CENTENNIAL NEWSTAN PTY LIMITED

NEWSTAN COLLIERY

LAND MANAGEMENT PLAN

May 2010

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1.0 INTRODUCTION

The Land Management Plan (LMP) forms part of Centennial Newstan's (Newstan) Environmental Management System (EMS) and is a requirement of Newstan's Development Consent (DA73-11-98 MOD1).

1.1 BACKGROUND

Underground coal mining has been undertaken at Newstan Colliery on the western side of Lake Macquarie since 1887. Surface facilities are located adjacent to Miller Road, northwest of Fassifern.

The Newstan Colliery holding comprises two mines and is predominately covered with bushland. The surface facilities include offices (including the Fassifern office), workshops, coal handling plant, washery, rail loop and emplacement areas.

The Newstan Colliery has been placed on care and maintenance following the cessation of all coal extraction in May 2009.

1.2 SCOPE

This Land Management Plan applies to the Newstan Colliery premises and all work sites associated with Newstan including the Life Extension Area (LEA).

1.3 OBJECTIVES

The objectives of the LMP are to provide a framework whereby the Newstan site is managed to:

- Prevent land degradation and to rehabilitate disturbed land as soon as practicable;
- Ensure existing pastures and remnant vegetation incur minimal degradation as a result of mining operations; and
- Control vermin, feral animals and noxious weeds within the Newstan site.

1.4 DEVELOPMENT CONSENT CONDITIONS

The LMP has been prepared to satisfy the approval conditions of the Director General of the Department of Planning included in the Newstan development consent (DA73-11-98 MOD1). The conditions within this consent that relate to the LMP are listed in the table below.

Condition Requirement	
3.2d	The applicant shall also prepare the following management plans… Land management plan
3.2e	The management plans are to be revised/updated at least every 5 years or as directed by the Director-general in consultation with the relevant governmental agencies. They will reflect changing environmental requirements or changes in technology/operational practices. Changes shall be made and approved in the same manner as the initial environmental management plan. The plans shall also be made publicly available at LMCC within two weeks of approval of the relevant government authority.
3.9(a)	Prior to commencement of construction works in the relevant area prepare a Land Management Plan for the areas of the proposed surface facilities, and its holdings in the LEA, to provide for proper land management in consultation with DECC, DPI, and LMCC, and to the satisfaction of the Director-General. The plan shall include, but not be limited to:

	(i) pastures and remnant vegetation management; (ii) prevention and rehabilitation of land degradation; (iii) eradication of vermin and noxious weeds as required by the Rural Lands Protection Authority, the Prickly Pear Authority and other relevant authorities; (iv) feral animal control.

2.0 CONSULTATION

Consultation regarding this Land Management Plan will occur as per Newstan's development consent requirements.

2.1 REGULATORY AUTHORITIES

The Land Management Plan is to be developed in consultation with the Department of Environment, Climate Change and Water (DECCW), Industry and Investment (I&I), and Lake Macquarie City Council (LMCC), and to the satisfaction of the Director-General, Department of Planning.

This plan is to be made publicly available at LMCC within two weeks of approval of the relevant government authority as required by Newstan's development consent, condition 3.8(b).

2.2 EMPLOYEES AND CONTRACTORS

Newstan Colliery will inform relevant employees and contractors of the requirements of the Land Management Plan.

3.0 LAND MANAGEMENT DOMAINS

Newstan Colliery's surface management areas have been split into six separate domains for detailed description of the varying management practices within this LMP. The location of the domains in provided in **Appendix 5** (Plan 1 – NS2634).

Pastures are only located within Domain 3. To avoid repetition, pastures are not discussed in any of the other domains.

3.1 DOMAIN 1 - NEWSTAN COLLIERY SURFACE FACILITIES

3.1.1 Description

The Newstan Colliery Surface Facilities contains the Newstan pit top, offices, workshop, storage sheds and yards, hardstand areas, men and materials drift and winder, coal drift and conveyor, water tanks, electrical sub-station and the Coal Handling and Preparation Plant. See **Appendix 5** (Plan 1 – NS2634) for the location of Domain 1.

Sizeable stands of healthy remnant bushland occur between Fassifern Road and the Pit Top hard stand area although this bushland is not part of this domain. These bushland areas are dissected by a network of roads, tracks and rail lines. A drainage line running west to east connects this area with the Northern Reject Emplacement Area.

3.1.2 Land Management Issues

Pastures and Remnant Vegetation

There are areas of lawn within this domain which are mown on a regular basis. There is limited remnant native vegetation as much of the vegetation within this area has been cleared more than sixty years before present for Newstan's surface facilities such as offices, workshops, CHPP, conveyors and hard stand areas. No additional disturbance to remnant native vegetation in Domain 1 is proposed. The only clearing to be undertaken in Domain 1 will be the maintenance of fire breaks.

Land Degradation

There are limited erosion and sediment control issues for Domain 1 and the majority of the Domain consists of hard erosion resistant surfaces. Runoff from this area is contained in Newstan's surface water facilities as described in Newstan's Water Management Plan. No further management practices are considered necessary in this area.

Weeds

A number of weeds species can occur within this area, including:

- Camphor Laurel (*Cinnamomum camphora*);
- Lantana (*Lantana camara*);
- Blackberry (*Rubus fruticosus agg.);* and
- Wild Tobacco Plant (*Solanum mauritianum*).

Vertebrate Pests

Feral cats have been known to inhabit this area.

3.1.3 Land Management Strategies

Pastures and Remnant Native Vegetation

There will be no additional disturbance to remnant native vegetation in Domain 1. Management of remnant native vegetation will include continuation of weed and pest control program and maintenance of fire breaks.

Prevention of Land Degradation

Sediment generated within Domain 1 is either contained in drive-in sumps or in the Weighbridge Dam in Domain 2. These control structures are maintained as per Newstan's Water Management Plan.

Weeds

The control of weeds in Domain 1 relies on the application of herbicides as well as slashing and mowing where appropriate. The application of herbicides is undertaken by a licensed contractor. An overview of the weed control requirements for the Newstan site is provided in 11.3

For Domain 1, specific weed management strategies include targeted weed control for the identified noxious and environmental weeds.

Vertebrate Pest Species
For Domain 1 pest species management involves the trapping of cats. Occasionally wild or dumped domestic dogs are reported by site personnel and specialist contractors are brought to site to capture these animals.

An overview of the vertebrate pest control requirements for the Newstan site is provided in 11.4.

3.2 DOMAIN 2 - RAIL LOOP AND HAUL ROAD

3.2.1 Description

The Rail Loop and Haul Road Domain contains the rail loop dams, coal stockpiles, weighbridge dam and the haulage road. See **Appendix 5** (Plan 1 – NS2634) for the location of Domain 2.

Sizeable stands of healthy remnant bushland occur to the north and south of the Rail Loop area. These bushland areas are dissected by a network of roads, tracks and rail lines.

3.2.2 Land Management Issues

Pastures and Remnant Native Vegetation
Domain 2 contains limited remnant native vegetation. A small area of impacted remnant native vegetation occurs along the northern branch of LT Creek that runs through this domain.

Land Degradation
The main erosion and sediment control issue with Domain 2 is sediment laden runoff from the Rail Loop Haul Road and coal stockpile areas. All runoff from these areas either drains to the Rail Loop Sediment Dam or the Weighbridge Dam.

Weeds
A number of weeds species occur within Domain 2, including:

- Camphor Laurel (*Cinnamomum camphora)*;
- Lantana (*Lantana camara*);
- Blackberry (*Rubus fruticosus agg*.); and
- Wild Tobacco Plant (*Solanum mauritianum*)

Vertebrate Pests
Feral cats may inhabit this area.

3.2.3 Land Management Strategies

Pastures and Remnant Native Vegetation
Expansion of the Final Pollution Control Dam (FPCD) is expected during the care and maintenance phase. This will require the removal of some remnant vegetation and will be conducted as per the approved Mining Operations Plan (MOP) variation submitted to the DPI. This dam expansion is expected to assist in containing sediment

laden waters during rainfall events and reduce discharges through LDP002. Weed and pest control will be undertaken to limit any degradation of the remnant native vegetation.

Prevention of Land Degradation
During the operational and care and maintenance phases, erosion and sediment control will focus on cleaning out the Rail Loop Dam and Weighbridge Dam and maintaining dam levels at the lowest possible level.

Erosion and sediment controls will be installed as per the approved MOP Variation within the disturbed area planned for the FPCD expansion.

Weeds
For Domain 2 targeted herbicide application of the identified noxious and environmental weeds is undertaken.

Vertebrate Pest Species
For Domain 2 pest management involves the trapping of feral cats.

3.3 DOMAIN 3 – NEWSTAN PROPERTIES

3.3.1 Description

Domain 3 refers to rural properties that are owned by Centennial Coal but are not impacted in any way by Newstan's mining operation. These properties are managed corporately and by a specialist land management consultant. The properties are leased for primarily grazing purposes. Each property has a Property Management Plan. As these properties are not affected by Newstan's operations they will not be considered further in this document.

3.4 DOMAIN 4 - NORTHERN REJECT EMPLACEMENT AREA

3.4.1 Description

The Northern Reject Emplacement Area (NREA) contains the old reject emplacement area, a disused Tailings Storage Facility (TSF), Connolly's Dam, McKendry's Dam, Sewage Maturation Pond, a disused quarry, the explosives magazine, Graunch's Dam and the Main By-wash Dam. It is bounded by the Newstan Colliery Surface Facilities area to the east, Miller Road to the south and private property to the north and east. See **Appendix 5** (Plan 1 – NS2634) for the location of Domain 4.

There is approximately 4.12ha of remnant native bushland in Domain 4 which includes significant populations of *Tetratheca juncea* and 3 ha of artificial wetland (the By-wash Dam). 15.76ha of Domain 4 has been progressively rehabilitated. The remainder of the domain consists of a disused tailings storage facility which is 50% capped, contoured course reject material and water management dams. Newstan plans to continue shaping, capping and seeding of the remaining areas of coarse reject material and to continue progressing the capping of the tailings storage facility during the care and maintenance phase.

3.4.2 Land Management Issues

Pastures and Remnant Native Vegetation
Remnant native vegetation communities within this area include:

- Woodland/open forest communities along gentle slopes, plateaus, dry exposed hillsides, ridge tops and valley floors;
- Riparian wetland and gully vegetation communities along poorly drained creek flats, floodplains and along sheltered hillsides and gullies;
- Open forest/forest communities on steeper slopes on ridge sides; and
- Wetland species in the By-wash Dam.

Land Degradation
Currently there is approximately 8.0 ha of coarse reject material that is uncapped.

Weeds
Three noxious weed species can occur within this area:

- Lantana (*Lantana camara*);
- Farmer's Friend (*Bidens pilosa*); and
- Blackberry (*Rubus fruticosus agg*.)

A number of environmental weed species can occur within this area, including:

- Pampas Grass (*Cortaderia spp.*); and
- Wild Tobacco Plant (*Solanum mauritianum*)

Vertebrate Pests
Feral animal species including cats are known to occur in this area.

3.4.3 Land Management Strategies

Pastures and Remnant Native Vegetation
There will be no additional disturbance to areas of remnant native vegetation within this Domain.

Prevention of Land Degradation
Gully erosion and slumping was evident on the old angle of repose coarse reject material dumps. This issue was rectified by recontouring to a maximum grade of 1(v); 3(h). Slope drains have also been installed to reduce slope length, which report to lined batter chutes that convey runoff to the bottom of the slopes. These areas are progressively being clay capped and revegetated using native species outlined in the Newstan Rehabilitation Strategy.

All sediment laden runoff from this area reports to a two-celled sediment dam called Graunch's Dam. Water that accumulates in Graunch's Dam is reused in the CHPP.

Rehabilitation of 15.76 ha of coarse reject material has been undertaken in Domain 4. Weed management and supplementary seeding is ongoing in some of the rehabilitated areas. The primary species present in the rehabilitation are Acacias and Eucalypts.

Newstan plans to continue shaping, capping and seeding the remaining areas of coarse reject material and to continue progressing the capping of the tailings storage facility during the care and maintenance phase. The detail of rehabilitation works is provided in the Newstan Rehabilitation Strategy document.

Weeds
For Domain 4, specific weed management strategies include targeted weed control for the identified noxious and environmental weeds.

Additional herbicide application may be undertaken in rehabilitated areas to reduce grass competition with native tree and shrub species.

Vertebrate Pest Species

For Domain 4 specific pest species management strategies include targeted vertebrate pest control activities, including trapping of cats and removal of rabbits if required.

3.5 DOMAIN 5 - SOUTHERN REJECT EMPLACEMENT AREA (SREA)

3.5.1 Description

The SREA occupies an area of 75 hectares and includes the old Fassifern Auger Mine, the Stage 1 Tailings Storage Facility (TSF), the Stage 2-4 TSF, and the Seepage and Clean Water Dams. It also includes the SREA Haul Road that joins the Eraring Haul Road, a powerline easement, a series of sediment dams, the Newstan No.1 workings, the Causeway Dam and the Wakefield Tunnels as well as a number of tailings bores. See **Appendix 5** (Plan 1 – NS2634) for the location of Domain 5.

A significant proportion of the SREA is covered with native vegetation and there are a number of tracks and trails throughout the area. Progressive rehabilitation works have been undertaken in this area and will continue where possible.

3.5.2 Land Management Issues

Pastures and Remnant Native Vegetation
Remnant native vegetation communities within this area include:

- Woodland/open forest communities along gentle slopes, plateaus, dry exposed hillsides, ridge tops and valley floors;
- Riparian wetland and gully vegetation communities along poorly drained creek flats, floodplains and along sheltered hillsides and gullies; and
- Open forest/forest communities on steeper slopes on ridge sides.

Land Degradation
The Tailings Storage Facility (TSF) within the SREA has been designed to progressively develop in stages as outlined in the Parsons Brinckerhoff report –

Newstan Colliery Southern Reject Emplacement Strategy. The current stage for this structure is Stage 2 and consists of an embankment that has been constructed across the upper reaches of the southern branch of LT Creek. The embankment will be constructed largely from stockpiled over burden and insitu materials, although some additional material may need to be imported.

Coarse reject will be dumped on the embankment to form a downstream lift that will progressively raise the height of the embankment (Stages 3 and 4). The tailings stored behind this embankment will ultimately cover all disturbances associated with Areas 4 to 9. The downstream emplacement of rejects will ultimately cover Area 10, the Sub-Causeway and Causeway Dams.

At maximum tailings capacity, a 2.5m freeboard is maintained to enable the Stage 2 TSF to cater for runoff from a 100,000 year ARI design storm event, in accordance with Dam Safety Committee Guideline DSC19 (November 2005).

Decant waters within the Stage 2 TSF is transferred to the Fassifern No.1 seam underground workings.

Weeds
Three noxious weed species can occur within this area:

- Lantana (*Lantana camara*);
- Farmer's Friend (*Bidens pilosa*); and
- Blackberry (*Rubus fruticosus agg*.)

A number of environmental weed species can occur within this area, including:

- Pampas Grass (*Cortaderia spp*.); and
- Wild Tobacco Plant (*Solanum mauritianum*)

Vertebrate Pests
Feral animal species including cats and rabbits are known to occur in this area.

3.5.3 Land Management Strategies

Pastures and Remnant Native Vegetation
Soil stripping and vegetation clearance will be required downstream and upstream of the Stage 2 TSF wall when course reject material emplacement commences downstream of the Stage 2 TSF and when the wall is raised for additional fine rejects storage. This topsoil will be transported to the flat upper sections of Area 1, stockpiled in long, low stockpiles and revegetated for use in future rehabilitation purposes in accordance with Newstan's Soil Stripping Management Plan.

Surveys for threatened flora species will be conducted prior to vegetation clearance in accordance with Newstan's Flora and Fauna Management Plan. Clearing of threatened flora species will be avoided if possible, if not possible, the threatened flora species will be translocated.

Progressive rehabilitation around the SREA is undertaken as required. The successful revegetation of disturbed areas around the SREA will result in clean water run-off from these areas.

Final rehabilitation of the SREA will be undertaken in accordance with the Newstan Rehabilitation Strategy. Areas will be direct seeded with grass species and trees species as in the SREA land management targets. Gypsum treatment of soils and capping materials may be undertaken to minimise dispersion and improve soil structure if required.

Prevention of Land Degradation
The Seepage Dam and Clean Water Dam have been constructed downstream of the SREA, and receives seepage from the Stage 2 TSF. These structures have been designed to contain the volume of runoff generated in a 1 hour duration, 10 year ARI design storm event. An automated flocculation plant has been installed to treat any sediment contaminated water prior to discharge, to the southern arm of LT Creek, which Newstan will apply to the Department of Environment, Climate Change and Water (DECCW) to licence shortly.

Clean catchment runoff within the SREA is diverted around dirty catchment areas and operations within the SREA using diversion channels located to the south of the seepage and clean water dams as well as along the SREA access road from the haul road. These diversions direct clean catchment runoff to the southern arm of LT Creek.

Weeds
For Domain 5, specific weed management strategies include targeted weed control for the identified noxious and environmental weeds.

Additional herbicide application may be undertaken in rehabilitated areas to reduce grass competition with native tree and shrub species.

Vertebrate Pest Species
For Domain 5 specific pest species management strategies include targeted vertebrate pest control activities, including trapping of cats and removal of rabbits if required.

3.6 DOMAIN 6 – SURFACE AREAS EXTERNAL TO NEWSTAN PIT TOP.

3.6.1 Description

This area includes the areas above longwall panels 24 and 25 within the Awaba State Forest and the Life Extension Area (LEA) which occupies an area of approximately 15.16km^2. The LEA extends to the Toronto-Morisset road in the east, the Newcastle to Sydney F3 freeway to the west, Newstan Colliery's lease to the north and Awaba Colliery's lease to the south. See **Appendix 5** (Plan 1 – NS2634) for the location of Domain 6. The LEA covers a range of different landforms which have been developed for a variety of uses, including residential development at Awaba and limited agricultural enterprises.

With Newstan entering care and maintenance in May 2009 with the suspension of underground mining operations all infrastructure including a ballast bore and concrete drop holes, methane drainage bores and associated infrastructure, fly ash pumping bores, fly-ash pumping compound and gas monitoring wells were removed and the sites rehabilitated.

Groundwater monitoring bores within the LEA and adjacent to Lord's Creek will remain at present whilst monitoring continues on a quarterly basis.

3.6.2 Land Management Issues

Pastures and Remnant Native Vegetation
Remnant native vegetation communities within this area include:

- Woodland/open forest communities along gentle slopes, plateaus, dry exposed hillsides, ridge tops and valley floors;
- Riparian wetland and gully vegetation communities along poorly drained creek flats, floodplains and along sheltered hillsides and gullies; and
- Open forest/forest communities on steeper slopes on ridge sides.

Land Degradation

No further surface disturbance is planned within the LEA or above LW24 and LW25.

Weeds

Three noxious weed species can occur within this area:

- Lantana (*Lantana camara*);
- Crofton Weed (*Ageratina adenophora*); and
- Scotch Thistle (*Onopordum acanthium*).

A number of environmental weed species can occur within this area, including:

- Wild Tobacco Plant (*Solanum mauritianum*); and
- Castor Oil Plant (*Ricinus communis*).

Vertebrate Pests

Feral animal species including cats and rabbits are known to occur in this area.

3.6.3 Land Management Strategies

Pastures and Remnant Native Vegetation

No additional disturbance to remnant native vegetation is planned during the care and maintenance period for Domain 6.

Where required subsidence remediation and rehabilitation works will be undertaken including:

- Rehabilitation of surface cracks by ripping / excavating and backfilling and reseeding with native species;
- Minor erosion / sediment control works to remediate any areas prone to erosion; and
- Minor remedial drainage earthworks to redirect drainage paths.

Surveys for threatened flora species will be conducted prior to any vegetation clearance for subsidence repairs in accordance with Newstan's Flora and Fauna Management Plan.

Prevention of Land Degradation

No additional disturbance to remnant native vegetation is planned during the care and maintenance period for Domain 6.

Rehabilitated infrastructure sites will be monitored on a quarterly basis, to inspect the success of native species rehabilitation and the existing sediment controls in place.

All rehabilitation of subsidence impacts will be undertaken using a seed mix of local native species.

Weeds

For Domain 6, specific weed management strategies include targeted weed control for the identified noxious and environmental weeds. Additional herbicide application may be undertaken in rehabilitated areas to reduce grass and weed competition with native tree and shrub species. Quarterly inspection of mine infrastructure rehabilitation sites and major subsidence rehabilitation will identify any requirements for weed spraying.

Vertebrate Pest Species

For Domain 6 pest species management will be undertaken if required.

4.0 INFORMATION

Relevant employees and contractors are provided with directions concerning the appropriate management with regards to this Land Management Plan.

4.1 DOCUMENTATION

Where there is a risk to health, safety and the environment when undertaking a task, management plans/systems, procedures, standards and inspections have been developed to identify hazards and the steps to control those hazards.

4.1.1 Permit to Clear (EWP032)

No clearing is to occur onsite without a permit to clear. Any clearing must have appropriate approvals, and a Flora and Fauna inspection completed prior to the permit being issued. The permit to clear also includes information regarding soil stripping, and the installation of sediment controls.

4.1.2 Surface General Work Permit – Excavation Permit (N009100)

No excavation for Newstan is permitted unless an Excavation Permit has been completed and approved by the site supervisor.

4.1.3 Material Safety Data Sheets

Manufacturers and/or suppliers will provide an MSDS for any hazardous substance they supply on site before the substance arrives on site in accordance with the Newstan Hazardous Substances Management Plan. This includes any chemicals which may be used in weed and pest management practices.

All on-site personnel will have access to MSDSs via the Chemwatch database or hard copies of MSDSs are available in the First Aid Room.

If person/s are not clear on any aspects of the MSDS, they should contact their supervisor or other nominated person/s.

4.1.4 Other Mine Site Documentation

This includes the following:

- Job Safety Map (JSM)/ Job Safety Analysis (JSA)
- Risk Assessment
- Safe Work Method Statements (SWMS)
- Management Plans
- Standard Contractors Site Regulations
- Scope of Work

4.2 COMMUNICATION

4.2.1 Supervisors

Supervisors of tasks involving rehabilitation, weed and pest management are to be aware of the Land Management Plan and the requirements of this plan.

Supervisors are to obtain a “Permit to Clear” form from the Environmental Coordinator if any disturbance to vegetation is required, and are to manage the task to prevent unplanned disturbance to remnant vegetation.

4.2.2 Tool Box Talks

The requirements under this plan may be communicated to the workforce through toolbox talks. This will predominantly be to contractors who are involved in rehabilitation, pest management and any other works which may cause disturbance resulting in land degradation.

4.2.3 Community Consultative Committee

The Community Consultative Committee (CCC) will be shown rehabilitation works on the REA and in remote locations when requested. Updates on the rehabilitation status will be provided by Newstan at the quarterly CCC meetings and tabled in the minutes to be posted on the Centennial Website.

5.0 TRAINING AND INSTRUCTION

Persons will receive the relevant training/instruction and information regarding land management practices.

5.1 INDUCTIONS

Information regarding the requirements within this management plan will be provided during inductions, including the Environmental handout. This information includes:

- The provision of MSDS forms (weed spraying etc),
- Not disturbing rehabilitated areas or flora and fauna on site and of the need to report any disturbances,
- The implementation of sediment and erosion controls when disturbing the soil,
- Ensuring the Environmental Coordinator approves any disturbance, by submitting a "Permit to Clear" form,
- Not introducing exotic flora/fauna to the site
- Ensuring machinery tyres are clean to prevent the spread of weeds off-site.

5.2 ENVIRONMENTAL AWARENESS TRAINING

Environmental Awareness training of employees and contractors will be conducted to provide the relevant knowledge and skills to ensure people are aware of the environmental issues associated with this management plan. These training packages will include, but are not limited to:

- Clearing of vegetation – Permits to clear,
- Sediment and erosion controls,
- Rehabilitation maintenance.

5.3 PROCEDURES

The only procedures relevant to the Land Management Plan are the Permit to Clear Procedure (EWP032) and the Quarterly Rehabilitation Inspection Procedure (EWP033).

6.0 SUPERVISION

Direction will be provided to employees and contractors regarding the preservation of rehabilitated areas, the control and management of noxious weeds and pests, and the necessary sediment and erosion controls required to prevent land degradation.

6.1 RESPONSIBILITIES

6.1.1 Mine Manager

- Provide the necessary resources so that identified controls in this plan can be implemented.

6.1.2 Environment and Community Coordinator

- Conduct inspections and coordinate site weed and pest control,
- Implementation of land management procedures,
- Ensure appropriate measures are in place prior to issuing any permits to clear when disturbance is required,
- Implement control measures to reduce land degradation,
- Coordinate rehabilitation of disturbed areas.

6.1.3 Department Heads

- Obtain appropriate permits required prior to work commencing on any vegetation disturbance onsite,
- Install sediment and erosions controls are established around work areas before disturbance is undertaken.

7.0 MONITORING

7.1 REHABILITION INSPECTIONS

Inspections of the sites rehabilitation areas will be conducted on a quarterly basis in accordance with EWP033. This monitoring will include the monitoring of rehabilitation in the NREA, SREA and any other rehabilitation within the LEA which may be taking place. Inspections will coincide with the CCC meetings to update the CCC on the progress of rehabilitation.

Inspections of any planned clearing will also take place to monitor the clearing of the vegetation, and sediment controls.

7.2 WEEKLY INSPECTIONS

Weekly inspections (EWP032) include the inspection for weeds and pests. The area or domain inspected will be recorded and also if any necessary eradication of weeds and pests are required and the details.

7.3 PLANNED TASK OBSERVATIONS

Any unsafe behaviours, conditions or hazards identified by the observer of a Planned Task Observation (PTO) which has potential to cause unplanned damage to remnant vegetation, land degradation, or the introduction of pest species are to be corrected to prevent an incident occurring. Any issues identified and the preventive actions arising are to be recorded on the PTO.

8.0 AUDIT

Internal audits of the Newstan Colliery Land Management Plan will be conducted as specified in the corporate guideline (ECMG 06) Audit and Inspection. The Plan audits will investigate compliance with the EMS, Standards, and Procedures. Any non-conformance with the management plan generated from an audit shall be recorded and reported to the Administrator.

9.0 REVIEW

Revisions are to be coordinated by the site Environmental Coordinator / Plan Administrator or as directed by the Mine Manager. The revision status is contained in

the controlled document within Lotus Notes and updated as per the Newstan Colliery Change Management System.

The outcomes of a review will be documented by updating sections of these documents where required and revisions incorporated into the Land Management Plan for approval.

Once this plan has been reviewed, changes made shall be submitted to the DECCW, I&I, and LMCC for comment. Once these comments have been incorporated, the plan will be submitted to the Director-General for comment and approval and made publicly available at LMCC within two weeks of approval of the relevant government authority.

Revised documents will be placed on the intranet as required by the Newstan Colliery Change Management System.

9.1 MANAGEMENT PLAN

9.1.1 Time Based

The Newstan Colliery Land Management Plan is required to be reviewed every 5 years by the Environmental Coordinator or as directed by the Mine Manager, to assess the Plans effectiveness and to remain in compliance with development consent conditions.

9.1.2 Event Based

Events which may trigger a review of the Land Management Plan include:

- As directed by the Director-General (in consultation with other governmental agencies),
- Modification/improvement to the system,
- In the event of significant improper land management practices.

9.2 PROCEDURES, STANDARDS & INSPECTIONS

All procedures, standards, inspections and other relevant associated documents may be reviewed:

- As per the set review period in the document,
- After improper practices are identified,
- Modification/improvement to the system.

10.0 ASSOCIATED DOCUMENTS

10.1 ORGANISATIONAL & NEWSTAN DOCUMENTS

- Newstan Colliery Environmental Management System May 2009
- Health and Safety Management System
- Hazardous Substances Management Plan
- ECMG 06 Audit and Inspection.

10.2 STATUTORY

- Newstan Legal Register
    - Development Consent DA73-11-98 MOD 1

10.3 RISK ASSESSMENTS

- Newstan Environmental Management Risk Assessment January 2008.

10.4 NEWSTAN PROCEDURES & PERMITS

- Newstan Weekly Inspections (EWP – 008)
- Permit to Clear (EWP – 032)
- Quarterly Rehabilitation Inspection (EWP-033).
- Surface General Work Permit – Excavation Permit (N009100)

10.5 MANAGEMENT PLANS

- Archaeology and Cultural Management Plan;
- Flora and Fauna Management Plan;
- Erosion and Sediment Control Plan;
- Draft Soil Stripping Management Plan;
- Draft Bushfire Management Plan;
- Wetland Management Plan;
- Subsidence Management Plan;
- Water Management Plan;
- Dust Management Plan;
- Noise Management Plan; and
- Newstan Colliery Rehabilitation Strategy.

11.0 APPENDICES

11.1 APPENDIX 1 - SPECIES MIX USED IN REHABILITATION AREAS

Grasses

Scientific name	Common name
Chloris gayana	Rhodes grass
Cynadon dactylon	Couch
Pennisetum clandestinum	Kikuyu Grass
Lolium perenne	Perennial rye
Medicago sativa	Lucerne
Trifolium repens	White Clover
Medicago spp	Medic
Echinochloa esculenta ,	Japanese Millet
Avena spp	Oats

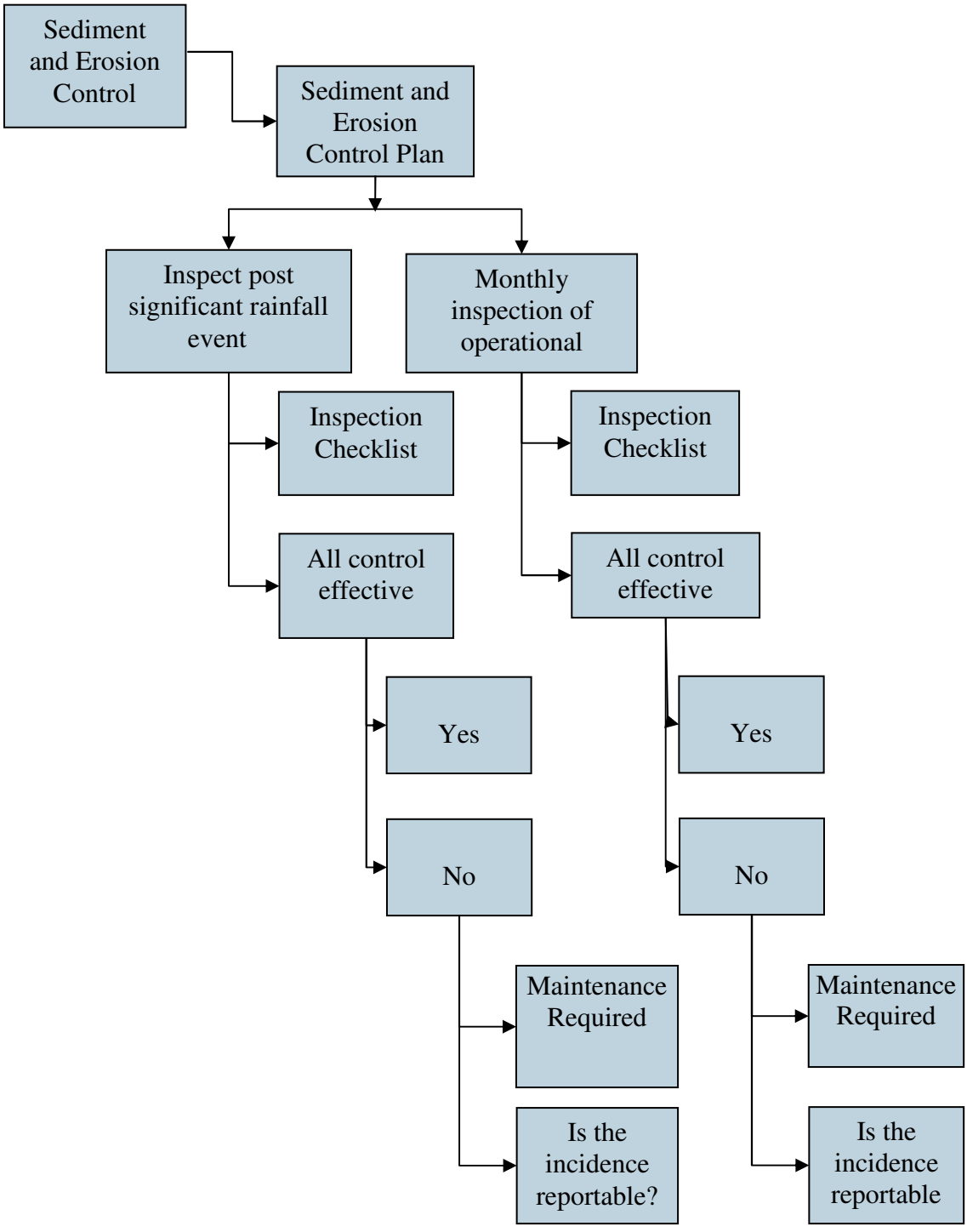
Forest species

Scientific name	Common name
Acacia suaveolens	Sweet-scented wattle
Acacia falcate	Sickle Wattle
Acacia longifolia	Sydney Golden Wattle, Sallow Wattle
Lomandra longifolia	Spiny-headed Mat-rush, Honey Reed
Banksia spinulosa	Hairpin Banksia
Allocasuarina torulosa	Forest Oak
Melaleuca nodosa	Melaleuca nodosa
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus microcorys	Tallowwood
Eucalyptus maculata	Spotted Gum
Angophora costata	Sydney Red Gum, Rusty Gum, Smooth-barked Apple

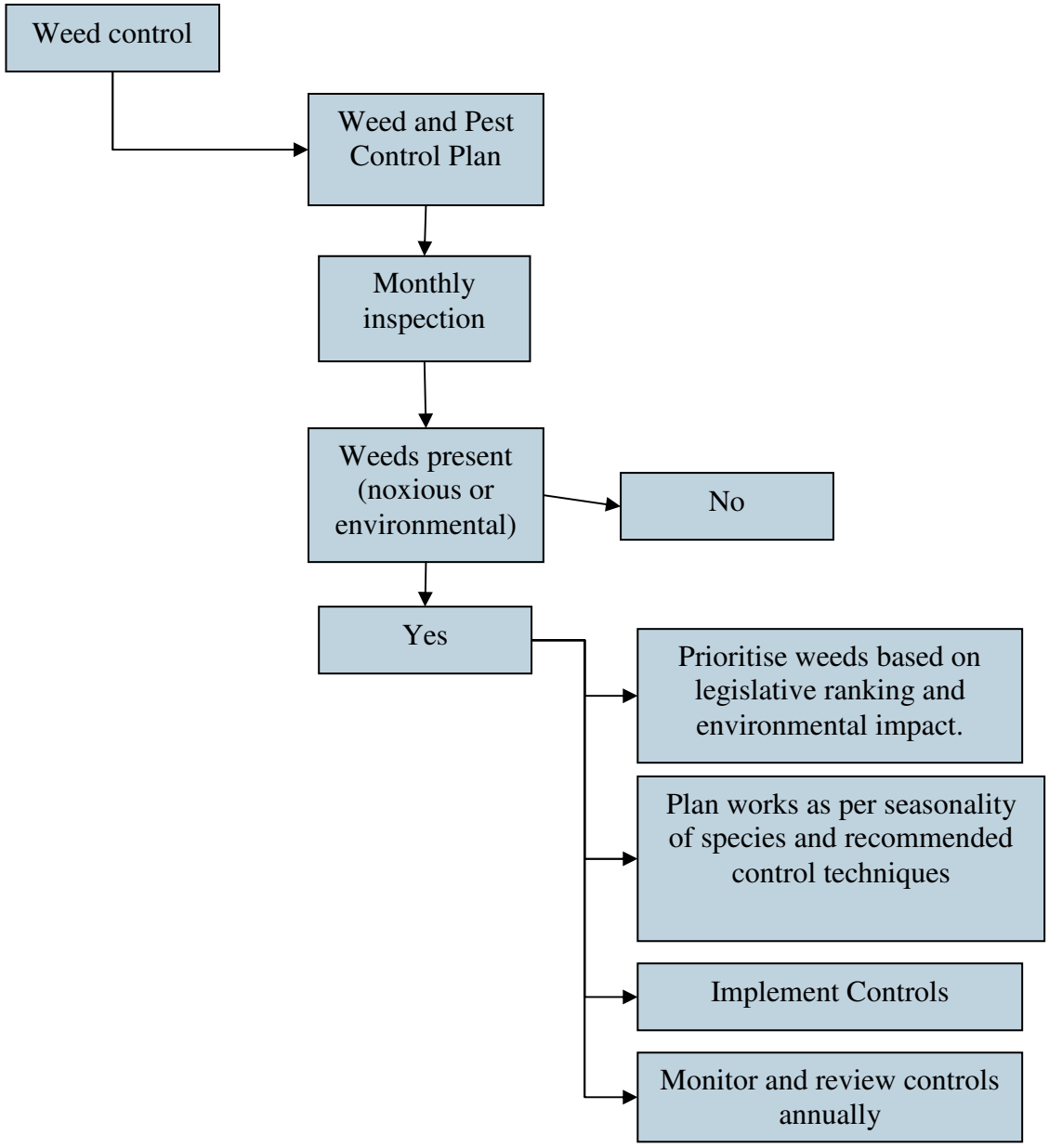
Wetland species

Scientific name	Common name
Eucalyptus robusta	Swamp Mahogany
Melaleuca quinquenervia	Broad-leaved Paperbark
Melaleuca linariifolia	Flax-leaved Paperbark
Casuarina glauca	Swamp Oak
Phragmites australis	Common Reed
Typha orientalis	Broadleaf Cumbungi

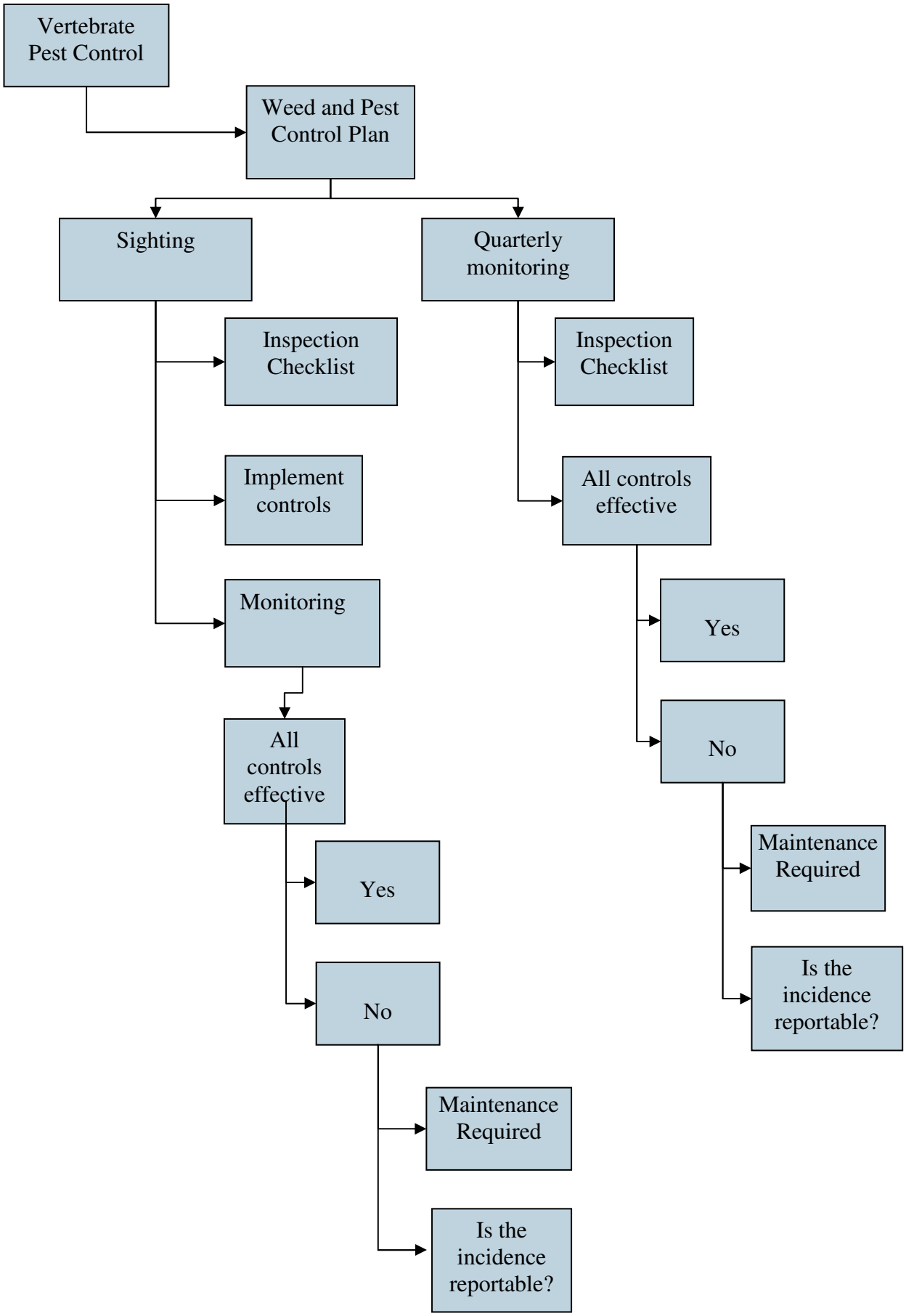
11.2 APPENDIX 2 - SEDIMENT AND EROSION CONTROL PROTOCOL



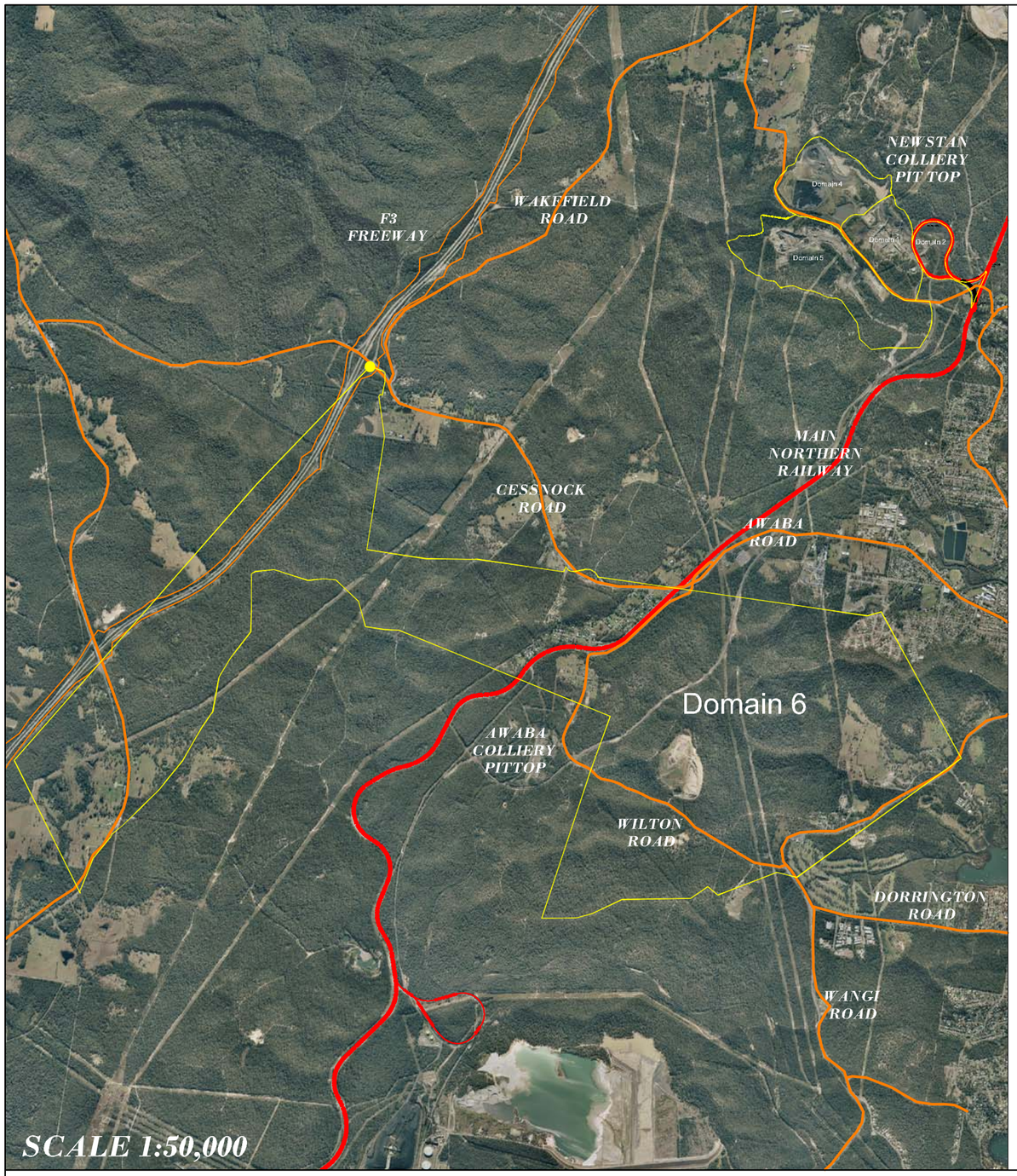
11.3 APPENDIX 3- WEED CONTROL PROTOCOL

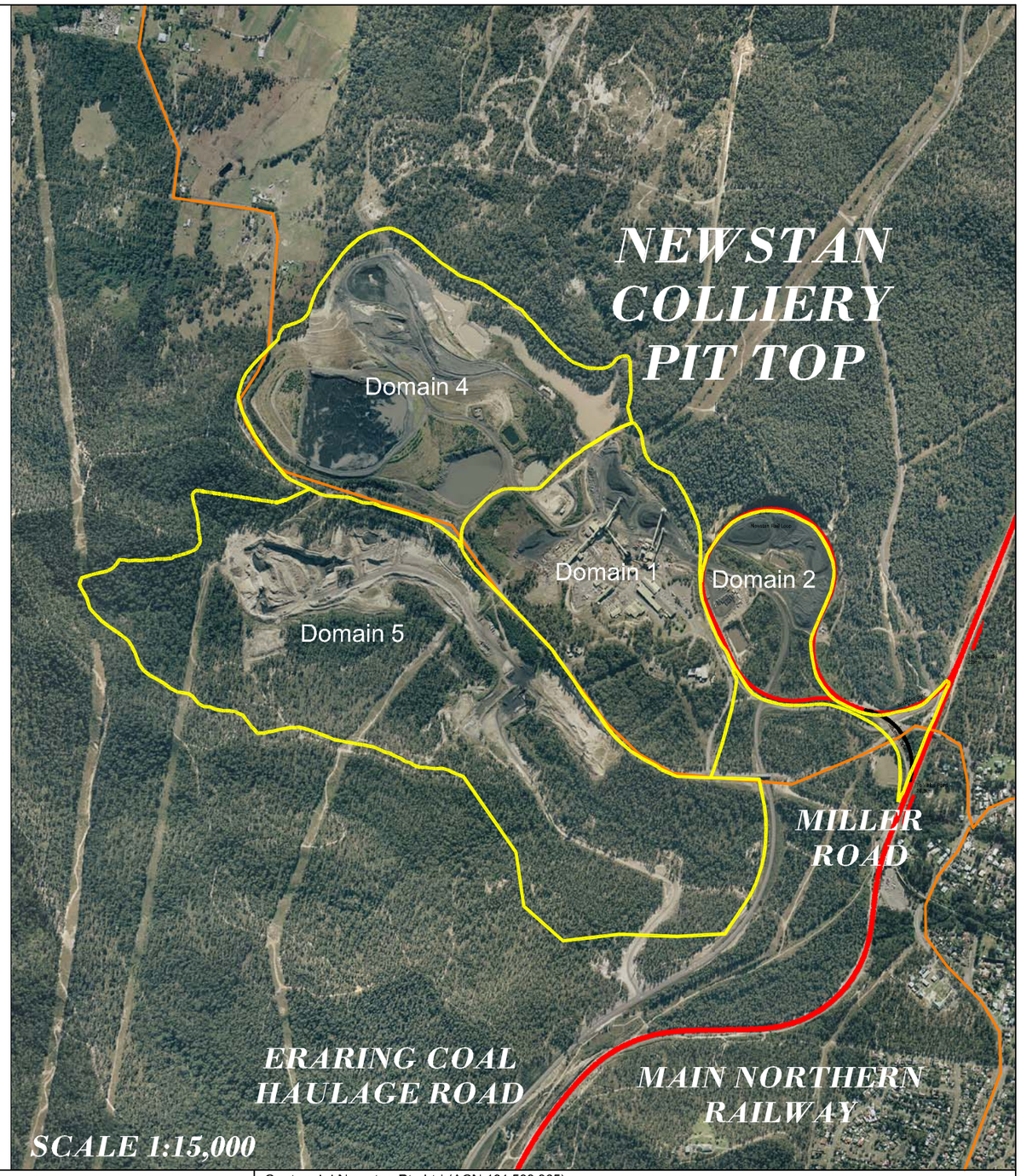


11.4 APPENDIX 4- VERTEBRATE PEST CONTROL PROTOCOL



11.5 APPENDIX 5 - PLAN 1 – NS2634





LEGEND

- Domains
- Main Roads
- Main Northern Railway Line

N

GRID

MAGNETIC

Coordinate System is the Map Grid of Australia Zone 56,using GDA94 Datum.

Centennial Newstan Pty Ltd (ACN 101 508 865)

NEWSTAN COLLIERY

TITLE:

LAND MANAGEMENT PLAN DOMAINS 1,2,4,5 AND 6

DRAWN: A.FIELD		All Distances are in metres unless otherwise shown.	A3
DATE: 5/05/2010	Plot File N2634.PDF		
Centennial Newstan	SCALE: AS SHOWN		NS2634