

NORTHERN NETWORK ALLIANCE MANAGEMENT PLAN

Weed & Disease Management Plan

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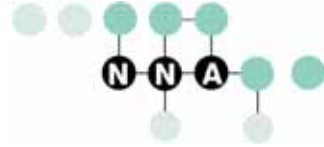
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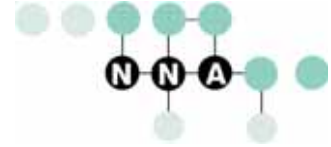
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1 INTRODUCTION

This Weed and Disease Management Plan (W&DMP) is one component of the Construction Environmental Management Plan (CEMP) which provides a system and procedures to ensure that Northern Network Alliance (NNA) (referred to as the Alliance) establishes and maintains best practice controls to manage potential environmental impacts during the construction of the Northern Pipeline Interconnector (NPI) and associated infrastructure (here after referred to as the Project) and, wherever practicable, realise opportunities for enhanced environmental outcomes.

The NN Alliance consists of the following partners:

- LinkWater
- Abigroup Contractors Pty Ltd
- McConnell Dowell Constructors (Aust) Pty Ltd
- Kellogg Brown & Root Pty Ltd

The Alliance is committed to providing the services it offers in a manner that conforms to the contractual requirements and to all relevant regulatory and legislative requirements. To achieve this, the Alliance will plan, implement and control an integrated management system that achieves the stated environmental outcomes.

The Alliance will ensure that controls are properly implemented and regularly monitored and audited to assess their effectiveness. Changes to the controls will be instigated if they are not achieving their objectives.

1.1 Project Description

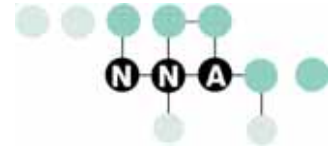
NPI Stage 2 forms part of the drought contingency pipeline to connect existing and future water infrastructure on the Sunshine Coast with the Brisbane network. The NPI will be constructed in two stages and will allow the transfer of up to 65 ML/d of potable water between the Sunshine Coast and Brisbane. Stage 1 of the NPI project—between Landers Shute water treatment plant (WTP) and Morayfield—is due for completion by 31 December 2008.

The completed NPI (Stage 1 and Stage 2) will supply a target volume of 65 ML/d of potable fresh water to existing facilities at Caboolture for distribution to localities in the greater Brisbane region. NPI Stage 2 will have the capacity to deliver up to 18 ML/d (under existing utilized entitlements for the Noosa Shire).

Subsequent interconnection of Stages of the NPI may be constructed to link with the proposed Traveston Crossing Dam and/or other bulk water sources proposed for the Sunshine Coast. These subsequent Stages are not considered in this report. However, the use of a large diameter pipe capable of transporting bulk water is a basis for the design of both Stages 1 and 2 of the NPI.

The key components of the NPI Stage 2 project are as follows:

- approximately 48 km of underground pipe between Noosa water treatment plant (WTP) and the termination point of NPI Stage 1 at Eudlo;
- a balance tank with a 5 ML capacity;



- three new pump stations; and
- a new water quality management facility (WQMF) and upgrades to an existing WQMF at Landsborough.

A number of additional above-ground facilities would be required for commissioning, operation and maintenance of the system. These include:

- Water quality maintenance structures
- Water branch mains
- Cleaning and communications stations

1.2 Purpose and Scope

Linkwater is committed to conserving and enhancing the biological environment where possible for the duration of the Project while achieving positive environmental, commercial and social outcomes.

The purpose of this W&DMP is to describe how the Alliance proposes to manage and control pestiferous plant species and diseases in relation to construction of the pipeline. This W&DMP provides measures that will be implemented to mitigate the potential negative impacts of the spread of listed pest plants and diseases prior to, during construction and throughout the maintenance period of the NPI Stage 2.

Weeds and plant and animal diseases cause degradation of natural resources, threaten conservation of biodiversity, threaten remnant vegetation, reduce rural production and interfere with human health and recreational activities. Some of the Project locations are in areas affected by weed infestation or potential weed infestation. It is the Alliance's objective to minimise the environmental impact of weed infestation and plant and animal diseases and to avoid the spread of otherwise undesirable species.

A weed survey will be conducted along the length of the corridor prior to construction. The purpose of this survey will be to identify pest plant species, their density, and growth stage and record their geographic location. Specific treatment plans of the designated sites and options for ongoing maintenance will be identified in reporting for inclusion into this EMP. Land owner liaison will ask farmers regarding any known animal or plant disease areas. This information will be built into the GIS system so maps of problem areas can be identified in the field.

Preventing weed, disease and pest invasion and migration is preferable to managing them once they become established.

The *Land Protection (Pest and Stock Route Management) Act 2002* governs the actions of everyone with respect to the control and management of declared plants and animals in the state. The *Land Protection Act 2002* declares plants and animals that are considered serious or potentially serious pests in Queensland, for which a range of restrictions apply (including introduction, possession and sale), but also allows certain activities under declared pest permits.

Declaration of weed species under the *Land Protection (Pest and Stock Route Management) Act 2002* imposes a legal responsibility for the Alliance on land under their management. As a joint landowner of the pipeline easement, the Alliance is required to develop and implement this W&DMP.



Declared weed species are listed as one of three classes:

- Class 1 pest plants are serious weeds, but are not generally established in Queensland. The Alliance is required by law to keep their land free of Class 1 pests. Class 1 plants include acacia species not indigenous to Australia, bitou bush, salvinia and willow species.
- Class 2 pests have generally established over substantial areas of Queensland, but their impact is so serious that the Alliance needs to try and control it within their land and avoid further spread onto properties that are still free of the pest. Class 2 pests include annual ragweed, fireweed, giant rat's tail grass, groundsel bush, and mother of millions.
- Class 3 weeds are well established and generally very common in Queensland, but are having a serious impact on native bushland. The Alliance is required to control these pests in construction areas next to environmentally significant areas, such as national parks or reserves, but only if the reserve is still free of the pest. Class 3 pests include asparagus fern, balloon vine, camphor laurel, lantana (all species), and Singapore daisy.

1.3 Objectives and Targets

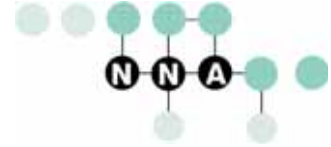
Objectives:

- Minimise the negative impacts of pest weed species within and adjoining the pipeline easement during construction
- Develop and implement appropriate measures to mitigate impacts of infestation by pest plant species during construction and throughout the maintenance period of the project
- Ensure that project activities are conducted in accordance with the requirements of the *Land Protection (Pest and Stock Route Management) Act 2002*, the *Land Protection (Pest and Stock Route Management) Regulation 2003* and other relevant legislation
- Define the roles, responsibilities and the tasks to be performed, in regard to the control and monitoring of weed infestations
- Educate all employees of their responsibilities in regard to weed and disease management

Targets:

- No complaints from affected landowners or nearby residents relating to weed impacts during construction and the monitoring period
- Community complaints in relation to weed infestation are investigated and responded to within two weeks (reduced to 24 hours where high potential for harm to the environment exists) and corrective action taken where necessary
- No degradation of the pipeline ROW with regard to weed infestation from the baseline condition as determined by the pre-construction weed survey
- Procedures implemented for the management of equine influenza
- 100% of employees trained on their responsibilities in regard to weed and disease management

The above performance criteria have been developed for this MP to assist to deliver desirable outcomes. The performance criteria will be linked to Key Performance Indicators (KPIs) for the Project.



2 LEGISLATION AND REGULATORY REQUIREMENTS

2.1 Licences/Permits

There are no licences, permits or additional approvals required for the management of weed and pest species related impacts throughout construction and the monitoring period. However under the *Land Protection (Pest and Stock Route Management) Act 2002* and *Regulation 2003*, the Alliance will be required to obtain a declared pest permit to:

- introduce
- feed (declared animal only)
- keep (except Class 3—permit not required)
- release
- take for commercial use (Class 2 plant only), or
- supply a Class 1, 2 or 3 declared pest plant.

2.2 Guidelines/References

Key legislation relevant to waste management includes:

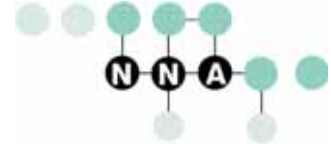
- *Land Protection (Pest and Stock Route Management) Act 2002*
- *Land Protection (Pest and Stock Route Management) Regulation 2003*.
- Compliance with any Maroochy or Noosa local government pest management requirements

2.3 Commitments

The *Environmental Impact Statement* for the proposed NPI has several commitments for the management of weeds and diseases. Table 1 identifies examples of these key commitments.

Table 1. Weed and Disease Management Requirements/Commitments
(refer NNA EIS 2008, Appendix E for final commitments)

Document	Section	Requirement/Commitment
	3.3	Temporary washdown facilities will be used at weed infested construction sites, offices and compounds. Mobile washdown facilities will be employed where required.
	3.3	Monitoring of the recovery of impacted ecosystems and/or significant species will be implemented and updated as necessary.



3 EXISTING ENVIRONMENT

The existing terrestrial and aquatic plant environment along the pipeline route is generally good, although there are areas of significant weed infestation along the proposed pipeline alignment.

A pre-construction weed survey will be undertaken along the length of the proposed pipeline alignment. The proposed corridor will be made accessible by the fact that the pipeline follows an existing power easement.

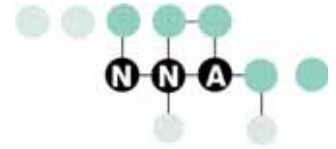
The Stage 2 project area takes in the eastern edge of the Blackall Range, traversing a number of ridges which extend west-east towards the coast. The main line extends in a north-south direction, commencing in the rolling hills around Lake Macdonald and descending onto the floodplain of the North Maroochy River. To the west of Eumundi, the route crosses a steep ridge adjacent to the Bruce Highway, and traverses the western edge of Yandina township onto the South Maroochy river floodplain. South of Yandina, the route crosses two high coastal ridges and the middle reaches of Petrie and Paynter creeks. The corridor rises again before descending onto the flats around Eudlo Creek and ascending steeply to connect with the Stage 1 works at Nobels Road.

Opportunistic flora observations were recorded for the entire route during the walkover survey and other visits to the alignment. These included riparian and roadside assessments (refer Vegetation MP).

A survey along the NPI Stage 1 corridor identified a number of key declared and non-declared weed species present along the proposed pipeline corridor. It is anticipated that these species will also be found along NPI Stage 2. These species are listed in Table 2

Table 2. Anticipated Weeds within the Corridor

Common Name	Scientific Name	Declared Plant Class
Agave	Agavaceae spp	N.D
African Tulip	<i>Spathodea campanulate</i>	Class 3
Balloon Cotton	<i>Gomphocarpus physocarpus</i>	N.D
Balloon Vine	<i>Cardiospermum grandiflorum</i>	Class 3
Broadleaf Pepper Tree	<i>Shinus terebinthifolius</i>	Class 3
Broadleaf Privet	<i>Shinus terebinthifolius</i>	Class 3
Cadaghi	<i>Corymbia torelliana</i>	N.D
Camphor Laurel	<i>Cinnamomum camphora</i>	Class 3
Castor Oil Plant	<i>Ricinus communis</i>	N.D
Chinese Elm	<i>Celtis sinensis</i>	Class 3
Cocos Palm	<i>Syagrus romanzoffianum</i>	N.D
Creeping Lantana	<i>Lantana montevidensis</i>	Class 3

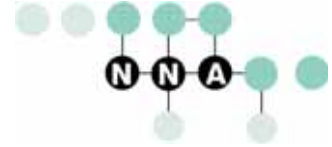


Common Name	Scientific Name	Declared Plant Class
Easter Cassia	<i>Senna pendula var glabrata</i>	N.D
Fire Weed	<i>Senecio madagascariensis</i>	Class 2
Giant Rats Tail Grass	<i>Sporobolus pyramidalis /natalensis</i>	Class 2
Glycine	<i>Neontonia wightii</i>	N.D
Groundsel Bush	<i>Baccharis halimifolia</i>	Class 2
Guava		N.D
Inkweed	<i>Phytolacca octandra</i>	N.D
Japenese Sunflower	<i>Tithonia diversifolia</i>	N.D.
Lantana	<i>Lantana camara</i>	Class 3
Leuceana	<i>Leucaena leucocephala</i>	N.D
Mother of Millions	<i>Bryophyllum delagonsis</i>	Class 2
Ochna	<i>Ochna serrulata</i>	N.D
Pond Apple	<i>Annona glabra</i>	Class 2
Prickly Acacia	<i>Acacia farneceana</i>	Class 2
Salvinia	<i>Salvinia molesta</i>	Class 2
Singapore Daisy	<i>Sphagneticola trilobata</i>	Class 3
Sirato	<i>Macroptillium atropurpureum</i>	N.D
Small Leaf Privet	<i>Ligustrum sinense</i>	Class 3
Wild tobacco	<i>Solanum mauritianum</i>	N.D
Weeping Willow	<i>Salix spp.</i>	Class 1
Whisky Grass	<i>Andropogon virginicus</i>	N.D.
Yellow Bells	<i>Tecoma stans</i>	Class 3

3.1 Potential Diseases

Potential flora and fauna diseases that may need to be considered for management within the project area include:

- Pineapples disease(s)
- Macadamia diseases(s)
- Sugarcane disease
- Banana diseases(s)



- Equine influenza
- Fire ants (e.g. equipment may be sourced from areas where fire ants have been reported)

Pineapples disease(s)

The most serious and widespread disease of pineapples in Queensland, ie heart rot, root rot and green fruit rot is caused by the fungus *Phytophthora cinnamomi*. Other important disease causing fungi are *Thielaviopsis paradoxa* (which causes butt or base rot, white leaf spot and water blister in fruit) and *Penicillium funiculosum* (which causes fruitlet core rot or green eye, leathery pocket and interfruitlet corking). Root-knot nematode (*Meloidogyne javanica*) and root-lesion nematode (*Pratylenchus brachyurus*) are widespread in all pineapple growing districts. Root-knot nematode is the most damaging of all nematodes in Queensland pineapple fields, causing stunting, yellowing and dieback of plants.

Macadamia diseases(s)

Macadamia (*Macadamia integrifolia* and *M. tetraphylla*) are native to Australia. Macadamia stems and branches are affected by several diseases including trunk canker and tree decline caused by *Phytophthora* spp., Dothiorella canker caused by *Botryosphaeria ribis* and pink limb blight caused by *Phanerochaete salmonicolor*. Raceme blight disease and husk spot are other diseases.

Sugarcane disease

Sugarcane Smut is a serious disease of sugarcane which can significantly reduce yields. The disease is caused by the fungus *Ustilago scitaminea*. It is highly infectious and can be spread by wind or carried on clothing and machinery. Sugarcane smut was first found in Queensland on a farm near Childers in early June 2006 (DPI&F). There are no known current outbreaks of this disease in Queensland.

Banana diseases(s)

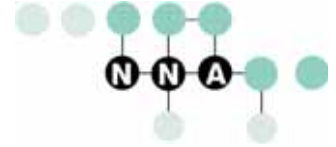
Banana leaf spot diseases include yellow sigatoka and speckle disease. These rely on moisture from rain or heavy dew to spread to other areas. Fungal spores can travel up to 30 kilometres, so it is vital that all banana growers practice good plant hygiene (DPI&F).

Bunchy top is a very serious disease which devastated the Queensland banana industry in the 1920s. It lingers in the southern areas of Queensland and northern New South Wales. Bunchy top is caused by a virus spread on infected planting material or by the banana aphid (DPI&F),

Panama disease is a serious disease of bananas caused by the *Fusarium wilt* fungus, which spreads with soil and water movement, and also with infected planting material. Simple farm hygiene procedures, aimed at reducing movement of infected planting material and infested soil, include single entry points to clean areas and foot baths for farm workers and visitors. In areas that are infected with panama disease, it is important to avoid sharing machinery and equipment (DPI&F).

Equine influenza

Equine influenza is a virus and not a disease. Clinical signs of infection are usually a sudden increase in temperature (to between 39°C and 41°C); a deep, dry, hacking cough; and a watery nasal discharge. Equine influenza poses no threat to people, however it can be spread from people to horses via infected clothing including and or vehicles/machinery (DPI&F). Equine influenza was first identified in Queensland in late 2007.

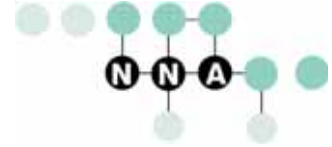


Fire ants

To date fire ants have not been reported on the Sunshine Coast. Management of fire ants will need to be considered, for example, in the event that equipment is sourced from areas where fire ants have been previously reported.

Fire ants are dangerous imported pests that could spread to large areas of Australia, severely damaging the environment, our outdoor lifestyle and the agriculture and tourism industries. The National Fire Ant Eradication Program has made significant progress in eradicating fire ants from Australia. Surveillance is ongoing, and treatment and containment measures are continuing in areas of south-east Queensland where the ants have been detected (DPI&F).

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4 POTENTIAL PROJECT IMPACTS

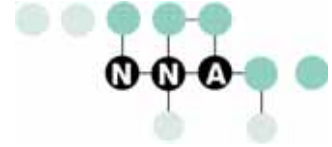
Linear infrastructure projects such as the NPI Stage 2 with multiple vehicle, equipment, and spoil movements have the potential to spread weeds and animal and plant diseases along the Project extent. Weed seed can easily be spread on vehicles, clothing, equipment, spoil and machinery. Diseased stock can escape through broken or inadequate ROW fences, while diseases and viruses may be carried from paddock to paddock by soil entrapped in vehicle tyres and footwear.

Diseases can devastate commercial crops and livestock. Weeds can degrade natural vegetation and impact on biodiversity generally. Potential weed impacts include:

- competition with pastures leading to reduced stocking capacity and erosion
- toxicity to stock
- competition with crops for water and nutrients
- loss of ecotourism values
- impacts (of aquatic weeds) on water quality and irrigation and
- management costs arising from the use of physical, mechanical and chemical control methods.

Equine influenza potential impacts include:

- economic loss (commercial)
- quarantine conditions for property and equine livestock
- pipeline construction delays.



5 ENVIRONMENTAL MITIGATION MEASURES

5.1 Strategies to Address the Legislation

The Alliance proposes to implement a multi-pronged approach to address the legislation outlined above. This approach will include:

- **Planning** – The detailed implementation of this W&DMP is expected to sufficiently address the Legislation. The planning will be closely linked to construction scheduling, and will involve detailed research and mapping of pest and disease occurrences (hotspots and property-specific) and also vehicle washdown/ blowdown facilities and decontamination requirements.
- **Prevention** (Inspection and monitoring) – While requiring significant resourcing, preventing the spreading of pests and diseases is cheaper and more effective than alternative reactive measures. A key preventative action is the establishment of a robust system for the authorisation, verification and reporting of field movements and activities. Regular monitoring of work sites and authorised transport routes will reduce the risk of further pest infestations. Inspections along the ROW shall be based on the following:
 - recorded infestations within the locale of the ROW
 - local knowledge of known and probable areas of declared plants and diseases (including equine influenza) within the locale of the ROW
 - a general inspection of all major watercourses that intersect the ROW, (both upstream and downstream of the point of intersection)
 - inspection of all washdown/ blowdown areas set up for the Project
 - seasonal monitoring of declared plant and other weed species.

Table 3 presents a summary schedule for the weed monitoring program.

- **Communication** – An integral component of the pest and disease management system established will be a mechanism for any field staff to be able to document and report suspected disease and pest infestations/hotspots, irrespective of the knowledge level of the individual.
- **Education and Awareness** – Induction and awareness training packages will be developed, and work method-specific information developed to ensure work procedures reflect the environmental mitigation measures outlined in this management plan.
- **Information/data management** – The Alliance GIS system is used to map known pest and disease occurrences, within and immediately adjoining the pipeline easement. Newly identified occurrences are to be logged and mapped using GPS units available to designated field staff and incorporated into the environmental constraints maps (to accompany the verification package). The Project also maintains a land database of all parcels of land associated with the project. Pest and disease management data will also be regularly added to this database as it is gathered from the field.

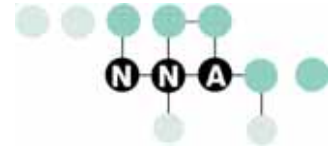


Table 3. Summary schedule for weed monitoring program

Timing	Procedure
Prior to Construction	Inspect and record declared disease and noxious weed infestations (pre-construction weed and disease survey).
Post Construction	Inspect and record revegetation success and weed establishment. Undertake seeding of critical areas and weed control of ROW as required
Spring - Summer	Undertake weed control within ROW as required.
Autumn	Weed control for autumn species. Reseeding post weed control (Spring) to develop competitive pastures.
Spring – Summer – Autumn	Undertake weed control within ROW as required.

5.1.1 Management of Construction Contractors

Construction contractors shall be required to comply with this W&DMP and other project plans and procedures.

Mitigation measures and responsibilities for identified actions to minimise the potential for weed and disease impacts during construction and the monitoring period are outlined in Table 4. The measures in this section apply equally to declared plants and other weeds and diseases of concern. Table 5 presents potential washdown facilities identified for vehicles prior to entering worksites (this list may be expanded as new sites are found).

It is important to dispose of weed and plant disease debris appropriately as some weed species and plant diseases regenerate readily from cuttings, whilst others have high weed seed viability. Weed control must therefore consider the handling and disposal of weed debris to minimise the risk of renewed invasion or spread to new areas.

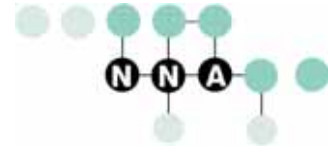
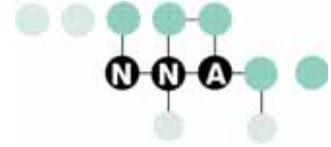


Table 4. Weed Management Mitigation Measures

Activity / Construction Item or Detail	Management Mitigation Measures	Responsibility	Timing
Identify sites of declared weeds or significant diseases	Identified weed and/or disease sites will be registered on the GIS and the Lots declared as "Quarantined". If necessary, washdowns/blowdowns may be established at suitable locations.	Environmental Manager	Planning Phase
Clean equipment	<ul style="list-style-type: none"> All vehicles, equipment and demountables shall be inspected before they are permitted access to the pipeline ROW and/or Project Area All vehicles, equipment and demountables not considered clean shall be washed/blown down at one of the washdown pads and reinspected 	Environmental Officers/Work Area Supervisor	Prior to works commencing
Clean machinery	All vehicles and plant entering the work zone and ROW will need to carry an Inspection tag verifying cleaning has been undertaken. A weed hygiene register will be maintained (G-FRM-004) Contractors will be required to submit a Queensland Government Weed Declaration Status form prior to entering the ROW.	Environmental Officers/Work Area Supervisor/Contractor	Prior to works commencing
Pre-construction - substantial outbreak of a declared plant/disease is detected on the ROW, work areas or access tracks	<ul style="list-style-type: none"> Restrict entry to infected areas until all control measures are implemented Record weed/disease species Notify any relevant authorities Establish weed blowdown/washdown bay where necessary 	Environmental Officers/Work Area Supervisor	Prior to works commencing
Pre-construction Removal of weeds	<ul style="list-style-type: none"> Where weed infestations are identified during the weed survey the infested area shall be assessed and appropriate treatment measures may be initiated before any earth moving machinery or vehicles enter the Project Area Spray or Dig out and remove the weeds by hand or appropriate method Herbicide selection, if required, shall consider weed seed viability as well as other important aspects, such as downstream effects of ecological resources 	Environmental Officers/Work Area Supervisor	Prior to works commencing
During construction – Minimising animal diseases	<p>All property fences broken for construction are to be replaced with temporary construction gates with a quick tie-up mechanism or similar.</p> <ul style="list-style-type: none"> Landowners asked to remove stock from ROW in affected areas prior to construction Work crews must be vigilant to shut all gates after passing through <p>Note: refer Appendix 1 decontamination procedures for equine influenza.</p>	Environmental Officers/Work Area Supervisor	At all times
During construction - Minimising weed and pest invasion	<p>Construction works and the associated soil disturbance should be limited to the ROW work area and access tracks.</p> <p>Water trucks will be used to ensure that any vehicles suspected of carrying weed seed are washed down prior to leaving the ROW</p>	Environmental Officers/Work Area Supervisor	At all times



Activity / Construction Item or Detail	Management Mitigation Measures	Responsibility	Timing
Minimising weed and pest invasion - Fire Ant provision	Construction materials should be sourced from sites that reduce the risk of weed infestation. Spoil sourced from Fire Ant Declared areas will not be introduced to the site under any conditions	Environmental Officers/Work Area Supervisor	At all times
Quarantine Sites	Prior to exit from any quarantine areas construction plant and equipment must be washed/blown down and cleaned to avoid transferral of weeds and diseases from these areas.	Environmental Officers/Work Area Supervisor	At all times
Disposal of Weed Debris	When removing declared weed or diseased plants they shall be placed in sealed sturdy plastic bags and disposed of to municipal landfill sites, or as otherwise directed by the DNR&W	Environmental Officers/Work Area Supervisor	As required
Weed infested and Fire Ant Declared areas	No construction bedding or spoil will be transported from Weed infested or Fire Ant Declared areas	Environmental Officers/Work Area Supervisor	At all times
Herbicide or pesticide application area (where applicable)	<p>In accordance with the <i>Agricultural Chemicals Distribution Control Act 1966</i>, any ground distribution of herbicides is to be undertaken by or under direct supervision of a licensed commercial operator. Distribution of herbicides is only to be undertaken using equipment for weed spraying operations.</p> <ul style="list-style-type: none"> • Pesticides or herbicides must not be used in areas where they may enter a waterway or drain. • Do not use herbicides near trees (within a 3 m radius of trunk). • Do not use herbicides where the application could adversely impact on non-targeted species (adverse weather conditions). • Store all chemicals safely in accordance with storage and handling of hazardous materials. 	Environmental Officers/Work Area Supervisor	At all times
Revegetation strategy	<p>Control of Declared Plant and other weed species during construction shall be based on the prevention of weed seed entering unaffected areas</p> <ul style="list-style-type: none"> • Revegetation to take place quickly after construction to prevent weeds being re-established • All seed used for the purpose of reseeding the pipeline ROW or associated disturbed areas (work areas, temporary access tracks) shall be certified free of declared plant species 	Environmental Officers/Work Area Supervisor	At all times

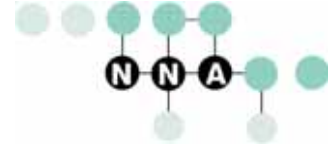


Table 5. Potential existing washdown facilities identified for vehicles prior to entering worksites

Service/ Vehicle type	Facility details
4WD/Light Vehicle	Bp Car wash: Bli Bli Rd, Nambour, QLD, 4560 Bp Car wash: 180 Brisbane Rd, Mooloolaba QLD 4557 Bp Car wash: Bruce Hwy, Forest Glen, QLD, 4556 BP Car Wash : 2 Diamond St, Cooroy, QLD, 4563 Caloundra Car Cleaners: 16 Daniel St Caloundra QLD 4551 Carlovers: 33 - 35 Aerodrome Road Maroochydore Dirty Dees Automotive: 2 Catcham Drive Caloundra QLD 4551 Premier Blue: 23 Riverina Court Caboolture QLD 4510 Spotless Mobile Detailing: Newton Drive Beerwah QLD 4519
4WD and Heavy Vehicle	Caloundra Car Cleaners: 16 Daniel St Caloundra QLD 4551 Premier Blue: 23 Riverina Court Caboolture QLD 4510
Mobile Services / Car Detailing	Cargroomers Australia: 10 Binary St Yatala QLD 4207 Lush Car Spar: Nigel Sanderson, 0437 972 250 VIP Car Care Queensland: 1300 660 044
All	On site temporary facilities as required

Additional, more detailed, mapping may be undertaken in order to identify specific routes to vehicle washdown/blowdown facilities, so that these may be monitored for weed infestation and maintained for the Project.

5.1.2 Vehicle and Equipment Certification

All plant must be inspected before being initially allowed access to the pipeline ROW or Project Area. In addition:

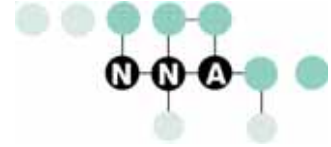
- all NNA certified plant shall be recorded in the Weed Hygiene Declaration Register (G-FRM-004)
- an Authorised Person shall maintain the register
- all Vehicles to carry inspection tag to demonstrate it has been certified as clean.

5.1.3 Temporary Washdown Facilities

Temporary washdown/blowdown facilities may be established on an as-needs basis.

If water restrictions apply, consideration to high pressure blow down as alternative. Facilities will be constructed in accordance where relevant with the Queensland guideline for the construction of Vehicle and Machinery Washdown Facilities (Queensland Weed Seed Spread Project - July 2000).

Water trucks will be used as a substitute for temporary washdown bays where it is not feasible to construct such facilities.



6 CORRECTIVE AND PREVENTATIVE ACTIONS

6.1 Community liaison and complaint management

Complaints represent an opportunity to enhance project environmental performance. All project complaints, including those from members of the public, stakeholder groups and Government agencies, will be managed via the 1800 243 998 phone number to be listed in the Inquiry and Complaints Management Procedure, contained in the Community and Stakeholder Management Plan.

Complaints from any source must be registered using the QESE complaint record section. Where the complaint is environment-related, the complaint will be investigated by the Environmental Manager or Environmental Officer in consultation with the Site Manager or delegate and action/s taken to enable satisfactory closure.

Feedback to relevant personnel will be managed by the community relations team. As required, complaint details (including type and preventative/corrective actions) will be advised to field staff via pre-start meetings, toolbox talks or the Health, Safety and Environment Committee as appropriate.

6.2 Environmental incident/emergency reporting

All project staff and subcontractor personnel shall report all environmental incidents to the Environment Manager, although initial response may go via the Site Manager/Spread Supervisor or Environmental Officer.

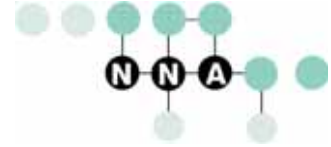
6.3 Incident/emergency preparedness and response

An Incident Response Plan will be prepared for the project. This plan documents suitable incident procedures to ensure effective response in the event of an emergency (including environmental emergencies such as fire, flood and large fuel spills).

The emergency procedures shall be tested on a six-monthly basis. Records are to be maintained of all site emergencies and results of emergency practice drills. The Emergency Response Controller for the project will be defined within the Incident Response Plan.

The key to effective prevention of incidents is monitoring, surveillance and training. During construction activities, inspections and preventative action to be performed by the Alliance will include:

- inspections of active worksites and completion of routine environmental checklists
- issue and close-out of EIN/NCR
- ongoing environmental training
- environmental audits of worksites, subcontractors and compliance issues.



Environmental and safety information on hazardous substances (e.g. Material Safety Data Sheets [MSDS]) will be available at the main site office, including information on where and how such substances are to be stored. An up-to-date list of emergency response personnel and organisations will be maintained at the main office and compounds.

Specific measures will also be implemented to minimise the risk of an incident occurring due to spillage, storage of hazardous materials or fire. Further information will be detailed in the Incident Response Plan.

6.4 Incident investigation

All incidents will be documented, investigations conducted and action plans (if required) developed to ensure no repetition of the event. Where current procedures are identified as being ineffective, the CEMP and any relevant WMS will be revised by the Environmental Manager and/or delegated person/s

An environmental investigation includes the following basic elements:

- advising the environmental authority(ies) if any substantial pollution has occurred
- identifying the cause and extent of and responsibility for the incident
- identifying and implementing the necessary corrective action
- identifying the personnel responsible for carrying out the corrective action
- implementing or modifying controls necessary to avoid a repeat occurrence of the incident
- recording any changes required to written procedures.

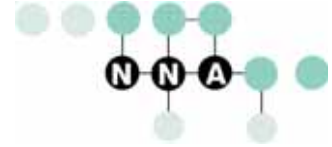
All personnel are required to report all incidents, as incident reporting is regarded as a valuable method of addressing shortcomings in procedures, training or equipment, and is an opportunity for improvement. It is also an offence not to report to the EPA any incident causing serious environmental harm.

6.5 Non-conformances

Non-conformances will be resolved according to the Quality Management Plan. The Environmental Manager or delegate will issue a Non-conformance Report (NCR) or an Environmental Improvement Notice (EIN) in response to inappropriate or non-conforming work methods, equipment selection, maintenance of controls or other identified issues of concern.

In the event of a non-conformance:

- the nature of the event will be investigated by the Environmental Manager
- if required, advice may be sought from a specialist
- will be documented on QESE
- monitoring may be undertaken
- the effectiveness or need for new/additional controls will be reviewed
- an appropriate preventative and corrective action will be implemented
- strategies will be identified to prevent reoccurrence
- environmental documentation/WMS will be reviewed and revised



7 INSPECTION AND MONITORING

This W&DMP satisfies the requirements of the Queensland Weeds Strategy 2002 - 2006 prepared by the Queensland Government, which outlines the general responsibilities of Government landholders (other than those specified in the document) as being:

- controlling weeds declared under the *Land Protection (pest and Stock Route Management) Act 2002* and, where necessary, implementing the State Land pest Management Policy
- controlling other weeds which have a significant impact, and for which there is a community expectation that they be controlled

During construction Job Safety and Environmental Analysis (JSEA) checklists are completed by individual staff prior to commencing site works. The JSEA includes an assessment of environmental risks and hazards and identifies risk control measures to reduce the risk of the works having a detrimental impact on the environment.

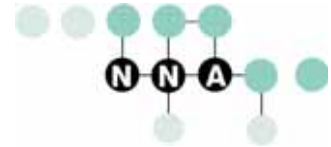
Contractors must supply a Weed Hygiene Declaration form (Appendix 1) as contractual requirement for each plant item each time they initially enter the construction site. The Declaration provides written assurance to the Alliance that a vehicle is clean before entering a property. All completed weed declarations will be retained by the plant manager for recording purposes.

All Alliance plant and equipment will be inspected by the plant manager/officer and a weed register (G-FRM-004) will record all inspected items.

This W&DMP will be reviewed and updated in accordance with the CEMP, or on an as required basis.

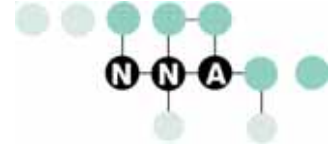
The Alliance procedure for the management of equine influenza is in accordance and consultation with guidelines developed by DPIF (Appendix 2). The Alliance has developed procedures for the following:

- entering a property
- leaving a property
- personnel decontamination (wash with soap and water and disinfect)
- decontaminating vehicles (wash with soap and water and disinfect), (refer to Appendix 1 for more details on the protocols).



8 DEFINITIONS AND ACRONYMS

Acronyms	Glossary
Authorised Person	An approved contractor or employee of the Alliance trained in weed identification and vehicle inspection
BCC	Brisbane City Council
BSC	Beaudesert Shire Council
CAR	Corrective Action Requests
Clean	Indicates that as far as can be ascertained by an Authorised Person that the items of machinery or vehicle does not pose a risk of spreading Declared Plants. The plant/vehicle is sufficiently free of noxious weed.
COG	Coordinator-General
Declared Plants	A plant belonging to a class of plants declared under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> .
Designated weed area	Surveyed area containing declared plants and/or other weed species of concern.
DMR	Department of Main Roads
DNRM&E	(Former) Department of Natural Resources, Mines & Energy
DNR&W	Department of Natural Resources & Water
DPI&F	Department of Primary Industries & Fisheries
DoIP	Department of Infrastructure and Planning
Easement	The Right of Way (ROW) of the pipeline
EIN	Environmental Improvement Notice
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAMP	Fire Ant Approved Risk Management Plan
JSEA	Job Safety and Environment Analysis
KPI	Key performance indicator
Linkwater	SRWPCo now trades as Linkwater, which is 100 per cent owned by the Queensland Government
NCR	Non-conformance Report
NNA	Northern Network Alliance
NPI	Northern Pipeline Interconnector
QESE	Quality Environment Safety Engineering Database
QPWS	Queensland Parks & Wildlife Service
QR	Queensland Rail
ROW	Right of Way - the pipeline easement
SRWP	Southern Regional Water Pipeline
TOC	Target Outturn Cost - estimated cost of the Project
VMP	Vegetation Management Plan
W&DMP	Weed and Disease Management Plan



9 REFERENCE DOCUMENTS

BCC. (2005) Brisbane Local Government Area Pest Management Plan Parts A, B & C. Brisbane City Council, Queensland.

DPI&F. Banana diseases. http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xsl/30_8253_ENA_HTML.htm, accessed 20/02/08 http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xsl/4790_8393_ENA_HTML.htm
<http://www2.dpi.qld.gov.au/health/4189.html>

DPI&F. Equine influenza outbreak. http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xsl/27_7416_ENA_HTML.htm , accessed 22/11/2007

DPI&F. (2006) Fire Ant Control Centre approved Risk Management Plan for Southern Regional Water Pipeline Alliance. Queensland Department of Primary Industries & Fisheries, Queensland.

DPI&F. Fire ants. http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xsl/4790_4538_ENA_HTML.htm, accessed 20/2/08

DPI&F. Sugarcane Smut Frequently Asked Questions. <http://www2.dpi.qld.gov.au/health/18513.html> , accessed 22/11/2007.

Energex. (2002) Energex Environmental Awareness Course - Weeds Management. Energex, Queensland.

NNA 2008, NNA Draft Environmental Impact Statement (EIS), Northern Network Alliance, Queensland Government. (2002) *Land Protection (Pest and Stock Route Management) Act 2002*.

Queensland Government. (2003) Land Protection (Pest and Stock Route Management) Regulation 2003.

Powerlink. (2005) Procedure - Control of Declared Pests. Powerlink, Queensland.

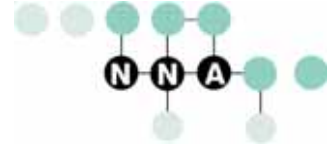
Queensland Government. (2002). Queensland Weeds Strategy 2002 - 2006. Queensland Government.

DNR&W. (2000) Queensland guideline for the construction of Vehicle and Machinery Washdown Facilities (Queensland Weed Seed Spread Project - July 2000). Department of Natural Resources, Mines and Water, Queensland.

Queensland Government. (1985) *Rural Lands Protection Act 1985* (repealed)

SEQWater. (2001) Development Guidelines for Water Quality Management (Edition One). SEQWater, Queensland.

SRWPA. (2006) Draft Construction Vegetation Management Plan. Southern Regional Water Pipeline Alliance, Queensland.



APPENDIX 1

Weed Hygiene Declaration



Part 1 – Sale or supply of things

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

This declaration is valid for supplying 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 _____ Description _____
(Eg. weight, size of load, number of items) (Eg. 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 reproductive material (please tick the relevant boxes and specify steps taken)

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 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 anything 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: _____

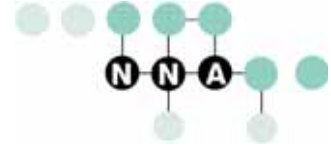
I* _____ of _____

Town _____ State _____ Telephone _____

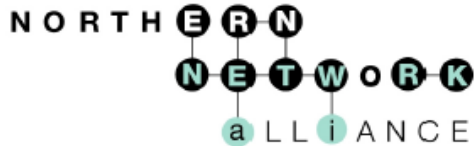
*If same as Part 1 please write "as above"

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 _____



APPENDIX 2



PROCEDURE FOR WORKING ON PROPERTY WITH HORSES

When you enter a property

1. Where possible leave your vehicle at the front gate or in a non-animal area away from horses.
2. Drive or walk on driveways or hard surfaces where possible.
3. Go directly in and out of the property.
4. Do not physically go near any horses and keep away from horse products (refer to definition).

If the property is quarantined, you must adhere to the decontamination requirements.

Leaving a property

1. If a vehicle has entered a property, decontamination is required if it has left the hard surface of a driveway and gets mud or manure over its surface.
2. If you come into direct contact with a horse, full personal decontamination is required and you should avoid contact with other horses for 24 hours.
3. If you require further advice on decontamination call 13 25 23.

Personal decontamination

1. After coming into direct contact with a horse, wash all exposed skin with soap and water, disinfect footwear. Change clothes, including hat and footwear before handling healthy horses. Launder clothes in hot water and laundry detergent.
2. Even if you haven't come into direct contact with a horse, you should still observe personal hygiene practices. This includes washing your hands with soap and water, cleaning and disinfecting boots, etc. A change of clothes is not required if you did not come in contact with.

Decontaminating vehicles

1. Vehicles should be cleaned and washed thoroughly with water to remove all mud and organic matter. Then wheels and wheel arches (and undercarriage if applicable) should be washed thoroughly with detergent and water.
2. Drivers should also ensure that they clean the inside of their cabin (including seat, steering wheel, door and door handle) and change their clothes and shoes. Place the dirty clothes and shoes in a plastic bag and perform personal decontamination of these items as in the section above.

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