These tables set out the operational controls required to achieve the objectives and targets set out in Environmental Program 05 Site Preparation and Rehabilitation.

BBA will, as a minimum, implement the control activities and performance measures set out below.

Table OCO 1.1 Erosion and Sediment Control

Table OCO 2.1 Soil and Water Management

Table OCO 4.1 Acid Sulphate Soils Management

Table OCO 5.1 Site Preparation and Rehabilitation

Table OCO 12.1 Weed and Pathogen Management

Table OCO 5.1 Site Preparation and Rehabilitation

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
INDUCTION AND TRAINING							
1.	Design Consultant briefing	CEMP 10	The Design Consultants will be briefed on the design aspects of this Control Document	Design Director	Prior to start of design.	Briefing record	
2.	Project and site induction	CEMP 13	All employees, consultants and subcontractors involved will be inducted into the environmental aspects and controls related to this Control Document.	Construction Director or Project Manager, as applicable Start up Manager for Early Works	Prior to personnel commencing work on site	Induction records	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
3.	Staff Construction Environmental Management Plan induction	CEMP 13	All relevant staff will be inducted into the requirements of the Construction Environmental Management Plan and all associated documents.	Construction Director or Project Manager, as applicable	Prior to staff commencing work on site	Induction records	
4.	Awareness training	CEMP 13 CEMP 14	Conduct awareness instruction of relevant BBA staff, contractors and field personnel. Objectives of Site Preparation and Rehabilitation awareness training include: • Matters requiring protection. • Risk of encountering unexpected matters.	Project Manager	As per Training Plan	Training records	
5.	Briefings	CEMP 13 CEMP 14	Environmental briefings shall emphasize site-specific control requirements.	General Superintendent	Prior to working in a specific area	Record of Briefing. (eg SEP Briefing)	
PRE-CONSTRUCTION							
6.	Establish photo points	LU1, Part 3, Sect 2, 2DR1.2, pg 77, (Seq pg 90) LU3, Part 3, RH1.2, pg 36 (Seq pg 275) LU4, Part 3, RH1.2, pg 37, (Seq pg 326) LU1, Part 3, Sect 2, 2DR1.2, pg 76, (Seq pg 89)	Establish photo points for monitoring sites susceptible to erosion or acid sulphate soils, and ecologically sensitive areas that will be disturbed and rehabilitated.	Environmental Manager	Initial site preparation	Sites identified	
7.	Delineate all construction areas	EPBC 20(b)	Inspect the project footprint and identify all construction areas, access tracks, car parks and other infrastructure and delineate them with flagging tape (other flagging options will include delineator rope or electric fencing tape)	Environmental Manager	Initial site preparation	Sites delineated	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
8.	Identify sensitive areas	Project Requirement	Identify from available documentation and plans, all sensitive areas and their respective land use and significance (i.e. pasture or native vegetation, native fauna habitat, archaeological and cultural significance).	Environmental Manager	Initial site preparation	Sites identified	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
9.	Delineate sensitive areas	LU1, Part 3, Sect 2, 2VG3.1, pg 73, (Seq pg 86) LU1, Part 3, Sect 2, 2AH6.1, pg 95, (Seq pg 108) LU1, Part 3, Sect 2, 2AH7.1, pg 95, (Seq pg 108) LU1, Part 3, Sect 2, 2AH8.1, pg 95, (Seq pg 108) LU2, Part 3, VG2.1, pg 19, (Seq pg 233) LU3, Part 3, VG2.1, pg 32, (Seq pg 271) LU3, Part 3, AH8.1, pg 44, (Seq pg 283) LU3, Part 3, AH9.1, pg 44, (Seq pg 283) LU4, Part 3, VG2.1, pg 33, (Seq pg 322) TSI, 13, pg 5, (Seq pg 423) EPBC 20(b)	Delineate all sensitive areas with proximity to construction areas with flagging tape (other flagging options will include delineator rope or electric fencing tape)	Environmental Manager	Initial site preparation	Sites delineated	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
CONSTRUCTION							
Minimisation of disturbance							
10.	Remain within construction boundaries	LU1, Part 2, 2.1, pg 6,(Seq pg 19) LU1, Part 2, 2.21, pg 15, (Seq pg 28) LU1, Part 3, Sect 2, 2VG1.1, pg 72, (Seq pg 85) LU1, Part 3, Sect 5, 5VG4.1, pg 155, (Seq pg 168) LU1, Part 3, Sect 6, 6VG4.1, pg 164, (Seq pg 177) LU3, Part 3, VG6.1, pg 32, (Seq pg 271) LU4, Part 3, VG6.1, pg 33, (Seq pg 322) EMI, CN7.1, pg 8, (Seq pg 349) EPBC 20	All construction activities and materials must remain within the construction boundaries.	General Superintendent	Ongoing	Monthly report	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
11.	Existing tracks	LU1, Part 3, Sect 5, 5ER3.1, pg 149, (Seq pg 162) LU1, Part 3, Sect 5, 5FN1.1, pg 154, (Seq pg 167) LU1, Part 3, Sect 6, 6ER3.1, pg 161, (Seq pg 174) LU3, Part 3, ER4.1, pg 25, (Seq pg 264) LU4, Part 3, 4.1, pg 26, (Seq pg 315) EPBC 20(c) APIA Code	All vehicle access will be confined to existing roads and tracks that have been subject to flora and fauna surveys. Permanent access tracks located in native vegetation areas must be as narrow as practicable in order to minimise the clearance of native vegetation and avoid known localities of threatened species, unless otherwise approved by the director.	General Superintendent	Prior to working in a specific area	Tracks identified	
12.	Upgraded tracks		Where upgraded tracks are required they will: • follow the shortest routes; • follow ridge lines, spur crests and flat areas wherever possible; • be constructed to relevant safety and regulatory authority standards and able to withstand projected traffic volumes; • be constructed in a manner which minimises land clearance; • implement correct drainage and sediment and erosion controls (refer to Erosion Control procedure); • minimise disruption to existing drainage patterns; • be located to avoid all localities of Xanthorrhoea. aff. bracteata; • be located to avoid all known localities of threatened species, conservation significant species, protected and specifically protected wildlife, where practicable; and • be located to avoid all known localities of cultural heritage significance, where practicable.	General Superintendent	Prior to working in a specific area	Tracks identified	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
13.	Minimise vegetation clearance	Project Requirement LU1, Part 3, Sect 2, 2VG2.1, pg 73, (Seq pg 86) LU3, Part 3, VG1.1, pg 32, (Seq pg 271) LU4, Part 3, VG1.1, pg 33, (Seq pg 322)	Vegetation clearance will be minimised to that necessary to achieve minimal soil erosion and sedimentation, reduce impacts to visual amenity and agricultural capacity, reduce impacts to fauna habitat and threatened flora, unnecessary cultural heritage impacts, and risk of weed establishment. Native trees, and in particular old growth or hollow bearing trees, must be retained wherever practicable.	General Superintendent	Ongoing	Monthly report	
14.	Burning of vegetation	LU1, Part 3, Sect 2, 2AM4.1, pg 78, (Seq pg 91) LU1, Part 3, Sect 2, 2AM5.1, pg 78, (Seq pg 91) LU2, Part 3, AM1.3, pg 20, (Seq pg 234) LU2, Part 3, AM1.4, pg 20, (Seq pg 234) LU3, Part 3, AM3.1, pg 37, (Seq pg 276) LU3, Part 3, AM4.1, pg 37, (Seq pg 276) LU4, Part 3, AM3.1, pg 38, (Seq pg 327) LU4, Part 3, AM4.1, pg 38, (Seq pg 327)	Cleared vegetation will not be disposed of by burning unless no other practicable disposal options are available. Any such burning will be undertaken in such a way as to prevent emissions from causing an environmental nuisance and be in accordance with any written requirements of the Director. There will be no open fire burning without approval from the Director of Environmental Management.	General Superintendent	Ongoing	Inspection records	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
15.	Excavation widths	Project Requirement	The width of the surface excavations shall be the minimum required for safe access and trench construction.	General Superintendent	Ongoing	Monthly report	
Stripping vegetation							
16.	Cleared vegetation stockpiles	Project Requirement	All cleared vegetation is to be stockpiled within the construction boundary on the down-slope side of the construction corridor, in a separate stockpile to top and sub soils. Do not push the windrowed vegetation up against adjacent living vegetation. The resulting vegetation bund will provide sediment protection reducing the need for additional sediment control structures along the bulk of the easement. In some cases the vegetation cannot be stored directly at the side of the construction easement. This occurs near rivers and streams or in areas where there is a reduced width allowed for the easement. Always allow for additional space to store this vegetation back behind the narrowed easement. Keep threatened flora vegetation separate for specific use in rehabilitation.	General Superintendent	Initial site preparation	Stockpile inspections	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
17.	Exotic pasture mowing	Project Requirement	Unless otherwise requested by the landowner, all exotic pasture areas should be mown no longer than 2 weeks prior to vegetation stripping if grass is more than 100 mm high. Grazed paddocks where greater than 80 percent of the pasture is already less than 100 mm high will not require mowing. This will remove excessive grass levels from contaminating the topsoil stockpile. Stockpiled soils containing long grass and grass clumps on soil return will result in difficulties with pasture preparation and greater expense.	General Superintendent	Ongoing	Monthly report	
18.	Grass in topsoil stockpiles	Project Requirement	In agricultural pastures topsoil and grasses will not be rolled up as a mat as these present difficulties and are expensive to re-spread. Unless otherwise requested by the landowner, where grasses are extensive, they should be sprayed with an approved herbicide 4-6 weeks prior to construction activities to reduce the effect of clumps within the stockpile.	General Superintendent	Initial site preparation	Stockpile inspections	
19.	Weed control	Project Requirement	Undertake chemical weed control prior to construction to control weed species which are known to spread vegetatively (i.e. blackberries).	General Superintendent	Initial site preparation	Weeds treated	
20.	Plant hygiene	Project Requirement	Ensure that all construction machinery and construction activities comply with OCO Weed and Pathogen Management	General Superintendent	Ongoing	Monthly report	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
21.	Protect vegetation stockpiles	Project Requirement	Care must be taken in all construction stages to ensure that topsoils and other materials do not damage, cover or breach the vegetation stockpile. The undamaged stockpiled vegetation is a key element in providing sediment protection during construction, providing erosion protection on re-spreading over topsoil after construction and also provides a native seed source for rehabilitation.	General Superintendent	Initial site preparation	Stockpile inspections	
22.	Weedy vegetation stockpiles	Project Requirement	If large areas of weeds are present, vegetative material should be stockpiled separately from other vegetation so it can be removed for disposal or buried on-site.	General Superintendent	Initial site preparation	Stockpile inspections	
23.	Leave felled woody material if possible	LU1, Part 3, Sect 5, 5VG1.1, pg 155, (Seq pg 168) LU1, Part 3, Sect 6, 6VG1.1, pg 163, (Seq pg 176) LU3, Part 3, VG3.1, pg 32, (Seq pg 271) LU4, Part 3, VG3.1, pg 33, (Seq pg 322) TS1,16, pg 5, (Seq pg 423)	Unless conflicting with other requirements of the CEMP, minimise the removal of felled coarse woody material.	General Superintendent	Vegetation clearing	Inspection records	
24.	No leaving of vegetation stockpiles	Project Requirement	No stockpiles of excess vegetative material are to be left within the construction easement upon completion of revegetation works but stockpiles of excess vegetative material should only be removed for reuse in other areas of the construction easement if approved by the Environmental Manager.	General Superintendent	Initial site preparation	Stockpile inspections	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
25.	Cleared agricultural land	Project Requirement	The majority of agricultural areas intersected by the easement will be pasture or other low vegetative volume crops. As a result it is unlikely that these areas will yield enough material to create a distinct vegetation windrow. This may lead to the requirement for additional sediment control structures on the down-slope side of the work areas. However, stripped pasture grasses and topsoil materials provide effective sediment retention along edge of works.	General Superintendent	Initial site preparation	Inspections of down-slope edges of work areas	
Erosion and sedimentation management							
26.	Install drainage controls	Project Requirement	Manage erosion and sedimentation by minimising clearance and installing appropriate drainage features. All sediment will be retained within the construction zone.	General Superintendent	Initial site preparation	Controls installed	
27.	Minimise exposure time	Project Requirement	Minimise the time period between excavation and backfilling operations	General Superintendent	Ongoing	Monthly report	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
28.	Additional sediment protection	Project Requirement	Additional sediment protection may be required at access points and drainage lines where the vegetation stockpile may not provide sufficient protection. This is to be assessed on a case by case basis.	General Superintendent	Initial site preparation	Stockpile inspections	
Stripping soil							
29.	Topsoil use	LU1, Part 3, Sect 5, 5VG2.1, pg 155, (Seq pg 168) LU1, Part 3, 6VG2.1, pg 163, (Seq pg 176) LU1, Part 3, Sect 7, 7DR1.1, pg 169, (Seq pg 182) LU3, Part 3, VG4.1, pg 32, (Seq pg 271) LU4, Part 3, VG4.1, pg 33, (Seq pg 322)	Topsoils and sub-soil material should be separately stockpiled in parallel windrows where practical. Topsoil is not used for backfilling trenches under any circumstances.	General Superintendent	Initial site preparation	Stockpile inspections	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
30.	Topsoil stockpiles design	Project Requirement	Excavated topsoil will be stockpiled separately from cleared stockpiled vegetation and other excavated material (e.g. trench spoil, subsoil material) for respreading during rehabilitation activities. To maintain biological activity, the height of topsoil stockpiles should not exceed 3 m. Where space is limited, larger stockpiles may be required. In this instance, construction planning should be for topsoil to not be stockpiled for more than six weeks. Soils stockpiled for longer periods may need further remedial treatment. Excavated topsoil from threatened flora sites should be marked and separated for potential use in rehabilitation works.	General Superintendent	Initial site preparation	Stockpile inspections	
31.	Topsoil stockpile location and stabilisation	Project Requirement	Topsoil stockpiles will be located to minimise disruption to the movement of vehicles, stock or wildlife, surface drainage and water flows and will avoid threatened flora locations. Topsoil stockpiles shall not be located where potential to contribute to sedimentation of land or surface water exists. Leave gaps in stockpiles every 50 metres to allow the movement of stock and wildlife. These should coincide with any identifiable trails. Stockpiles will be stabilised using appropriate methodology, which may include, but not limited to, the following: wetting via sprinkler system, utilisation of a mulch, utilisation of a cereal crop cover and use of sediment fences.	General Superintendent	Initial site preparation	Stockpile inspections	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
Topsoil return							
32.	Soil horizon retention	Project Requirement	Soil horizons will be returned in the reverse order in which they were removed to avoid inversion of soil profiles (i.e. no subsoil on top of topsoil)	General Superintendent	During soil return	Inspections of soil return areas	
33.	Soil compaction relief	Project Requirement	Subject to landowner agreement, compaction relief will be facilitated by ripping prior to subsoil and topsoil return in both agricultural areas to a maximum depth of 300 mm. Compaction levels should be similar to those of the pre-construction environment.	General Superintendent	After soil return	Inspections of soil return areas	
34.	Soil return	Project Requirement	Return and spread the subsoil and topsoil using an excavator mounted with a rock bucket. All soils must be returned moist (not wet or dry) to prevent structural degradation. Graders must not be used for this process as they significantly increase soil compaction. Surplus material which creates small mounds may be removed if required and excessive rocks should be removed in pasture areas.	General Superintendent	After soil return	Inspections of soil return areas	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
35.	Contour re-establishment	Project Requirement	As far as practical, the land shall be returned to a similar contour prior to construction and drainage patterns are to be reinstated.	General Superintendent	After soil return	Inspections of soil return areas	
36.	Topsoil surface profile	Project Requirement	In areas to be returned to native vegetation, the topsoils should be left in a loose, rough and uneven condition. In areas of agricultural land the topsoil surface should be level. Trench crowns will not be used in agricultural areas as they can potentially interfere with drainage patterns and farm machinery. Do not 'track' over re-spread topsoils with machinery to give them a smooth appearance.	General Superintendent	After soil return	Inspections of soil return areas	
37.	Erosion controls	Project Requirement	Install erosion controls if and as necessary to protect returned topsoil	General Superintendent	After soil return	Controls installed	
Site preparation for revegetation							

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
38.	Rehabilitation quickly	Project Requirement LU1, Part 3, Sect 5, 5RH3.1, pg 155, (Seq pg 168) EPBC 27(d)	Rehabilitation (including native revegetation) must occur as soon as practicable following completion of construction activities. Vegetation rehabilitation of the effluent pipeline construction corridor must be commenced within 2 months of completion of the pipeline laying.	General Superintendent	After construction	Rehabilitation commencement	
39.	Site preparation for pasture return	Project Requirement	Unless otherwise agreed to by the landowner, spray existing vegetation with an approved herbicide at least four (4) weeks prior to the implementation of site preparatory works ◗ Disc the surface ◗ Cultivate with agro-plough or equivalent (to relieve compaction) ◗ Disc again or use a cultivator (disc heavy soils, cultivate sandy soils) ◗ Harrow ◗ Seed and fertilize ◗ Harrow again.	General Superintendent	Prior (> 4 weeks) to site preparatory works.	Spray records	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
40.	Site preparation for native vegetation return	Project Requirement	Where soil in native vegetation is likely to be affected by compaction it is advisable to deep rip after construction and re-spread the layers of sub-soil, followed by topsoil and vegetation slashings (with seed branches) following completion of construction activities. A rock bucket on an excavator to loosen surface horizons combined with native seeding may be used on badly compacted and/or denuded areas on advice from the Company Replanting may be directed in areas of high conservation value native vegetation or other conservation areas.	General Superintendent	After soil return, prior to revegetation	Inspections of revegetation areas	
41.	Soil seed bank retention in threatened species areas	TS1, 27, pg 7, (Seq pg 425)	Use stockpiled topsoil and vegetative matter from areas proposed to be disturbed where there are known populations of threatened flora species, in order to retain as much of the soil seed bank, other propagules and associated soil microflora as possible for remediation works.	General Superintendent	After soil return, prior to revegetation	Threatened species recolonisation	
42.	Topsoil loose	Project Requirement	For all replanting, topsoil must be left in a loose friable condition suitable for plant establishment	General Superintendent	After soil return, prior to revegetation	Inspections of revegetation areas	
Return of stripped native vegetation							

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
43.	Stripped vegetation return	Project Requirement	Where available, the Contractor will respread the stockpiled vegetation across the disturbed areas after soil replacement unless the regulator directs otherwise. Return of stripped vegetation will follow the guidelines in Table 1.	General Superintendent	After soil return, prior to revegetation	Inspections of revegetation areas	
Replanting							
44.	Pasture revegetation	Project Requirement	Pasture revegetation will be undertaken in accordance with the guidelines in Table 2.	General Superintendent	During revegetation works	Revegetation records	
45.	Native revegetation	Project Requirement	Native revegetation will be undertaken in accordance with the guidelines in Table 3.	General Superintendent	During revegetation works	Revegetation records	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
46.	Weed control in revegetation areas	Project Requirement	All declared weed species will be monitored on-site and if they limit pasture regeneration or have the potential to spread to other areas, control measures will be implemented. Around drains/ponds and near watercourses, an aquatic organism safe herbicide should be used on weeds to minimise the impact on aquatic species. Post construction emergent weed spraying within the easement will be undertaken for a two year period by local weed control contractors who hold appropriate State based certification for the application of herbicides. Weed spraying will be target specific and care taken to avoid and protect non-target species, including threatened species.	Environmental Manager	Following revegetation during monitoring period	Inspection and weed treatment records	
47.	Inappropriate species	Project Requirement	Undesirable species identified during revegetation progress inspections will be removed	Environmental Manager	Following revegetation, during monitoring period	Inspection and action records	
48.	Subsidence	Project Requirement	If subsidence is encountered the depression will be filled with an appropriate topsoil with the landowners permission and revegetated.	Site Environmental Officer	If and as required	Action record and landowner consent and satisfaction	
49.	Stabilisation	LU1, Part 3, Sect 5, 5RH2.1, pg 155, (Seq pg 168)	All areas disturbed by construction activities must be rehabilitated such that they are stable and resistant to erosion	General Superintendent	During rehabilitation works	Inspection and action records	
INCIDENTS							
50.	Incident reporting	Reporting System	Each instance of non-compliance with this OC shall be reported as an incident and appropriate corrective action taken.	General Superintendent	Ongoing	Incident reports	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
51.	Potential environmental harm	CEMP incident response procedures	Class 1: *An actual adverse effect on the health or safety of human beings that is of a high impact or on a wide scale; an actual adverse effect on the environment that is of a high impact or on a wide scale; an actual loss or property damage of an amount, or amounts in aggregate, exceeding ten times the threshold amount ($5,000); an environmental nuisance of a high impact or on a wide scale; an actual adverse effect on the health or safety of human beings that is not negligible; an actual adverse effect on the environment that is not negligible* - cease relevant activities across all sites until the problem is fully understood and rectified; follow incident response procedures Class 2: *The emission of a pollutant that unreasonably interferes with, or is likely to unreasonably interfere with, a person's enjoyment of the environment; any emission specified in an environment protection policy to be an environmental nuisance; an actual loss or property damage of an amount, or amounts in aggregate, exceeding the threshold amount ($5,000)* - cease relevant activities at the site of occurrence until the problem is rectified; follow incident response procedures	Environmental Manager	Ongoing	Incident response records	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
52.	Potential permit breach	CEMP incident response procedures	Class A: *A permit condition has been breached and either the environmental consequences are significant or the breach is due to a wilful or negligent failure to attempt to satisfy the condition* – cease relevant activities across all sites until the problem is fully understood and rectified; follow incident response procedures Class B: *A permit condition has been technically breached but the intent of the condition has been or will be achieved and environmental consequences of the breach are not significant* – cease relevant activities at the site of occurrence until the problem rectified; follow incident response procedures Class C: *Compliance with the permit has been raised as an issue but the intent and requirements established by the permit condition have been met* – examine the significance and potential for corrective action; follow incident response procedures	Environmental Manager	Ongoing	Incident response records	
EVALUATING PERFORMANCE							
53.	Inspections	CEMP 16	Inspect the condition of protection and control measures and arrange maintenance, as required.	Site Environmental Officer	Daily	Weekly checklist	
54.	Photo record	LU1, Part 3, Sect 2, 2DR1.2, pg 77, (Seq pg 90) LU3, Part 3, RH1.2, pg 36, (Seq pg 275) LU4, Part 3, RH1.2, pg 37, (Seq pg 326)	Assess and record (including photos at established photo points) areas disturbed during construction in regard to property specific requirements agreed with landowners. Photos are to be taken at each inspection interval and to be date-stamped.	Site Environmental Officer	Monthly	Inspection Records	

Ref	Subject	Reference	Control Activity	Responsibility	Timing	Performance Measure	Audit Check
55.	Revegetation monitoring and maintenance – general areas	Project Requirement	Work site inspections will be undertaken at 3 month intervals for 2 years from completion of primary rehabilitation. Thereafter inspections will be every 6 months for 2 years, unless otherwise agreed with landowners. Remedial maintenance requirements will be based on defects identified in the monitoring inspection. Monitoring for native revegetation success should be undertaken at appropriate periods of the year to allow identification.	Environmental Manager during construction	Following revegetation, during monitoring period	Inspection and action records	
56.	Revegetation monitoring and maintenance – highly unstable areas	Project Requirement	Monitoring of rehabilitated highly unstable areas shall be after significant rainfall events and at least each month in winter for 2 years from completion of primary rehabilitation activities, unless agreed otherwise with landowners.	Environmental Manager	Following revegetation, during monitoring period	Inspection and action records	
57.	Reporting	CEMP 17	Report on the implementation of this EP in the environmental section of the monthly Project Report.	Environmental Manager	Ongoing	Monthly Report	
58.	Assess monitoring results	CEMP 19	Evaluate and assess monitoring results against specified targets.	Environmental Manager	Ongoing	Reports	
59.	Corrective action	CEMP 19	Take corrective action, where required.	Project Manager	As required	Action taken	

Table 1: Guidelines for stripped vegetation return

Subject	Guidance
Respread	Ensure that mulch or whole vegetative material is respread in an even layer over the disturbed surface. Stripped vegetation is a seed source, acts in preventing erosion, and can protect emerging seedlings from native and domestic animal browsing pressure.
Tree trunks	Large tree trunks should be placed back over the easement unless directed otherwise by the regulator. Tree trunks should be aligned along the contours as this will assist in preventing erosion rills. The tree trunks will also protect seedlings as they develop. Tree trunks that touch the ground at only two or three places along their length must be cut with a chainsaw so that a greater portion of the trunk lies on the ground.
Tree stumps	Tree stumps that have been pushed out of the ground should be replaced in a natural way lying over on their side as if they had been blown over in a strong wind.
Access barriers	Where there are concerns of unlawful access and destruction of revegetated areas post construction, large material (limbs or logs) may be placed across the construction easement to form a physical barrier but ensure continued access is possible for weed spraying and monitoring/auditing vehicles where necessary.
Private land	On private land, the Contractor will check any landowner requirements through the Alliance representative for any special instructions for handling vegetation.

Table 2: Guidelines for pasture revegetation

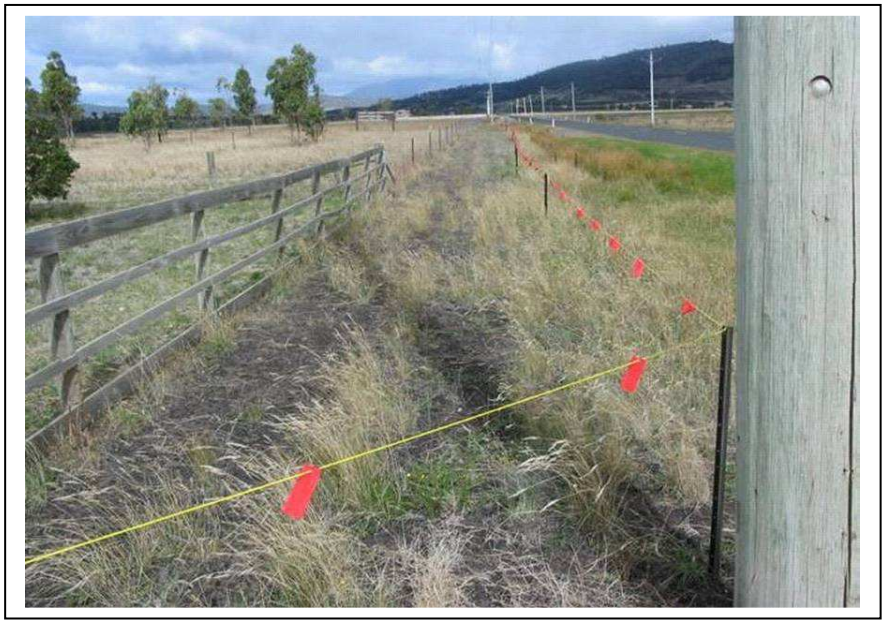
Subject	Guidance
Seed application	Seed application will be undertaken by agricultural machinery following the replacement of topsoil material. Exotic seed mixes can be applied by mechanical spreader and harrowed, or by direct agricultural drill techniques. Small areas can be seeded effectively by hand.
Stabilisation	Ryecorn (cereal rye) may be used as a quick ground cover and stabiliser. If used as a cover crop and for stabilisation, it should not be applied with pasture grass mixes but applied separately because of size differences between the seeds. Geotextile material such as 'jute soil saver' may be required for stabilisation after the seed is applied particularly on steep slopes.
Rocky or steep areas	Where rocky or steep areas are to be re-vegetated, and it cannot be completed safely with agricultural machinery, hand seeding is the preferred option.
Laydown areas	Laydown areas and other compacted areas adjacent to the construction easement in agricultural areas should be prepared by following the guidelines for site preparation.
Seeding rates	Pasture seeds should be applied at the rates and species mix shown in the table below **Species** **Application rate** Ryegrass var. Jackaroo 15 kg/ha Ryegrass var. Victorian (Victoca) 10 kg/ha White clover var. Denmark 5 kg/ha

Subject	Guidance
	Cereal rye 25 kg/ha
Fertiliser rates	Fertiliser application rates and the type to be used in all rehabilitation activities within agricultural areas along the easement are shown in the table below **Vegetation area/soil type** **Fertiliser type** **Application rate** All sites unless specified by the landowner N:P:K 14:16:11 300 kg/ha on all sites
Seed treatment	Coat and inoculate all clover seed
Seed mix preparation	Thoroughly mix all grass and clover seed together in a cement mixer or equivalent. Suppliers are able to provide specific premixes of seed on request.

Table 3: Guidelines for native revegetation

Subject	Guidance
Seed collection	All seed from the specified species list will be collected based on seasonal availability and will be maintained as a 'pool' of suitable seed for all easement disturbances. Species absent from the site within the disturbed plant community will not be sown. All species sown will be of local provenance. Permit condition (Schedule TS1) requirements include: 20. In areas where threatened flora species will be retained, the collection of vegetative matter must be restricted to 20 percent of individuals from a location and no more than 10 percent of the total above ground mass from each individual. 21. In areas where all threatened flora species are to be cleared as a result of undertaking construction activities, all of the standing vegetative matter of these threatened flora species may be collected. 22. In areas where threatened flora species will be retained, the collection of reproductive organs must be restricted to 20 percent of individuals from a location and no more than 30 percent of reproductive organs will be collected from each individual. 23. In areas where all threatened flora species are to be cleared as a result of undertaking construction activities, all of the reproductive organs of these threatened flora species may be collected. 24. Specimens of threatened flora species identified by the Tasmanian Herbarium as being required to supplement their collection, that will be taken as part of the construction of the project, must be lodged with the Tasmanian Herbarium within 90 days of the completion of the pre-construction surveys, unless otherwise required for revegetation, remediation and rehabilitation purposes. 25. Specimens of threatened flora species identified by the Royal Tasmanian Botanical Gardens as being required to supplement their collections, that will be taken as part of the construction of the project, must be lodged with the Royal Tasmanian Botanical Gardens within 90 days of the completion of the pre-construction surveys, unless otherwise required for revegetation, remediation and rehabilitation purposes. 26. Vegetative matter and reproductive organs, other than those collected in accordance with conditions 24 and 25, are only to be used for rehabilitation, remediation and revegetation purposes in accordance with the relevant provisions of the CEMP and the conditions relating to flora relevant to construction activities required by the relevant EMPCA Schedule of the Pulp Mill Permit.
Local provenance	Seed collection for easement revegetation will be from the local area. Seed supply companies will supply the required species. Wildseed Tasmania is the preferred supplier. Mixing of provenances for threatened flora species should be avoided.
Species type	Species selected for areas of native species revegetation within the easement construction zone will be based on those species that: ◗ are rapid colonisers of disturbed areas ◗ do not affect the integrity of the pipeline ◗ are competitive with undesirable colonising weed species ◗ are economic to obtain as seed or tube stock ◗ are threatened species where applicable.
Native grazing	Re-establish grass swards for grazing by native herbivores in areas where they existed prior to construction.
Seed treatment	Pour boiling water over 75% of the *Acacia* spp. seed contained within a bucket and leave until the water cools prior to mixing with other non-*Acacia* seeds.

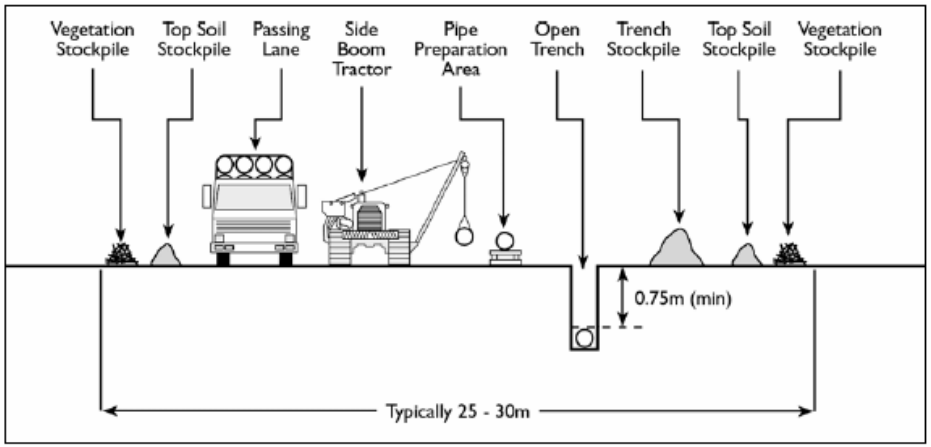
Subject	Guidance
Sowing	Seeding will be conducted by hand by applying 50% of the seed mix to the entire area in one direction, followed by application of the remaining 50% to the entire area at 90 degrees to the first application. In all areas of native vegetation disturbed by construction activities the species shown below will be used, applied at the rate of 4 kg/ha and combined with 10 x its volume of damp sawdust prior to sowing. These rates may be different for threatened flora and advice from an appropriate expert should be obtained.
Special areas	Areas identified as special areas (Trevallyn Reserve, Tamar crossing, Donovans Bay crossing, dune crossing) requiring rehabilitation will be generally be sown with the following species, subject to habitat preference: *Leptospermum scoparium*; *Acacia dealbata**; *Lomandra longifolia*; *Goodenia ovata*; *Melaleuca ericifolia**; *Acacia verticillata**; *Allocasuarina littoralis**; *Allocasuarina verticillata*; *Acacia mearnsii**; *Poa labillardierei,* or appropriate threatened species. Note: Species marked with * may not be suitable where the easement boundaries are shared with overhead powerlines. Further details will be described in the SEPs for these areas.
Fertiliser rates	Fertiliser application rates and the type to be used in all rehabilitation activities within native areas along the easement are shown in the table below **Vegetation area/soil type** **Fertiliser type** **Application rate** All sites unless specified by the regulator N:P:K 8:4:10 300 kg/ha on all sites Fertiliser must not be used in areas where threatened orchids may occur.
Slash application	Vegetation stripped from the easement in the clearing phase of construction should be returned over the re-spread topsoils. This material typically contains sufficient seed for the re-establishment of local species. If the vegetation is deficient in seed (lack of capsules) due to events such as recent fire, supplementary seeding should be applied. The most suitable species in Tasmania for slash application include *Allocasuarina* spp., *Leptospermum* spp., and *Melaleuca* spp.
Seasonal timing	Seed and fertiliser will be applied in the period between the first autumn rains in April through to September.



Construction zone delineated boundary (Basslink)

Construction zone delineated boundary (Basslink)

Disturbance minimisation (Dilston)



Typical construction layout showing separate stockpiles for topsoil and other material. Source: Australian Pipeline Industry Association Ltd (2005) p. 17.

This diagram will be reviewed based on the final easement design (this is an example only.

Pipeline construction corridor for a small pipeline (200 mm diameter). Note separate stockpiles for topsoil and excavated material. Source: Australian Pipeline Industry Association Ltd (2005) p. 16

Surface preparation

Vegetation return on a steep slope providing protection from soil erosion and native browsing pressure

Extensive vegetation return on a linear easement affording soil protection and a native seed source

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Seedling germination below a protective cover of slash

Definitions

Construction zone – a clearly defined area where construction activities are permitted. All construction activities must remain within the construction zone with no exceptions

Erosion control berms/diversion drains - are shallow excavations typically 40-50 cm deep with the excavated material often placed as a mound on the downslope side placed across disturbed areas at an angle of no more than 2 degrees

Geotextiles – are available in a wide range of styles for different applications. They include temporary erosion control mats, organic blankets, weed control blankets and mats, spray on material, geosynthetic blankets, reinforced blankets and sediment filters.

Inappropriate species – Those that due to their size and root structure may threaten the integrity of the pipeline and other infrastructure such as power lines i.e. Eucalyptus sp.

Pathogen – a disease producing organism

Rehabilitation – is an intentional activity which promotes or facilitates the re-establishment of vegetation cover following disturbance

Revegetation – the process of facilitating the establishment and return of a vegetation cover within a disturbed area

Sediment Traps – comprise a range of structures designed to slow or hold sediment laden waters so that suspended particles become deposited and clear water is released.

Silt fences – are lengths of synthetic geotextile fastened to wooden/metal stakes often in a ‘U-shape’ and tied into the ground by excavating and burying a lower flap of material to prevent under-scouring and to collect sediment

Slash – vegetation which has been cut removed and used to provide a seed source and ground cover in revegetation activities

Subsoil – The lower layers of the soil horizon containing less fertile material, sometimes referred to as spoil or overburden

Topsoil – Generally the top 150mm of soil profile and usually a much darker colour than the lower layers as it contains organic materials. It contains nutrients and minerals essential for plant growth

Weed – a plant that has, or has the potential to have, a detrimental effect on economic, social or conservation values (e.g. serrated tussock, gorse)

Revision Status

Revision	Date	Revision Description	Prepared	Reviewed	Approved
A0	27 April 2007	Draft for BBA review	IW		
A1	9 May 2007	Draft for DTAE review	IW		
B0	22 October 2007	Revised for submission to DTAE following auditor's comments	IW	JD	JC
B3	7 January 2008	Revised following DTAE comments	IW	JD	JC
B4	18 January 2008	Revised following DPIW comments	YE		
B5	24 January 2008	Revised following finalisation of the Fauna Management Plan	SW	JD	CF