ENERGY AUSTRALIA NSW

Pipers Flat Rail Coal Unloader Riparian Restoration Program

Pipers Flat, Wallerawang. NSW

August 2021

Version 1

This report may be cited as:

EnergyAustralia NSW (2021). *Pipers Flat Rail Coal Unloader, Riparian Restoration Program*. EnergyAustralia NSW.

Report Acknowledgements

EnergyAustralia NSW acknowledges the contributions made by various EnergyAustralia NSW staff and contractors during the development of this report.

EnergyAustralia NSW acknowledges the efforts of AEP who prepared the first version of the "Riparian Restoration Program Pipers Flat, Wallerawang NSW – dated 20/09/2020" (AEP, 2020) which was used to consult with WaterNSW and the Natural Resources Access Regulator (NRAR). This Final version of the Riparian Restoration Program is substantially based on the work initially undertaken and presented by AEP (2020).

EnergyAustralia NSW acknowledges and appreciates the comments and feedback received from WaterNSW and NRAR in December 2020 and March 2021 respectively.

Cover photography: 'Mt Piper Power Station*, EnergyAustralia NSW 2020.*

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Document History and Status

Revision	Date Issued	Prepared By	Approved By	Issue	Revision Type
Version 0 – 1	09 Sept 2020	Brooke Corrigan and Natalie Black	Anderson Environment and Planning (AEP)	To NRAR and WaterNSW for consultation	Issue to client for external consultation purposes
Version 0 - 2	15 June 2021	EnergyAustralia NSW	EnergyAustralia NSW	To WaterNSW NRAR & DPIE for endorsement	Transfer of content from Version 0 – 1 into EnergyAustralia NSW template and address of comments from NRAR & WaterNSW
Version 0 - 3	09 August 2021	EnergyAustralia NSW	EnergyAustralia NSW	To DPIE for endorsement	Address of comments from DPIE – principally the inclusion of performance measures and targets. Update to page numbering. Submission for DPIE endorsement.
Version 1	26 August 2021	EnergyAustralia NSW	EnergyAustralia NSW	Approved by DPIE	Addition of DPIE Approval letter and conversion of document to V1.

1. Riparian Restoration Program

This report describes the program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries (Riparian Restoration Program). This report has been prepared to satisfy Project Approval 06_0271, Condition 2.37 and Statement of Commitments (**SOC**), refer **Table 1.1**. The Riparian Restoration Program will be implemented in consultation with:

- the Natural Resources Access Regulator (**NRAR**) (Previously the Department of Industry (**DOI**) (Lands)); and
- WaterNSW.

Table 1-1 Project Approval Conditions and Commitments

Item	Condition / Commitment Details
Consent Condition 2.37	The Proponent shall develop and implement, in consultation with DoI Lands and Water and WaterNSW, a program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries. Revegetation and reinstatement works shall commence prior to the commencement of construction of the project, and shall be completed to the satisfaction of DoI Lands and Water and WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum. This condition only applies to land owned by the Proponent
SOC/Flora & Fauna	A section of Pipers Flat Creek, adjacent to the Project area, would be restored by reinstating riparian vegetation and providing connectivity along the creek for movement by terrestrial and aquatic flora and fauna.
SOC/Flora & Fauna	Revegetation of Pipers Flat Creek and surrounding areas would use native flora, where possible, which occur in the local area and are adapted to the local conditions. Plants and seeds used in revegetation works would be preferentially sourced from local provenance, where possible.
SOC/Flora & Fauna	Fallen logs encountered within the proposed disturbance footprint and felled timber would be relocated to areas of retained remnant vegetation or other suitable long term habitat areas

1.1 Riparian Restoration Program Objectives

The overall Riparian Restoration Program (**The Program**) objectives are to:

- Improve the stability and support the natural landform processes of riparian areas;
- Improve habitat diversity and connectivity;
- Reinstate native vegetation to reflect appropriate local plant community types; and
- Control exotic species to a level where they do not negatively impact native species or ecosystem processes.

1.2 Site Location

The Program will be undertaken along Pipers Flat and Thompsons Creeks located within EnergyAustralia lands north of Pipers Flat Road, as presented in **Figure 1** (**Attachment 1)**.

Plates 1 – 3 present photographs of the general area to be targeted by The Program.

Plate 1. Mid- section of the creek is structurally diverse and stable with pool and riffle transitions, natural snags and stable banks (AEP, 2020)

Plate 2. The floodplains in the southern restoration area are lush and green after rain (AEP, 2020)

Plate 3. A shallow section in the northern restoration area, looking north towards remnant forest (AEP, 2020).

1.3 Existing Vegetation

The majority of the river flats, as depicted in **Plates 1 – 3**, have been cleared and historically used for agriculture including grazing and stock fed production. The remnant vegetation present within and surrounding the area targeted by The Program includes degraded *Tableland Gully Snow Gum – Ribbon Gum Montane Grassy Forest* with a significant proportion of exotics and weeds.

1.5 Consultation

On the 26th November 2020, EnergyAustralia (**EA**) commenced consultation with WaterNSW and NRAR in accordance with the requirements set out in Condition 2.37. This initial correspondence is provided in **Attachment 2** and included a copy of the Riparian Restoration Program prepared by AEP (2020) noting that:

> *The Restoration Program focuses on establishing riparian plantings along the Pipers Flat Creek on land owned by EA and provides an overview of the area, species to be planted and general restoration works to be completed by EA. The primary purpose of the Restoration Program is to set out the various tasks required to establish riparian vegetation along Pipers Flat Creek. It is not intended and not required to be a detailed management plan.*

The letters were submitted via the Department of Planning, Industry and Environment's (**DPIE**) Planning Portal. Each letter requested feedback for consideration and incorporation into a second version (Version 0 – 2) of the Riparian Restoration Program. In addition to seeking feedback, EA offered to host a site visit of the area if required.

In December 2020, WaterNSW provided the following feedback via the DPIE's Planning Portal:

Good morning,

WaterNSW supports the proposed creek restoration works and considers the report, proposed methodology and target areas to be sound. We cannot comment on the specific vegetation species for replanting but consider these should be consistent with the surrounding area and the vicinity of the intact creek riparian vegetation upstream. WaterNSW supports Energy Australia in implementing this proposal as it should lead to improved water quality outcomes in the Upper Coxs River sub-catchment.

Kinds Regards

[redacted]

Mining Manager

On 26th March 2021, the NRAR provided comments on the Program via letter correspondence (provided in **Attachment 2**). The comments and feedback provided by NRAR has been considered and incorporated into The Program where appropriate. As a matter of courtesy, EA provided feedback on each of NRAR's comments in a letter dated 15th June 2021. This letter is also provided in **Attachment 2**.

Table 1.2 summarises NRAR's comments and sets out where these comments have been incorporated within The Program.

Table 1-2 Riparian Restoration Program - NRAR Feedback

Comment	Response and Relevant Report Section
Provide detail on how the proposed vegetated riparian corridors comply with the Guidelines for Controlled Activities on Waterfront Land. Confirm the corridor widths and any offsetting are appropriate for the stream orders present	Whilst there may be some land preparation work to establish a riparian corridor and prepare the area for riparian vegetation plantings, we do not believe that the revegetation activities in themselves are a Controlled Activity. Proposed riparian corridor widths are presented in **Section 2.1** and generally comply with the Guidelines provided by NRAR. Offsetting does not need to be considered as the recommended widths in the Guidelines will generally be achieved.
The site area including two 2nd order watercourses and one 1st order watercourse. Provide detail on how the plan includes the restoration of minor watercourses present within the site boundary	Other minor watercourses (or drainage depressions) are not targeted for physical works. The only action that EA is proposing for these minor drainage depressions is to exclude stock.
The plan should specify when the works will be implemented, and the timeframe allowed for maintenance activities. Maintenance requirements should extend for a minimum of two years after the completion of works or until such time as a minimum 80 per cent survival rate of each species planted and a maximum 5 per cent weed cover for the treated riparian corridor controlled activity is achieved	The timeframe for implementation is set out in Condition 2.37, provided in **Table 1.1**. **Section 2.2** now provides the targeted performance measure of 80 per cent survival rate of each species planted. **Section 2.2.2** now provides the targeted performance measure of maximum 5 per cent weed cover for the treated riparian corridor. **Section 2.5** requires that the final vegetation survey monitors and reports against the performance measures, allowing for future recommendations in order to achieve them as required.

The plan should include a process for monitoring and review, including a method of performance evaluation. This should include replacing plant losses, addressing deficiencies, problems, climatic conditions and successful completion of works	See **Section 2.4** and **2.5**
Detail what planting and weed management will occur where the rail unloader crosses the watercourses	The scope of The Program does not include planting where the rail unloader crosses the water courses as this will be addressed in the Construction Environmental Management Plan. Any planting to be undertaken will need to consider the infrastructure to be constructed above it. Furthermore, any planting undertaken will need to consider the long term stability of the infrastructure and abutments associated with the crossing and this will be included as a component of the Erosion and Sedimentation Management Plan (condition 6.2(b) of PA 06_0271).

Version 0 – 2 of this report was submitted to the DPIE in July 2021 following the address of feedback from NRAR and Water NSW. On 21st July 2021, EnergyAustralia received feedback from the DPIE requesting the address of the following matters:

- Include the performance targets and performance measures with timeframes in a Table (addressed in **Section 2.4**)
- Include a commitment to ensure that revegetation and reinstatement works will be completed to the satisfaction of DoI Lands and WaterNSW prior to the Project reaching a coal throughput of two million tonnes per annum (addressed in **Section 2.4**)
- Include a revision number to document changes made to the document (included in Document History and Status);
- Include feedback from WaterNSW as an appendix. The only feedback from WaterNSW was received via the Planning Portal as presented in **Section 1.5**. It is considered unnecessary to include the same feedback again as a separate Appendices.

DPIEs feedback is provided in **Attachment 2**.

The updates resulted in a third draft version (Version 0 – 3) of The Program which was sent to DPIE for Approval on 9th August 2021. On 10th August 2021, the DPIE approved The Program (**Attachment 2**) resulting in the third draft version being converted into Version 1 (this document).

2. Restoration Land

2.1 Approach to Restoring Pipers Flat Creek

In accordance with Society for Ecological Restoration Australasia (2018) *National standards for the practice of ecological restoration in Australia* (SERA), an ecological regeneration approach has been determined for The Program. This approach utilises three integrated restoration techniques to achieve the goal of a "Natural Regenerating Riparian Community". The three approaches within this National Guideline have been assigned to The Program based on the history of disturbance, and the level of intervention needed to initiate and sustain the desired ecological communities:

The three approaches are:

- **Reconstruction** – used where vegetation condition is poor and a high level of intervention is required;
- **Assisted Regeneration** – where regeneration progress is intermediate and there is a reasonable presence of native vegetation. A moderate level of intervention is required; and
- **Natural Regeneration** – where ecosystem resilience is good, largely comprised of native species and minimal intervention is required.

Figures 2 – **4** (provided in **Attachment 1**) indicate where each approach will be used with the aim that the entire area (the subject of The Program) will achieve Natural Regeneration.

To assist in achieving Natural Regeneration, the area subject to The Program, has been broken down into three Management Areas (**Figure 2** – **4**) consisting of:

- **Northern Restoration** – located north of the Rail Loop (**Figure 2**);
- **Central Restoration** – located within the Rail Loop and associated operations land (**Figure 3**)**;** and
- **Southern Restoration** – located south of the Rail Loop (**Figure 4**).

Activities within each Management Area will vary due to differing conditions, however, there are several activities that must be applied across the entire Riparian Restoration Program lands including:

- Site preparation;
- Weeding;
- Planting of canopy and shrubs (refer to **Table 2.1** for detailed species list prepared by ecologists, AEP);
- Restriction and exclusion of stock;
- Encouraging natural regeneration; and
- Translocation of aquatic and other suitable groundcovers form areas to be disturbed during construction**.**

The proposed widths of plantings for 1st order and 2nd order watercourses will generally achieve 20m and 40m total widths (respectively) as recommended by the Guidelines for controlled activities on waterfront land, Riparian Corridors (NRAR, 2018).

Table 2-1 Flora Restoration Species List

Canopy	Density	Shrubs	Density	Understorey	Density
Inner Banks					
				Lomandra longifolia *Lomandra multiflora* *Juncus usitatus* *Carex appressa* *Phragmites australis* *Isolepis inundata* *Poa sieberiana var. sieberiana*	20/100m^2
Upper Banks and Floodplains					
Eucalyptus dives *Eucalyptus eugenioides* *Eucalyptus pauciflora* ***Eucalyptus rubida*** ***Eucalyptus sparsifolia*** ***Eucalyptus viminalis*** *Casuarina cunninghamiana* *Eucalyptus punctate* *Angophora floribunda*	10/100m^2	*Acacia dealbata subsp. Dealbata* *Acacia falciformis* *Acacia irrorata subsp. Irrorate* *Acacia melanoxylon* *Acacia terminalis* *Acacia ulicifolia* *Bursaria spinosa subsp. Spinosa* *Melicytus dentatus* *Persicaria decipiens* *Persicaria hydropiper* *Persicaria lapathifolia* *Podolobium ilicifolium* *Leucopogon juniperinus* *Daviesia ulicifolia* *Persoonia linearis* *Jacksonia scoparia*	15/100m^2	*Echinopogon ovatus* *Dichelachne inaequiglumis* *Dichelachne micrantha* *Imperata cylindrica* *Poa sieberiana var. sieberiana* *Poa labillardierei var. labillardierei* *Microlaena stipoides* *Themeda triandra* *Rytidosperma pallidum* *Cymbopogon refractus* *Imperata cylindrica* *Pratia purpurascens* *Cheilanthes sieberi* *Lomandra multiflora*	20/100m^2

2.2 General Restorative Works

The general activities that will be applied across the restoration area are:

- Preparing for planting;
- Control of weeds;
- Planting of native vegetation (refer to **Table 2.1** for detailed species list prepared by ecologists, AEP);
- Control of feral animals;
- Restricting and excluding stock access;
- Assessing drainage / water quality; and
- Managing potential pathogens / disease.

A suitable performance measure of generally 80 percent survival rate of each of the species planted will be targeted. Higher mortality rates may be experienced in species planted in undesirable locations. In this instance further advice will be sought from a suitably qualified ecologist in regards to the adequacy of the restoration program and requirement for any additional plantings.

2.2.1. Overall Site Preparation

Prior to the commencement of restoration, the land will be suitably prepared. The following works are to assist in site preparation:

- Although unlikely to be present, any rubbish encountered during works should be removed where possible;
- Identifying and marking areas to be planted if required;
- Identifying and marking features to be removed e.g. trees if required;
- Slashing long grass prior and ripping or scarping of the soils prior to planting native vegetation; and
- Fertilizing areas to stimulate growth if required.

2.2.2. Weed Control

Weed Control works within each Management Zone will be undertaken by appropriately certified contractors using industry standards.

Specific action for these measures may be required. The following general weed control does not relate to the Priority Weeds of the Central Tablelands found within the Subject Site. General weed control to follow:

Primary weeding - this is the first-time weeds are removed from the Subject Site.

Intermediate weeding - weed control areas will require several visits to remove weeds that are regenerating and/or have grown in response to the disturbance from construction works and are competing with planted / regenerating native plants.

These visits are essential, otherwise the weeds will re-invade, dominate and inhibit the naturally regenerating / replanted natives.

Long term ongoing maintenance – After primary weeding and intermediate weeding periods, the number of weeding inspections is likely to reduce. Any additional weed control requirements will be assessed on an annual basis

A suitable performance measure of 5% weed cover will be targeted.

2.2.3. Feral Animals

Feral Pigs (*Sus scrofa)*, Feral Goats (*Capra hircus)*, Red Fox (*Vulpes vulpes*) and European Rabbits (*Oryctolagus cuniculus*) have been identified in small numbers within the areas associated with The Program. These species are all listed as priority pests in the Central Tablelands Regional Strategic Pest Management Plan 2018-2023 (Central Tablelands LLS, 2018). These pest species impact on native fauna through predation and competition for resources such as food, shelter, and breeding sites.

Management of these species within the restoration areas will follow the procedures outlined in the Central Tablelands Regional Strategic Pest Management Plan 2018-2023.

2.2.4. Drainage / Water Quality

The Program will be implemented to ensure it does not impact on natural drainage flows and that these areas remain functional with regards to water quality and quantity post restoration. Completion of The Program should improve water quality on the property.

2.2.5. Bushfire

As most of the vegetation within the area associated with The Program is riparian and associated with floodplains, regular bushfires are not required to maintain ecological function.

2.3 Specific Restoration Activities

The following sub-sections set out the specific restoration tasks associated with each Management Area as discussed in **Section 2.1.**

2.3.1. Northern Restoration Management Area

Specific restoration tasks within this Area are:

- Removal of stock barriers;
- Weeding program in accordance with **Section 2.2.2.** focusing on Carex Sedgeland, inner banks, upper banks and floodplain areas;
- Established Willows to be retained until banks are stabilised and native vegetation is established;
- Eradication of juvenile Willows;
- Strategic Blackberry control, ensuring replacement habitat for birds is stablished prior to complete eradiation;

- Planting of the upper banks and floodplain with canopy and shrub species listed in **Table 2.1**;
- Planting of inner banks with suitably species listed in **Table 2.1**;
- Placement of reclaimed rocks for fauna habitat;
- Installation of log snags in the creek for bank stabilisation and aquatic habitat; and
- Placement of felled trees for large woody debris for fauna habitat.

It should be noted that only groundcovers and shrubs are to be planted under the power line easement.

2.3.2. Central Restoration Management Area

Specific restoration tasks within this Area are:

- Weeding program in accordance with **Section 2.2.2.** focusing on inner banks, upper banks and floodplain areas;
- Established Willows to be retained until banks are stabilised and native vegetation is established;
- Eradication of juvenile Willows;
- Planting of the upper banks and floodplain with canopy and shrub species listed in **Table 2.1**;
- Planting of inner banks with suitably species listed in **Table 2.1**;
- Placement of reclaimed rocks for fauna habitat; and
- Placement of felled trees for large woody debris for fauna habitat.

2.3.3. Southern Restoration Management Area

Specific restoration tasks within this Area are:

- Weeding program in accordance with **Section 2.2.2.** focusing on inner banks, upper banks and floodplain areas;
- Established Willows to be retained until banks are stabilised and native vegetation is established;
- Eradication of juvenile Willows;
- Planting of the upper banks and floodplain with canopy and shrub species listed in **Table 2.1**;
- Planting of inner banks with suitably species listed in **Table 2.1**;
- Placement of reclaimed rocks for fauna habitat; and
- Placement of felled trees for large woody debris for fauna habitat.

2.4 Summary of Performance Targets and Measures

Table 2-2 presents a summary of the performance targets and a timeline to monitor and measure performance. Inspections will commence within the first year of restoration activities and then annually thereafter for the first five years or as recommended by a suitably qualified

ecologist as a result of vegetation surveys (**Section 2.5**).

Table 2-2 Performance Targets and Measures

Restorative Work	Inspection timing	Goals	Action and Reporting
Weeds	Annual	< 5% weed cover	Annual weed control program or as required
Feral animals	Annual	Reduction in occurrence of and impacts associated with vertebrate pest animals where reasonably practicable	Feral animal control in conjunction with the Local Lands Service
Stream Bank Stability	Annual	Banks are stable Willows are controlled and/or removed based on bank stability / revegetation success	Stream bank inspections and periodic photographic monitoring.
Planting success	Informal 12 monthly and as recommended by vegetation surveys (section 2.5)	80% survival rate	As recommended by vegetation surveys (section 2.5)
Revegetation Program success	Revegetation and re-instatement works will be completed to the satisfaction of DoI Lands and WaterNSW prior to the Project reaching a coal throughput of two million tonnes per annum		

2.5 Reporting

The proponent will prepare two reports as part of The Program. These will include an initial vegetation baseline survey of the property prior to the commencement of the restoration works. A final vegetation survey will be conducted within 2 years following the completion of tree planting and works associated with the RRP.

The final vegetation survey will monitor and report against the targeted performance measures set out in **Section 2.2** and **Section 2.2.2** and provide recommendations in order to achieve these measures, should they not be met during the final vegetation survey.

The vegetation surveys and reports will be carried out by a suitably qualified ecologist. The purpose of this final survey will be to demonstrate compliance with condition 2.37 and will be provided to NRAR (Previously the Department of Industry (DOI) (Lands)) and WaterNSW.

3. References

It is noted that AEP prepared the initial Riparian Restoration Program (AEP, 2020). The content provided in the AEP report has been substantially adopted in its original form. The list of references provided in the AEP Report are provided below. References in **bold** are additional to those provided in AEP (2020)

Anderson Environment and Planning (AEP) (2020) Riparian Restoration Program Pipers Flat, Wallerawang. Prepared for Lycopodium Infrastructure Pty Ltd on behalf of EnergyAustralia NSW: AEP Reference: 1725 RRP

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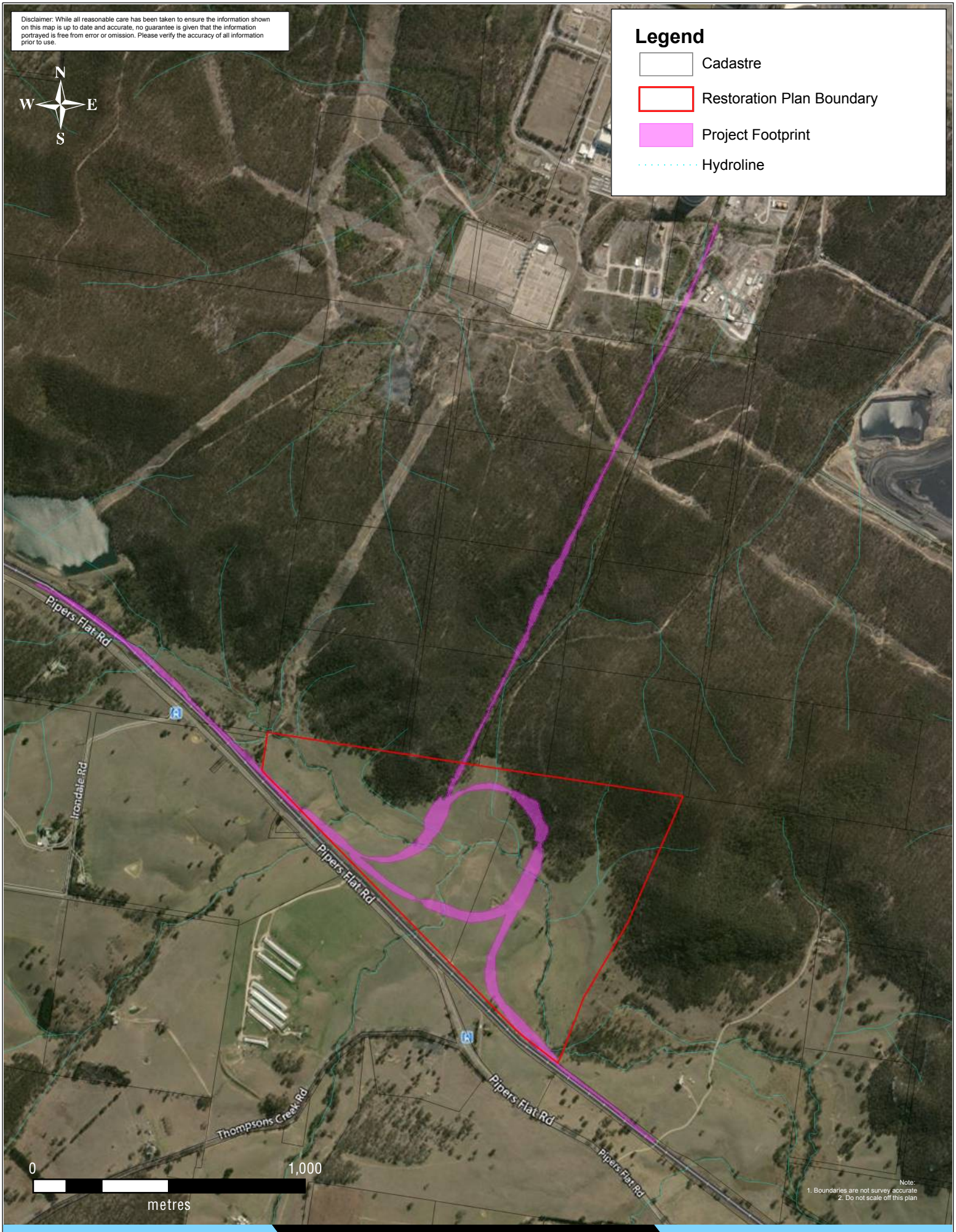
4. Attachment 1: Figures



AEP

Title: Figure 1 - Location Map

Date: Sept 2020

Location: Pipers Flat, Wallerwang

Client: EA c/o Lycopodium Infrastructure Pty Ltd

Our Ref: 1725

N
W E
S

Dense Blackberry infestation on adjoining property

Largely native grass and forbland

Largely native grass and forbland

Pipers Flat Rd

Pipers Flat Rd

Pipers Flat Rd

Pipers Flat Rd

Legend

- Restoration Site Boundary
- Project Infrastructure
- PFRCU Impact Footprint
- Power Line Easement

Connectivity Barriers

- Stock Barrier

Habitat Element

- Large Woody Debris
- Log Snag
- Reclaimed Rock

Riaparian Element

- Carex Sedgeland
- Assisted Natural Restoration (canopy + shrub planting)
- Willow dominated exotic woody vegetation
- Tableland Gully Snow Gum - Ribbon Gum Montane Grassy Forest (regrowth)
- Priority Blackberry control
- Upper Bank (assisted natural restoration + planting)
- Inner Bank (reconstruction + dense planting)

0 100
metres

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

AEP

Figure 2 - Northern Restoration Area

Date: Sept. 2020

Location: Pipers Flat, Wallerawang

Client: EA c/o Lycopodium Infrastructure Pty Ltd

Our Ref: 1725

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

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W E
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Legend

- Restoration Site Boundary
- Project Infrastructure
- PFRCU Impact Footprint

Largely native grass and forbland

Pipers Flat Rd

Pipers Flat Rd

Pipers Flat Rd

Connectivity Barriers

- Stock Barrier
- Causeway

Habitat Element

- Large Woody Debris
- Reclaimed Rock

Riparian Element

- Tableland Gully Snow Gum - Ribbon Gum Montane Grassy Forest (regrowth)
- Assisted Natural Restoration (canopy + shrub planting)
- Inner Bank (reconstruction + dense planting)
- Willow dominated exotic woody vegetation

AEP

0 150
metres

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

Figure 3 - Central Restoration Area

Date: Sept 2020

Location: Pipers Flat, Wallerawang

Client: EA c/o Lycopodium Infrastructure Pty Ltd

Our Ref: 1725

Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

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W E
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Legend

- Restoration Site Boundary
- Project Infrastructure
- PFRCU Impact Footprint

Native grass and forbland with natural tree and shrub regeneration

Pipers Flat Rd

Habitat Element

- Large Woody Debris
- Reclaimed Rock

Riparian Element

- Inner Bank (reconstruction + dense planting)
- Willow dominated exotic woody vegetation
- Assisted Natural Restoration (canopy + shrub planting area)

ns Creek Rd

Thompsons Ck Rd
Pipers Flat Rd

Exotic pasture grassess

Exotic willow dominated woody vegetation heavily used by birds

0 150
metres

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

AEP

Figure 4 - Southern Restoration Area

Date: Sept 2020

Location: Pipers Flat, Wallerawang

Client: EA c/o Lycopodium Infrastructure Pty Ltd

Our Ref: 1725

5. Attachment 2: Record of Consultation

26 November 2020

Mr Clay Preshaw
Head of Catchment Protection
WaterNSW
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PARRAMATTA NSW 2150

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Via: DPIE Major Projects Portal

Reference A1799476

Dear Mr Preshaw

Mt Piper Power Station Rail Unloader
(Project Approval 06_0271)
Planting Program to Reinstate Riparian Vegetation

On 20 June 2009, EnergyAustralia (**EA**) procured project approval (**PA** 06_0271) from the Minister for Planning to construct a rail unloader (**the Project**) near the existing Mt Piper Power Station (**MPPS**) adjacent to Pipers Flat Road. A subsequent variation was procured in January 2019 to, amongst other things, vary some of the designed infrastructure elements and extend the lapse date of the Project.

To support the Project, EA committed to reinstating riparian revegetation along a section of Pipers Flat Creek with local provenance species where possible. This commitment has been described in condition 2.37 of PA 06_0271 and requires EA to develop a simple planting program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries in consultation with Water NSW and DoI Lands and Water (now the Natural Resources Access Regulator (**NRAR**) for the purposes of post approval requirements). The specific wording of the condition is replicated below for convenience.

> *The Proponent shall develop and implement, in consultation with DoI Lands and Water and WaterNSW, a program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries. Revegetation and reinstatement works shall commence prior to the commencement of construction of the project, and shall be completed to the satisfaction of DoI Lands and Water WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum. This condition only applies to land owner by the Proponent*

The Project Site is located on a cleared flat area that is traversed by Pipers Flat Creek, a tributary of the Coxs River. **Figure 1** below presents the general Project area as it relates to this correspondence.

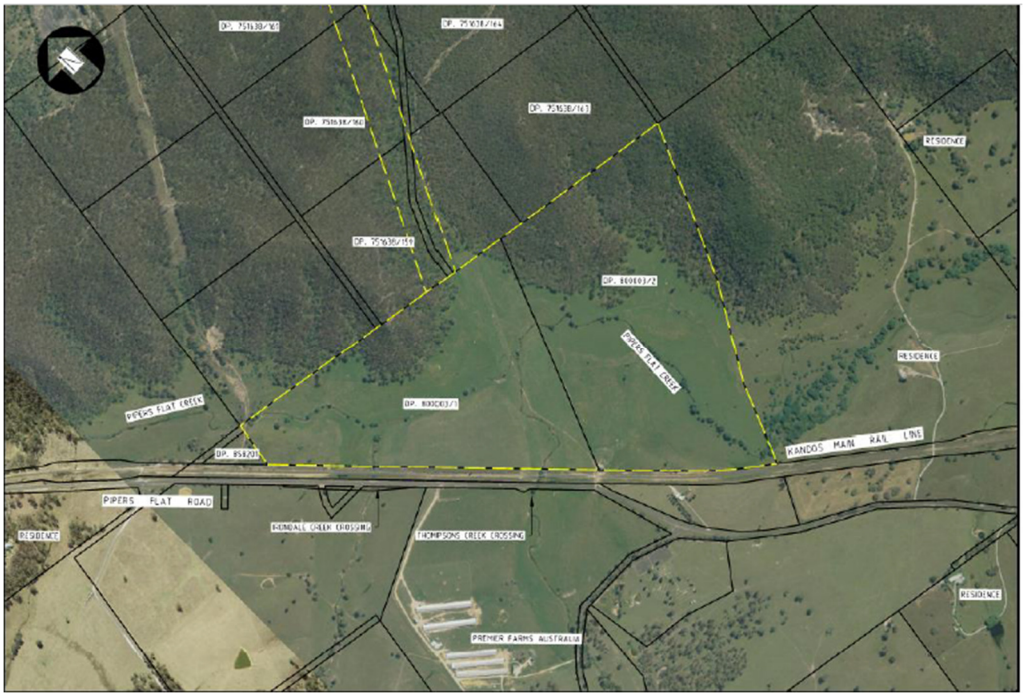

Figure 1. The Rail Unloader Project Area

On behalf of EA, Lycopodium Infrastructure Pty Ltd engaged ecologists from Anderson Environment and Planning (**AEP**) to prepare a Riparian Restoration Program (**the Restoration Program**) to describe the proposed plantings. A copy of the Restoration Program is provided within **Attachment 1**.

The purpose of this letter is to commence consultation with WaterNSW in accordance with the requirements set out in Condition 2.37. To this end, please see attached the Restoration Program for your review and feedback. The Restoration Program focuses on establishing riparian plantings along the Pipers Flat Creek on land owned by EA and provides an overview of the area, species to be planted and general restoration works to be completed by EA. The primary purpose of the Restoration Program is to set out the various tasks required to establish riparian vegetation along Pipers Flat Creek. It is not intended and not required to be a detailed management plan.

We would appreciate any feedback from WaterNSW for consideration and incorporation into the attached program. EA would be happy to co-ordinate a site visit of the area if required.

Please contact me if you have any questions relating to the above on [redacted] or at [redacted]@energyaustralia.com.au.

Yours Sincerely,

[redacted]
NSW Environment Leader
EnergyAustralia NSW

Attachment 1

Riparian Restoration Program (AEP)

NOTE: AEP (2020) removed for simplicity

26 November 2020

EnergyAustralia
EnergyAustralia NSW Pty Ltd
ABN 75 163 935 635

Mt Piper Power Station
350 Boulder Road
Portland NSW 2847
Telephone (02) 6354 8100
Facsimile (02) 6354 8113

enq@energyaustralia.com.au
www.energyaustralia.com.au

Natural Resources Access Regulator
Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Str
PARRAMATTA, NSW, 2150

Via: DPIE Major Projects Portal

Reference A1799475

Dear Dr Afsar

Mt Piper Power Station Rail Unloader
(Project Approval 06_0271)
Planting Program to Reinstate Riparian Vegetation

On 20 June 2009, EnergyAustralia (**EA**) procured project approval (**PA** 06_0271) from the Minister for Planning to construct a rail unloader (**the Project**) near the existing Mt Piper Power Station (**MPPS**) adjacent to Pipers Flat Road. A subsequent variation was procured in January 2019 to, amongst other things, vary some of the designed infrastructure elements and extend the lapse date of the Project.

To support the Project, EA committed to reinstating riparian revegetation along a section of Pipers Flat Creek with local provenance species where possible. This commitment has been described in condition 2.37 of PA 06_0271 and requires EA to develop a simple planting program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries in consultation with Water NSW and DoI Lands and Water (now the Natural Resources Access Regulator (**NRAR**) for the purposes of post approval requirements). The specific wording of the condition is replicated below for convenience.

> *The Proponent shall develop and implement, in consultation with DoI Lands and Water and WaterNSW, a program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries. Revegetation and reinstatement works shall commence prior to the commencement of construction of the project, and shall be completed to the satisfaction of DoI Lands and Water WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum. This condition only applies to land owner by the Proponent*

The Project Site is located on a cleared flat area that is traversed by Pipers Flat Creek, a tributary of the Coxs River. **Figure 1** below presents the general Project area as it relates to this correspondence.

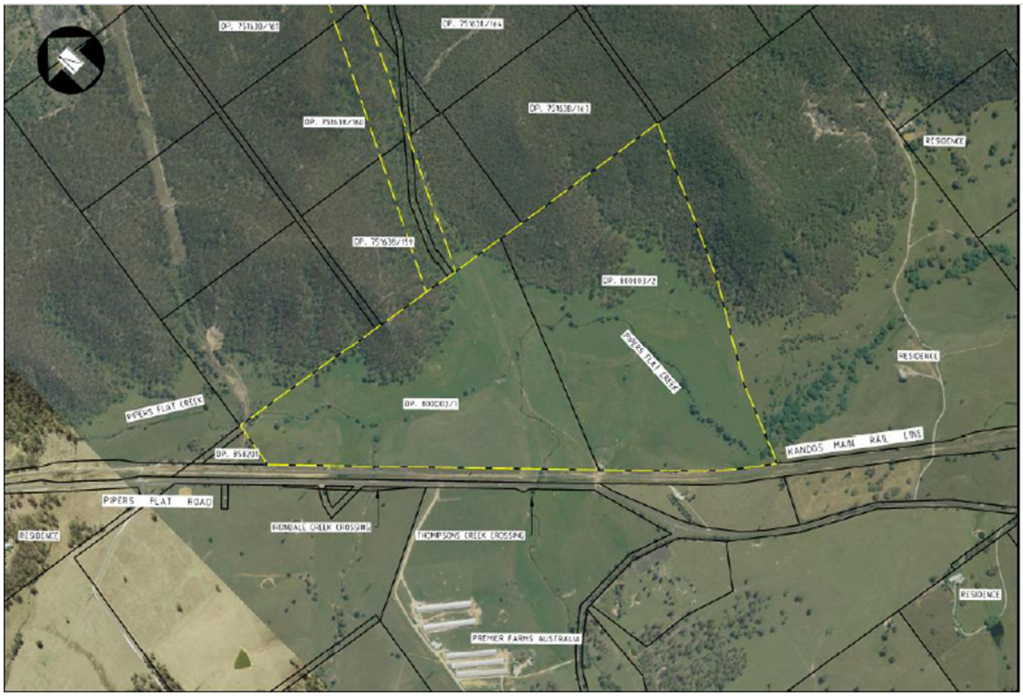

Figure 1. The Rail Unloader Project Area

On behalf of EA, Lycopodium Infrastructure Pty Ltd engaged ecologists from Anderson Environment and Planning (**AEP**) to prepare a Riparian Restoration Program (**the Restoration Program**) to describe the proposed plantings. A copy of the Restoration Program is provided within **Attachment 1**.

The purpose of this letter is to commence consultation with NRAR in accordance with the requirements set out in Condition 2.37. To this end, please see attached the Restoration Program for your review and feedback. The Restoration Program focuses on establishing riparian plantings along the Pipers Flat Creek on land owned by EA and provides an overview of the area, species to be planted and general restoration works to be completed by EA. The primary purpose of the Restoration Program is to set out the various tasks required to establish riparian vegetation along Pipers Flat Creek. It is not intended and not required to be a detailed management plan.

We would appreciate any feedback from NRAR for consideration and incorporation into the attached program. EA would be happy to co-ordinate a site visit of the area if required.

Please contact me if you have any questions relating to the above on [redacted] or at [redacted]@energyaustralia.com.au.

Yours Sincerely,

[redacted]
NSW Environment Leader
EnergyAustralia NSW

Attachment 1

Riparian Restoration Program (AEP)

NOTE: AEP (2020) removed for simplicity

Natural Resources Access Regulator

Contact: Natural Resources Access Regulator
Phone: 1800 633 362
Email: nrar.enquiries@nrar.nsw.gov.au

[redacted]
NSW Environmental Lead
Energy Australia NSW
350 Boulder Road
Portland NSW 2847

Our ref: V15/3875-5#11, DOC21/64374

26 March 2021

Emailed [redacted]@energyaustralia.com.au

cc'd: [redacted]@energyaustralia.com.au,

Dear Ben,

Re: Mt Piper Power Station Rail Unloader (Project Approval 06_0271) Planting Program to Reinstate Riparian Vegetation

Thank you for giving the Natural Resources Access Regulator (NRAR) the opportunity to comment on the above-mentioned plan. NRAR has reviewed the document and provides the following comments:

1. Provide detail on how the proposed vegetated riparian corridors comply with the Guidelines for Controlled Activities on Waterfront Land (https://www.industry.nsw.gov.au/__data/assets/pdf_file/0004/156865/NRAR-Guidelines-for-controlled-activities-on-waterfront-land-Riparian-corridors.pdf). Confirm the corridor widths and any offsetting are appropriate for the stream orders present.
2. The site area including two 2nd order watercourses and one 1st order watercourse. Provide detail on how the plan includes the restoration of minor watercourses present within the site boundary.
3. The plan should specify when the works will be implemented, and the timeframe allowed for maintenance activites. Maintenance requirements should extend for a minimum of two years after the completion of works or until such time as a minimum 80 per cent survival rate of each species planted and a maximum 5 per cent weed cover for the treated riparian corridor controlled activity is achieved.
4. The plan should include a process for monitoring and review, including a method of performance evaluation. This should include replacing plant losses, addressing deficiencies, problems, climatic conditions and successful completion of works.
5. Detail what planting and weed management will occur where the rail unloader crosses the watercourses.

Should you have any further queries in relation to this submission please do not hesitate to contact Jane Curran at jane.curran@nrar.nsw.gov.au.

Yours sincerely

Alison Collaros
Manager Licensing & Approvals
Water Regulatory Operations
Natural Resources Access Regulator

15 June 2021

EnergyAustralia
EnergyAustralia NSW Pty Ltd
ABN 75 163 935 635

Mt Piper Power Station
350 Boulder Road
Portland NSW 2847
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enq@energyaustralia.com.au
www.energyaustralia.com.au

Natural Resources Access Regulator
Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Str
PARRAMATTA, NSW, 2150

Via Email: nrar.servicedesk@dpie.nsw.gov.au, DPIE Major Projects Portal

Reference A1905133

Dear Ms Collaros

Mt Piper Power Station Rail Unloader
(Project Approval 06_0271)
Planting Program to Reinstate Riparian Vegetation

We refer to your letter dated 26 March 2021, whereby the Natural Resources Access Regulator (**NRAR**) provided feedback and comments on EnergyAustralia's (**EA**) "Riparian Restoration Program - Pipers Flat" (**the Program**). The Program has been prepared to comply with condition 2.37 set out in the Pipers Flat Rail Coal Unloader (**PFRCU**) Project Approval (**PA**) 06_0271 and that its purpose is to present a simple planting program to reinstate riparian vegetation along the Pipers Flat Creek and, as per the PA, is not required to be a detailed management plan. There are several Environmental Management Plans which are required to be prepared for the PFRCU Project which are detailed in the PA that will address the proposed environmental controls and monitoring to manage potential impacts from the PFRCU. The Program is considered a supplementary vegetation program to enhance the local area through establishing native vegetation areas. Its purpose is not to address potential impacts from the PFRCU Project.

We note that in the NRAR feedback, there were a number of comments regarding the Program. We would like to take this opportunity to respond to those comments as set out below.

NRAR Comment 1

1. Provide detail on how the proposed vegetation riparian corridors comply with the Guidelines for Controlled Activities on Waterfront Land. Confirm the corridor widths and any offsetting are appropriate for the stream orders present.

EA Response
Thank you for providing NRAR's "Guidelines for controlled activities on waterfront land: Riparian corridors (2018) (**the Guidelines**)". The Program does not propose to:

- Erect any buildings
- Remove material from waterfront land
- Deposit material onto waterfront land
- Impact upon the quantity or flow of water
- Modify the water course
- Construct bed control structures
- Construct watercourse crossings
- Construct stormwater outlets or spillways
- Construct ramps
- Lay pipelines or cables
- Extract materials
- Excavate and remove materials within 40m of the creek

Whilst there may be some land preparation work to establish a riparian corridor and prepare the area for riparian vegetation plantings, we do not believe that the revegetation activities in themselves are a Controlled Activity. We do note however, the recommended riparian corridor widths outlined in Table 1 of the Guidelines and can confirm that the proposed widths of plantings for both the 1st order and 2nd order watercourses will generally achieve the recommended 20 and 40m widths (noting, that these are "recommendations" and not rigid compliance requirements).

NRAR Comment 2

2. The site area including two 2nd order watercourses and one 1st order watercourse. Provide detail on how the plan includes the restoration of minor watercourses present within the site boundary.

EA Response
The Program includes the reinstatement of riparian vegetation along both the 1st order and 2nd order watercourses, including widths that generally comply with the Guideline's recommendations. Other minor watercourses (or drainage depressions) are not targeted for physical works as a component of the Program as they are difficult to define and are ephemeral at best, only providing for a drainage path following heavy rainfall events. The only action that EA is proposing for these minor drainage depressions is to exclude stock.

NRAR Comment 3

3. The plan should specify when the works will be implemented, and the timeframe allowed for maintenance activities. Maintenance requirements should extend for a minimum period of 2 years after the completion of works or until such time as a minimum 80 percent survival rate of each species planted and a maximum 5% weed cover for the treated riparian corridor controlled activity is achieved.

EA Response
The timeframe for the commencement of the riparian planting is set out in Condition 2.37 of PA 06_0271, which states.

> *Revegetation and reinstatement works shall commence prior to the commencement of construction of the project, and shall be completed to the satisfaction of DoI Lands and Water WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum.*

The works will be implemented in accordance with the PA which is outlined above. This condition, including the time requirement is included in the Program. The Condition also states that

reinstatement works "*shall be completed to the satisfaction of*" NRAR prior to the project reaching a coal throughput of two millions tonnes per annum. To this end, NRAR will have a level of ongoing oversite of the Program implementation.

EA note NRAR's comment regarding maintenance activities and agrees that maintenance requirements could extend for a period of 2 years while the young plants establish. EA also agrees that a suitable performance measure of generally 80 percent survival rate of each of the species planted as well as a 5% weed cover for the riparian corridor are reasonable targets. These performance measures are now detailed within an updated version of the Program, provided as **Attachment 1**.

NRAR Comment 4

4. The plan should include a process for monitoring and review, including a method of performance evaluation. This should include replacing plant losses, addressing deficiencies, problems, climatic conditions and successful completion of works.

EA Response

Condition 2.37 of PA 06_0271 requires the preparation and implementation of a program to reinstate riparian vegetation along Pipers Flat Creek. This in itself, is not a "plan", it is a program of vegetation planting to improve / restore the riparian zone outside of the Project footprint area. In other words, it is an improvement program.

Section 2.3 of the Program sets out the monitoring and reporting regime to measure performance including:

- An initial vegetation baseline survey prior to the commencement of the restoration works; and
- A final vegetation survey following the completion of the planting works.

The surveys as set out above, will be carried out by suitably qualified ecologists. The final vegetation survey will measure the success rate in terms of plant survival rates, weed coverage, erosion, stream stability, fencing integrity amongst other things. The results from the survey will be compared to performance measures (including those set out in EA Response to NRAR Comment 3) and the associated survey report will set out the recommended actions to achieve those performance measures. This has been incorporated into the updated version of the Program.

NRAR Comment 5

5. Detail what planting and weed management will occur where the rail unloader crosses the watercourses.

EA Response

The scope of the Program does not include planting where the rail unloader crosses the water courses as this will be addressed in the Construction Environmental Management Plan. The Program provides for supplementary plantings on additional land areas adjacent to the Project that has previously been cleared by other landuse activities. Any planting to be undertaken will need to consider the infrastructure to be constructed above it. Furthermore, any planting undertaken will need to consider the long term stability of the infrastructure and abutments associated with the crossing and this will be included as a component of the Erosion and Sedimentation Management Plan (condition 6.2(b) of PA 06_0271).

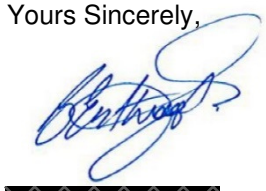
Weed management has been committed to in the Program and we accept NRARs suggested performance targets as outlined in EAs Response to NRAR Comment 3. The final vegetation survey will assess weed growth within the riparian plantings, and the associated survey report will include additional recommendations and weed management measures required to achieve the performance measures targets

Concluding Remarks

EA appreciates the feedback from NRAR regarding the Program and has adopted most of its suggestions where possible. As set out in our original letter dated 26th November 2020, we would be happy to co-ordinate a site visit of the area if required.

Please do not hesitate to contact me should you have any questions or require any further information on [redacted] or at [redacted]@energyaustralia.com.au

Yours Sincerely,



[redacted]
NSW Environment Leader
EnergyAustralia NSW

Attachment 1

Riparian Restoration Program (June 2021)

NOTE:
EnergyAustralia
NSW (2021)
(Rev.0 -2) removed
for simplicity

[redacted]
Approvals and Licencing Specialist
Energy Australia NSW PTY LTD
350 Boulder Road
Portland, NSW 2847

21/07/2021

Dear [redacted]

Flat Rail Coal Unloader (MP06_0271)
Pipers Flat Creek Riparian Program - request for additional information

The Department requires additional information relating to the Pipers Flat Creek Riparian Program submitted under the condition 2.37 of schedule 2 for the Flat Rail Coal Unloader (MP06_027-PA-3).

Please submit a revised document that addresses the comments in the attached Program Review Table.

Please provide the information or notify us that you will not provide the information by Friday 13 August 2021. If this timeframe is not achievable, please provide and commit to an alternative timeframe for providing this information.

If you have any questions, please contact Charissa Pillay on 02 99955944 / at Charissa.Pillay@planning.nsw.gov.au.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

Mt Piper Rail Unloader
(MP06_0271)
Restoration of Pipers Flat Creek
Post Approval Review

Document: Pipers Flat Rail Coal Unloader Riparian Restoration Program
Revision: ? June 2021
Reviewed: Charissa Pillay on July 2021

Restoration of Pipers Flat Creek Program	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
2.37 The Proponent shall develop and implement, in consultation with DoI Lands and Water and WaterNSW, a program to reinstate riparian vegetation along Pipers Flat Creek and its tributaries. Revegetation and reinstatement works shall commence prior to the commencement of construction of the project, and shall be completed to the satisfaction of DoI Lands and Water WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum. This condition only applies to land owner by the Proponent.	Partial	Section 2 includes broad details on how the performance survival rate of each species will be evaluate. There are no details on what are undesirable locations and no timeframe set to monitor the rate of growth. Section 2.2.2 also does not include structured timeframes on "essential" site visits to monitor and implement weed control.	Include the performance targets and performance measures with timeframes in a Table.	
	No	The Program does not include a commitment that revegetation and reinstatement works will be completed to the satisfaction of DoI Lands and Water WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum	Include a commitment to ensure that revegetation and reinstatement works will be completed to the satisfaction of DoI Lands and Water WaterNSW prior to the project reaching a coal throughput of two million tonnes per annum	
General				
There is no revision number included in the document to keep track of changes made.	No		Include a revision number to document changes made to the document.	
In December 2020, WaterNSW provided the following feedback via the DPIE's Planning Portal: Good morning, WaterNSW supports the proposed creek restoration works and considers the report, proposed methodology and target areas to be sound. We cannot comment on the specific vegetation species for replanting but consider these should be consistent with the surrounding area and the vicinity of the intact creek riparian vegetation	No	The evidence of consultation was not attached to the main document.	Include the feedback from Water NSW as an appendix.	

Document: Pipers Flat Rail Coal Unloader Riparian Restoration Program
Revision: ? June 2021
Reviewed: Charissa Pillay on July 2021

Restoration of Pipers Flat Creek Program	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
upstream. WaterNSW supports Energy Australia in implementing this proposal as it should lead to improved water quality outcomes in the Upper Coxs River sub-catchment.				
NRAR				
1. Provide detail on how the proposed vegetated riparian corridors comply with the Guidelines for Controlled Activities on Waterfront Land (https://www.industry.nsw.gov.au/__data/assets/pdf_file/0004/156865/NRAR-Guidelinesfor-controlled-activities-on-waterfront-land-Riparian-corridors.pdf). 2. Confirm the corridor widths and any offsetting are appropriate for the stream orders present			Whilst there may be some land preparation work to establish a riparian corridor and prepare the area for riparian vegetation plantings, we do not believe that the revegetation activities in themselves are a Controlled Activity. Proposed riparian corridor widths are presented in Section 2.1 and generally comply with the Guidelines provided by NRAR. Offsetting does not need to be considered as the recommended widths in the Guidelines will generally be achieved.	Closed
The site area including two 2nd order watercourses and one 1st order watercourse. Provide detail on how the plan includes the restoration of minor watercourses present within the site boundary.			Other minor watercourses (or drainage depressions) are not targeted for physical works. The only action that EA is proposing for these minor drainage depressions is to exclude stock.	Closed
The plan should specify when the works will be implemented, and the timeframe allowed for maintenance activities. Maintenance requirements should extend for a minimum of two years after the completion of works or until such time as			The timeframe for implementation is set out in	Closed

Document: Pipers Flat Rail Coal Unloader Riparian Restoration Program
Revision: ? June 2021
Reviewed: Charissa Pillay on July 2021

Restoration of Pipers Flat Creek Program	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
a minimum 80 per cent survival rate of each species planted and a maximum 5 per cent weed cover for the treated riparian corridor controlled activity is achieved.			Condition 2.37, provided in Table 1.1. Section 2.2 now provides the targeted performance measure of 80 per cent survival rate of each species planted. Section 2.2.2 now provides the targeted performance measure of maximum 5 per cent weed cover for the treated riparian corridor. Section 2.4 requires that the final vegetation survey monitors and reports against the performance measures, allowing for future recommendations in order to achieve them as required.	
The plan should include a process for monitoring and review, including a method of performance evaluation. This should include replacing plant losses, addressing deficiencies, problems, climatic conditions and successful completion of works.			See Section 2.4	Closed
Detail what planting and weed management will occur where the rail unloader crosses the watercourses.			The scope of The Program does not include planting where the rail unloader crosses the water courses as this will be addressed in the Construction Environmental Management Plan. Any planting to be undertaken will need to consider the infrastructure to be constructed above it. Furthermore, any	Closed

Document: Pipers Flat Rail Coal Unloader Riparian Restoration Program
Revision: ? June 2021
Reviewed: Charissa Pillay on July 2021

Restoration of Pipers Flat Creek Program	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
			planting undertaken will need to consider the long term stability of the infrastructure and abutments associated with the crossing and this will be included as a component of the Erosion and Sedimentation Management Plan (condition 6.2(b) of PA 06_0271)	

Ms [redacted]
Approvals and Licencing Specialist
Energy Australia NSW PTY LTD
350 Boulder Road
Portland New South Wales 2847

10/08/2021

Dear [redacted]

Project Application - Rail Unloader - (MP06_0271)
Pipers Flat Creek Riparian Restoration Program

I refer to the revised Pipers Flat Creek Riparian Restoration Program which was submitted in accordance with Condition 2.37 of Schedule 2 of the condition of consent for the Rail Unloader (MP06_0271).

The Department has carefully reviewed the document and is satisfied that it generally meets the requirements of the condition.

Accordingly, the Secretary has approved the revised Pipers Flat Creek Riparian Restoration Program (Revision 3, dated August 2021). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments
As nominee of the Secretary