cleanliness of each track pad & countersunk bolts on rollers and idler wheels.
- Inspect behind sprockets (all excavators).
- Inspect spring adjuster inside track frame.



<ul style="list-style-type: none"> • Carrier roller above tracks – can have hollow support structure, which requires checking. • If excavator has telescopic tracks (generally small excavators), ensure these are extended. • Inspect all internal ledges and hollow cavities inside track frames. 		
Boom Stick & Bucket:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check front and backside of bucket for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Remove all non-affixed wear plates. • Flush spot-welded wear plates on back of bucket. • All cutting teeth to be removed from bucket (Boots) and blade • Boom arm (maybe hollow and necessitate removal of external non-affixed plates. • All knuckles must be cleaned (remove all contaminated grease). 		

Checklist - Wheeled loaders

Check all areas, with particular attention to the following:

Driver's Cabin:

Pass ☐

Fail ☐

- Inspect any rubber floor mats and floor surface.
- Remove and inspect all door rubbers, internal door panelling and all windowsills.
- Remove and inspect under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Remove rubber pedal covers and inspect.
- Remove cabin wall lining and inspect behind.
- Inspect all air-conditioning vents, including air-conditioning filter – may have to remove panelling.
- Check cleanliness of cabin roof, both inside and out.
- Check for false floor under cabin and remove for cleaning, if applicable.
- Clean ladder to cabin (may have hollow frame) and under each footstep.
- Remove all light covers and check cavity behind. Clean if required.
- Check if the cabin housing can be flushed via drainage holes.

Engine Bay:

Pass ☐

Fail ☐

- Inspect all surfaces of engine block including between tappet covers.
- Remove air-filter and pre-cleaner and inspect.
- Inspect inside fan-belt flywheels (harmonic balancer).
- Remove belly plates if applicable and inspect.
- Remove all non-affixed engine covers to allow access and inspect all surfaces.
- Check engine covers for hollow support framework - flush to verify clean.
- Remove all engine cover rubbers and inspect.
- Chassis rails either side of engine are hollow and maybe flushed via drainage holes on underside of the rail (Access maybe provided once belly plate bolts have been removed).
- Check battery boxes either side of engine. Loosen batteries and inspect under.
- Inspect radiator and oil cooler from both sides to verify fin/core cleanliness.
- Check either side of radiator for vertical hollow support structures. Flush to verify clean.
- Check all wiring harnesses for internal cleanliness.
- Check under all hydraulic looming for cleanliness.
- The fuel cell generally sits below the radiator and engine – inspect all surface of the fuel cell.
- Check support arm behind diff – can be hollow and harbour contamination.
- Ensure all rubber engine mounts are clean.
- Inspect all surfaces of axels and differential.
- Inspect to ensure that sump and engine block are clean.
- Check all lights and cavities behind.

Front End and Bucket:

Pass ☐

Fail ☐

- Remove front housing cover plate to allow better access to hydraulics.
- All cutting teeth to be removed from bucket (Boots).



<ul style="list-style-type: none"> • Remove all non-affixed wear plates from the bucket. • Check front and backside of bucket for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Check light mounts on front wheel arches – if applicable, these areas are generally hollow and require inspection. • Bucket push arms are generally sealed units, however best to check for hollow areas or drainage points. • Flush spot-welded wear plates on back of bucket. 		
Tyres & Rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check each tyre for cracks or splits. • Inside wheel rims may require plates to be removed to access brake drums - remove and clean thoroughly. 		
Other areas requiring cleaning:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check all wheel arches for hollow support framework – may also have to loosen from chassis to clean where arch joins frame. • Inspect all surfaces of oil tank – generally near ladder to cabin. • Inspect under all non-slip checker-plate surfaces. • Rear drawbar generally hollow – remove towing pin and inspect hollow drawbar if applicable. 		

Checklist - Compactors

Check all areas, with particular attention to the following:

Driver's Cabin:

Pass ☐

Fail ☐

- Inspect any rubber floor mats and floor surface.
- Inspect all door rubbers, internal door panelling and all windowsills.
- Remove and inspect under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Remove cabin wall lining and inspect behind.
- Inspect all air-conditioning vents, including air-conditioning filter – may have to remove panelling to enable cleaning.
- Check cleanliness of cabin roof, both inside and out.
- Check for false floor under cabin and remove for inspection, if applicable.
- Inspect ladder to cabin (may have hollow frame) and under each footstep.
- Remove all light covers and check cavity behind.
- Inspect any cabin housing drainage.

Engine Bay:

Pass ☐

Fail ☐

- Inspect all surfaces of engine block including between tappet covers.
- Inspect air-filter pre-cleaner.
- Inspect inside fan-belt flywheels (harmonic balancer).
- Remove belly plates if applicable and inspect.
- Remove all non-affixed engine covers to allow access and inspect all surfaces.
- Check engine covers for hollow support framework - flush to verify clean.
- Remove all engine cover rubbers and inspect.
- Chassis rails either side of engine are hollow and maybe flushed via drainage holes on underside of the rail (Access maybe provided once belly plate bolts have been removed).
- Check battery boxes either side of engine. Loosen batteries and inspect under.
- Inspect radiator and oil cooler from both sides to verify fin/core.
- Check either side of radiator for vertical hollow support structures. Flush to verify clean.
- Check all wiring harnesses for internal cleanliness.
- Check under all hydraulic looming for cleanliness.
- The fuel cell generally sits below the radiator and engine – inspect all surface of the fuel cell.

Wheel Drums, Boots & Rims:

Pass ☐

Fail ☐

- Check internal of each cleat/boot on each wheel drum – generally these boots are only spot-welded or hollow with access points.
- Inside wheel rims may require plates to be removed to access brake drums - remove and inspect thoroughly.

Tyres:

Pass ☐

Fail ☐

- Check each tyre for cracks or splits.



Front End and Bucket/Blade:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove front housing cover plate to allow better access to hydraulics. • Remove cutting teeth from bucket. • Remove all non-affixed wear plates from the bucket. • Check front and backside of bucket for any crack, splits or evidence of repair. If any detected, the inside will need to be verified. • Inspect light mounts on front wheel arches – if applicable, these areas are generally hollow. • Bucket push arms are generally sealed units, however best to check for hollow areas or drainage points. 		
Other areas requiring inspection:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check all wheel arches for hollow support framework – may also have to loosen from chassis to clean where arch joins frame. • Inspect all surfaces of oil tank – generally near ladder to cabin. • Inspect under all non-slip checker-plate surfaces. • Inspect under all checker-plate (non-slip footings) flush to ensure clean. • Rear drawbar generally hollow – remove towing pin and flush hollow drawbar if applicable. 		

Checklist - Dump trucks

Inspect all areas, with particular attention to the following:

Driver's Cabin:

Pass ☐

Fail ☐

- Remove any rubber floor mats and clean floor surface.
- Remove and inspect all door rubbers, internal door panelling and all windowsills.
- Remove and inspect under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Remove rubber pedal covers and inspect.
- All air-conditioning vents must be internally inspected. Access will be required for inspection
- Inspect cleanliness of cabin roof and walls, both inside and out.
- Inspect ladder to cabin (may have hollow frame) and under each footstep.
- Inspect all light covers. Access may be required.
- Inspect for false floor under cabin and remove, if applicable.
- Inspect the vertical cabin housing drainage holes.

Front End & Radiator:

Pass ☐

Fail ☐

- Remove radiator grill (both outside and inside). Access will be required for inspection.
- Loosen radiator shroud to let loose debris fall through
- Inspect either side of radiator for vertical hollow support structures. Flush to verify clean.
- Clean inside all light covers. Access will be required to verify
- Inspect front drawbar for drainage holes and flush if present
- Inspect vertical channels either side of radiator for drainage holes and flush
- Inspect cleanliness of air filter (pressurised air may be required)
- Remove any non-affixed panels from front of the cabin – access to air-con

Engine Bay:

Pass ☐

Fail ☐

- Remove air-filter pre-cleaner cover and clean.
- Remove air-filter and clean with air.
- Clean inside fan-belt flywheels (harmonic balancer).
- Inspect all surfaces of engine block including between tappet covers.
- Remove belly plates if applicable and clean.
- Remove all non-affixed engine covers to allow access for inspection.
- Remove all engine cover rubbers for inspection.
- Inspect engine housing for open-ended or spot-welded hollow support framework - flush to verify cleanliness.
- Flush radiator and oil cooler from both sides to verify fin/core cleanliness.
- Inspect battery boxes for cleanliness. Loosen batteries and inspect under.
- Inspect either side of radiator for vertical hollow support structures. Flush to verify.
- Inspect all wiring harnesses for internal cleanliness.
- Inspect under all hydraulic looming for cleanliness.
- Ensure all engine mounts are clean.



<ul style="list-style-type: none"> • Ensure that all surfaces of sump and engine block are clean. • Internally clean all light covers. Access will be required for inspection. • Inspect under all inspector-plate (non-slip footings). • The front wishbone between the front wheels can be hollow and must be flushed via the openings inside the struts. 		
Rear Chassis:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect all surfaces of the oil and fuel tanks. • Inspect all wiring harnesses for internal cleanliness. • Inspect under all hydraulic looming for cleanliness. • Inspect all surfaces of the chassis rails. • Inspect all internal ledges and hollow cavities inside track frames. • Carrier rollers above tracks – can have hollow vertical support structure, which requires Inspection. 		
Tyres and Rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Ensure that all cracks and splits in tyres are free of contamination. • Inside wheel rims may require non-affixed plates to be removed to allow access to the brake drums and inner rim • Dual tyres must be removed. 		
Dump Tray:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect all surfaces of the tray for any cracks, splits or evidence of repair. If any are detected these will need to be investigated for internal contamination (if double skinned) • Inspect all rubber mounts on the underside of the tray 		

Checklist - Cars, 4WD, trucks and trailers

Ensure that the vehicle is unlocked and you have access to the boot and under the bonnet.

Interior:

Pass ☐

Fail ☐

- Inspect the foot wells.
- Inspect the pile of carpets and under carpet and floor mats.
- Inspect the tool boxes.

Boot:

Pass ☐

Fail ☐

- Inspect under mats or carpet.
- Inspect inside spare tyre area.
- Inspect other recesses in the boot/rear of the vehicle.
- Inspect recess of boot lid.

Note: Remove any contents if required to facilitate the inspection.

Engine bay:

Pass ☐

Fail ☐

- Inspect the radiator.
- Inspect the grill.
- Inspect the top of transmission gearbox.
- Inspect the recess under windscreen wipers.

Underside of the vehicle:

Pass ☐

Fail ☐

- Inspect the wheel arches, wheel trims, flares, step treads, bumpers.
- Inspect the mud flaps.
- Inspect the tyre rims (particularly the rear side).
- Inspect the top of axels and differentials.
- Inspect the top of muffler and surrounds.
- Inspect the spare tyres on 4WD's and station wagons are often suspended underneath.

Note: these are potentially a high risk area as contaminants collect inside the horizontally -positioned rim.

Cargo

Pass ☐

Fail ☐

- Inspect boxes and/or cartons present in the vehicle if you cannot ascertain their contents.

For Utilities and Trucks

Pass ☐

Fail ☐

- Inspect the floor of the tray.
- Inspect channels of tail gates.
- Inspect side guards.
- Inspect under chassis rails.
- Inspect the gaps in the floor welds or boards and bolt holes on tray.



Trailers:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Inspect wheels. • Inspect guards and trays. • Inspect channels of draw bar. • Inspect under body. 		

Checklist - Generic

Use this checklist for any machinery or vehicle not covered by other checklists:

Cabins:

Pass ☐

Fail ☐

- Inspect any rubber floor mats and floor surface.
- Inspect all door rubbers, internal door panelling and all windowsills.
- Remove and clean under the seat, including the rubber seat shroud.
- Remove any non-affixed floor panel if applicable and inspect underneath.
- Inspect behind all cabin wall lining/panelling.
- Inspect all air-conditioning vents.
- Check cleanliness of cabin roof, both inside and out.
- Inspect ladder to cabin (may have hollow frame) and under each footstep.
- Internally inspect all light covers.
- Check for false floor under cabin and remove for inspection, if applicable.
- Check if the vertical cabin housing has drainage holes and verify their cleanliness.
- Inspect around roll over protection support structure.

Engine Bays:

Pass ☐

Fail ☐

- Inspect air-filter and pre-cleaner cover.
- Inspect inside fan-belt flywheels (harmonic balancer).
- Check all surfaces of engine block including between tappet covers.
- Remove belly plates if applicable and inspect.
- Remove all non-affixed engine covers to allow access for inspection.
- Remove all engine cover rubbers for inspection.
- Check engine housing for open-ended or spot-welded hollow support framework - flush to verify cleanliness.
- Chassis rails either side of engine are hollow and may be flushed via drainage holes on underside of the rail.
- Inspect radiator and oil cooler from both sides to verify fin/core cleanliness.
- Check battery boxes for cleanliness. Loosen batteries and inspect under.
- Check either side of radiator for vertical hollow support structures. Flush to verify internal cleanliness if present.
- Check all wiring harnesses for internal cleanliness.
- Check under all hydraulic looming for cleanliness.
- Ensure all engine mounts are clean.
- Ensure that all surfaces of sump and engine block are clean.
- Inspect internally clean all light covers.
- Check above the sway bar for cleanliness.
- Inspect under all checker-plate (non-slip footings) to ensure clean.

Tracks, Rollers & Track Frames:

Pass ☐

Fail ☐

- Stone / rock guards (if present) must be removed to allow inspection access to inside track frames.
- Remove all other non-affixed panels to allow inspection.
- Once rock guards have been removed, check where bolts attach to frame as it



may be a hollow cavity, which requires flushing. <ul style="list-style-type: none"> • Remove bearing covers. • Rollers – each countersunk bolthole must be individually inspected. • Remove Track guides (below rollers), if present and inspect. • Roll tracks – one revolution required to check cleanliness of each track pad & countersunk bolts on rollers and idler wheels • Inspect the track spring adjuster inside track frame. • Inspect all internal ledges and hollow cavities inside track frames. • Carrier rollers above tracks – can have hollow vertical support structure, which requires inspection. 		
Ripper Cradle:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Ripper cradles are hollow – check for drainage hole or cracks. • Remove cutting teeth from ripper blades. • Loosen any wear plates from ripper blades. 		
Other areas:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check battery box – loosen batteries and inspect under. • Check all surfaces of oil tank to ensure clean. • Check all surfaces of fuel cell to ensure clean. • Fuel cells may need to be removed to allow access under for inspection. • Inspect under all checker-plate (non-slip footings) to ensure clean. • Inspect inside all light covers and cavities behind. 		
Front End and Radiators:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove radiator grill (both outside and inside). Access will be required for inspection. • Check either side of radiator for vertical hollow support structures. Flush to verify clean. • Clean inside all light covers. Access will be required to verify. • Check front drawbar for drainage holes and flush if present. • Check vertical channels either side of radiator for drainage holes and flush. • Check cleanliness of air filter. • Remove any non-affixed panels from front of the cabin. 		
Tyres and Rims:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Ensure that all cracks and splits in tyres are free of contamination. • Inside wheel rims may require non-affixed plates to be removed to allow access to the brake drums and inner rim. • Dual tyres must be removed. 		
Dump Truck Trays:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check all surfaces of the tray for any cracks, splits or evidence of repair. If any are detected these will need to be investigated for internal contamination (if double skinned). • Check all rubber mounts on the underside of the tray. 		



Telescopic Booms & Buckets:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Check front and backside of bucket for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Remove all non-affixed wear plates. • Flush spot-welded wear plates on back of bucket. • All cutting teeth to be removed from bucket (Boots). • Boom arm (maybe hollow and necessitate removal of external non-affixed plates). • Remove cutting teeth from blade. • All telescopic booms must be fully extended for inspection. 		
Goosenecks and Circle:	Pass <input type="checkbox"/>	Fail <input type="checkbox"/>
<ul style="list-style-type: none"> • Remove all non-affixed panels from along the gooseneck and check all hydraulic hoses. • All cutting teeth on the blade to be loosened and flushed behind • Remove all non-affixed wear plates from the blade. • Check front and backside of blade for any cracks, splits or evidence of repair. If any detected, the inside will need to be verified clean. • Check light mounts at the front of the gooseneck – if applicable; these areas are generally hollow. • Inspect all pivot points. • The gooseneck is hollow and may have drainage holes on the underside either at the front or rear – if present flush to verify internal cleanliness. • Inspect spot-welded wear plates on back of bucket. 		

LIST OF QUEENSLAND'S DECLARED PEST PLANTS

The current list of Queensland's declared pest plants is maintained on the department's website www.daff.qld.gov.au.

OTHER RESOURCES

AQIS Machinery Cleaning Guides and Checklists

The AQIS machinery cleaning guides and checklists have been developed to assist importers and offshore cleaners to meet Australia's import permit conditions ("clean as new") as found in ICON, the import conditions database. These guidelines are more onerous than required by Queensland legislation.

The AQIS machinery guides and checklists provide a pictorial and written explanation to the many common areas in machinery that harbour risk material.

<http://www.daffa.gov.au/aqis/import/vehicles-machinery/regulations/guides-checklists>

Machinery Type

18. Articulated Dump Trucks Cleaning Guide & Checklist
19. Caterpillar Dozers Cleaning Guide & Checklist
20. Compactors Cleaning Guide & Checklist
21. Dump Truck Cleaning Guide & Checklist
22. Excavators Cleaning Guide & Checklist
23. Hitachi DX40 Dozers Cleaning Guide & Checklist
24. Medium Sized Dozers Cleaning Guide & Checklist
25. Mini Excavators Cleaning Guide & Checklist
26. Mini Tractors Cleaning Guide & Checklist
27. Motor Graders Cleaning Guide & Checklist
28. Scrapers Cleaning Guide & Checklist
29. Skid Steer Loaders Cleaning Guide & Checklist
30. Wheel Loaders Cleaning Guide & Checklist
31. Generic Checklist

US Armed Forces Pest Management Board Technical Guide No 31 March 2008

This technical guide provides information on cleaning techniques and inspection procedures currently used by the US Department of Defence personnel responsible for washing and reviewing equipment, supplies and vehicles.

<http://www.afpmb.org/pubs/tims/tg31/tg31.pdf>

Tasmanian Washdown Guidelines for Weed and Disease Control

These guidelines establish the standard for washing down machinery, vehicles and other equipment to minimise the risk of spreading weed seeds, some insects and plant pathogens in Tasmania.

<http://www.dpiw.tas.gov.au/inter.nsf/Attachments/LJEM-5ZM43C?open>

Appendix D - Weed hygiene declaration form

Weed hygiene declaration

Part 1: Sale or supply of things

(Examples of 'things' include fodder, grain, seed, livestock, gravel, sand, soil, mulch, packing material, machinery, vehicles or water)

This declaration is valid for supplying the thing/things specified below from to (please provide dates)

1. Thing (please tick the relevant box and provide a brief description)

☐ Fodder ☐ Grain/seeds ☐ Sand/gravel ☐ Machinery ☐ Mulch ☐ Livestock ☐ Other

Amount

(e.g. weight, size of load, number of items)

Description

(e.g. cattle, hay, dozer)

2. Has the thing been moved through, stored in, come from, or used in a place infested with:

	Yes	No	Maybe
Parthenium			
Giant rat's tail grass, American rat's tail grass, giant Parramatta grass, Parramatta grass			
Prickly acacia			
Other (provide details)			

3. If you answered 'yes' or 'maybe' in question 2, then what actions have been taken to remove or ensure that there is no weed reproductive material*? (please tick the relevant boxes and specify steps taken)

*Please refer to the definition of 'weed reproductive material' in the explanatory notes.

☐ Nil ☐ Washing/cleaning ☐ Quarantine period ☐ Chemical treatment ☐ Certified clean Other

Steps taken

4. To the best of my knowledge the thing described above still contains a weed listed in question 2 above.

Yes	No	Maybe

I, of

town state telephone

declare that the information that I have provided in this declaration is true and correct and I have read the accompanying explanatory notes before completing this declaration.

Signature

Date

Part 2: Transport of contaminated things

(Vehicle includes anything used for carrying any thing or any person by land, water or air, and includes equipment or machinery capable of moving on land)

This declaration is valid for transport and movement of vehicles and other things from to (please provide locations)

1. Movement of vehicles—The vehicle described as:

 make

registration no. or engine/frame no.

was clean* prior to entry to

(destination)

*Please refer to the definition of 'clean' in the explanatory notes.

2. Transport of contaminated things—If you are transporting anything contaminated or possibly contaminated with any declared weed, what actions are being used to contain the weed reproductive material?

☐ Nil ☐ Covered with tarpaulin ☐ Enclosed within container ☐ Chemically treated Other

Actions:

I,* of

town state telephone

*If same as Part 1 please write 'as above'

declare that the information that I have provided in this declaration is true and correct and I have read the accompanying explanatory notes before completing this declaration.

Signature

Date

Explanatory notes

This declaration was developed in response to landholders, rural industry, community and government desire to minimise the impact of weeds on their business and on the environment. It has been developed to assist in preventing the spread of weeds and other contaminants, and to meet the requirements of section 45 of the *Land Protection (Pest and Stock Route Management) Act 2002*. A completed declaration provides information on the status of a 'thing', whether it is contaminated or free of weedy material. 'Part 1: Sale or supply of things' of the declaration should be completed by the supplier then given to the receiver before they receive the thing. The receiver can then make an informed decision and take precautions to prevent new infestations. It can also provide written assurance that a vehicle is clean before entering a property.

Why use this declaration?

This declaration can provide:

- a supplier with a way of meeting the requirements of section 45 (2) of the Act, if they are supplying any thing that is or could be contaminated with the weeds listed below
- a person obtaining a thing with information on whether the thing is clean of weed reproductive material or has been infested
- assurance that a vehicle was clean* prior to entry onto a property
- assurance that any contaminated or potentially contaminated thing is being moved so as not to spread the contaminant
- assurance that a product is free of other weedy reproductive material.

Section 45 of the Act makes it an offence to supply a thing that is contaminated with a Class 1 weed or any of the Class 2 weeds listed below. However, for the Class 2 weeds, a person does not breach section 45 if they provide a written notice (Part 1 of this declaration) that states that the thing is or may be contaminated. The written notice must be filled and given to the receiver before the thing is supplied.

List of Class 2 species

The following Class 2 pests are prescribed in section 45(1)(b) of the Act. These weeds are readily able to infest a wide range of products, from livestock to grain and vehicles. These weeds have a major effect on pasture production and have the capacity to invade large areas of Queensland.

Common name	Species
American rat's tail grass	<i>Sporobolus jacquemontii</i>
Giant Parramatta grass	<i>Sporobolus fertilis</i>
Giant rat's tail grass	<i>Sporobolus pyramidalis</i> and <i>S. natalensis</i>
Parramatta grass	<i>Sporobolus africanus</i>
Parthenium	<i>Parthenium hysterophorus</i>
Prickly acacia	<i>Acacia nilotica</i>

Across Queensland, isolated outbreaks of declared plants such as those listed above are found on properties and roadsides each year. Outbreaks of these declared plants are often located hundreds of kilometres from core infestations. These outbreaks occur as a result of machinery, livestock, vehicles, fodder, grain, material and equipment contaminated with weed seeds being transported across the state. A high percentage of seed from prickly acacia and giant rats tail grass remains viable after being eaten and excreted by cattle.

*Definitions

Clean:

- For vehicles, machinery and equipment, clean means that no soil and/or organic matter that may contain weed reproductive material is on or in areas that are accessible during cleaning and maintenance work. A checklist and guidelines that show areas that are required to be clean are available at www.biosecurity.qld.gov.au
- A vehicle is considered to remain clean if it leaves its point of origin clean and only travels on sealed roads or well-maintained unsealed roads.
- For livestock, clean means that animals are internally and externally free of the reproductive material of any declared plant listed in the Land Protection (Pest and Stock Route Management) Regulation 2003. If livestock are suspected to be infested with a declared weed, then they should be quarantined within a weed-free paddock or pen for a 14-day period.

Weed reproductive material means any part of the plant that is capable of producing another plant by sexual or asexual reproduction. Examples include seeds, bulbs, rhizomes, tuber, stem or leaf cutting and the whole plant.

Well-maintained unsealed road means roads that do not have vegetation growing on or encroaching onto the area occupied by traffic.

For further information, please contact Biosecurity Queensland on 13 25 23.

