

ACT Second Electrical Supply Project

Operational Environmental & Sustainability Plan

Stockdill Substation and associated TL connection

Contents

| | |
|--|-----------|
| 1. Introduction | 3 |
| 1.1. Background | 3 |
| 1.2. Project Location..... | 3 |
| 1.3. Project Overview | 3 |
| 1.4. Project Approval Pathway | 4 |
| 1.5. OEMP Objectives | 4 |
| 2. Environmental Management | 6 |
| 2.1. Environmental Policy..... | 6 |
| 2.2. Approvals and licencing requirements | 6 |
| 2.2.1. Post Construction Requirements..... | 6 |
| 2.2.2. Other Statutory Requirements..... | 7 |
| 2.2.3. Bushfire Prone Land Requirements | 7 |
| 3. Environmental Management – Risk and Controls | 8 |
| 3.1. Key Environmental Commitments..... | 8 |
| 3.2. Operational environmental risk assessment..... | 12 |
| 3.3. Site Management Plan | 13 |
| 4. Sustainability | 14 |
| 4.1. Sustainability Objectives and Performance | 14 |
| 4.2. Environmental Sustainability Metrics | 14 |
| 5. Monitor and Review | 15 |
| 5.1. Environmental Monitoring..... | 15 |
| 5.1.1. Corrective Actions | 15 |
| 5.2. Incident Notification | 15 |
| 5.3. Complaint Management | 15 |
| 5.4. OEMP Review | 15 |
| Appendix A – Project Sensitivity Overview..... | 16 |
| Appendix B – Rain Gardens Layout..... | 17 |
| Appendix C – PTWL Habitat Recommendation Plan | 18 |
| Appendix D – Site Management Plan..... | 30 |

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1. Introduction

1.1. Background

The Australian Capital Territory (ACT) Government's electricity reliability criteria requires electrical providers (such as Transgrid and Evoenergy) to provide a secure electricity supply to the ACT through the provisions of geographically separate and independent and/or contingency electrical supplies. The purpose of this project was to meet the requirements of the Electricity Transmission Supply Code (July 2016) and in doing so provide an overall greater level of electrical supply security to the ACT.

The project consisted of the construction of a new substation and associated transmission line works connecting electrical infrastructure and Canberra Substation. The combined works fall under the title of the ACT Second Electrical Supply Project (the Project).

Transgrid's obligations to provide a reliable level of electricity are detailed in Section 4.1.1 of the Electricity Transmission Supply Code.

1.2. Project Location

The Project is located approximately 14 kilometres north-west of the centre of Canberra, immediately to the west and south-west of the suburbs of Holt and MacGregor respectively. The substation location is near Stockdill Drive, West Belconnen, about three kilometres to the south-west of the existing Transgrid Canberra Substation. Figure 1.1 provides an overview of the Project location.

1.3. Project Overview

The parts of the Project delivered by Transgrid include:

- Construction and operation of the 330/132 kV Stockdill Substation.
- Construction and operation of a 330 kV transmission line between the proposed Stockdill Substation and the existing Canberra 330/132 kV substation.
- Diversion of approximately 850 metres of existing TransGrid transmission lines to the west of the existing Canberra 330 kV substation.
- Removal of decommissioned sections of transmission lines on the southern side of the existing Canberra Substation.
- Decommissioning and removal of existing transformers no. 2 and no. 3 from Canberra Substation.
- Line rearrangements, bypasses and connection of the new transmission line to the existing Canberra Substation.
- Installation of optical ground wire (OPGW) for the new sections of proposed transmission line.
- Installation of a new utility connections including water and 11 kV electrical connections from existing supplies along Stockdill Drive (for elements such as lighting and control building facilities).
- Vegetation clearing and earthworks for the above works, suitable for a 330 kV transmission line easement width of up to approximately 60 metres.
- Establishment of access tracks to all new infrastructure, including the proposed substation.
- Adjustment of the current alignment of the existing Telstra infrastructure near the Stockdill Substation.

1.4. Project Approval Pathway

The planning approvals process for the Project comprises a mix of both ACT (Territory) and Commonwealth requirements as the Project was declared to be a controlled action under the Environment Protection Biodiversity Conservation Act 1999 (EPBC Act). As such, the Project was assessed using the bilateral agreement process.

The ACT Minister for Planning and Land Management issued separate consents pursuant to Section 162 of the Planning and Development Act 2007 for the Transgrid and Evoenergy components of the Project. The Minister granted consent for the Transgrid component on 8 November 2018.

Approval was also sought under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) due to potential impacts on Pink-tailed Worm Lizard habitat. The Australian Department of Environment and Energy granted approval on 7 March 2019 which applies to both the Transgrid and Evoenergy component of the works.

1.5. OEMP Objectives

The Plan has been prepared to comply with the commitments made in the Environmental Impact Statement (EIS) and relevant consent conditions for the Project.

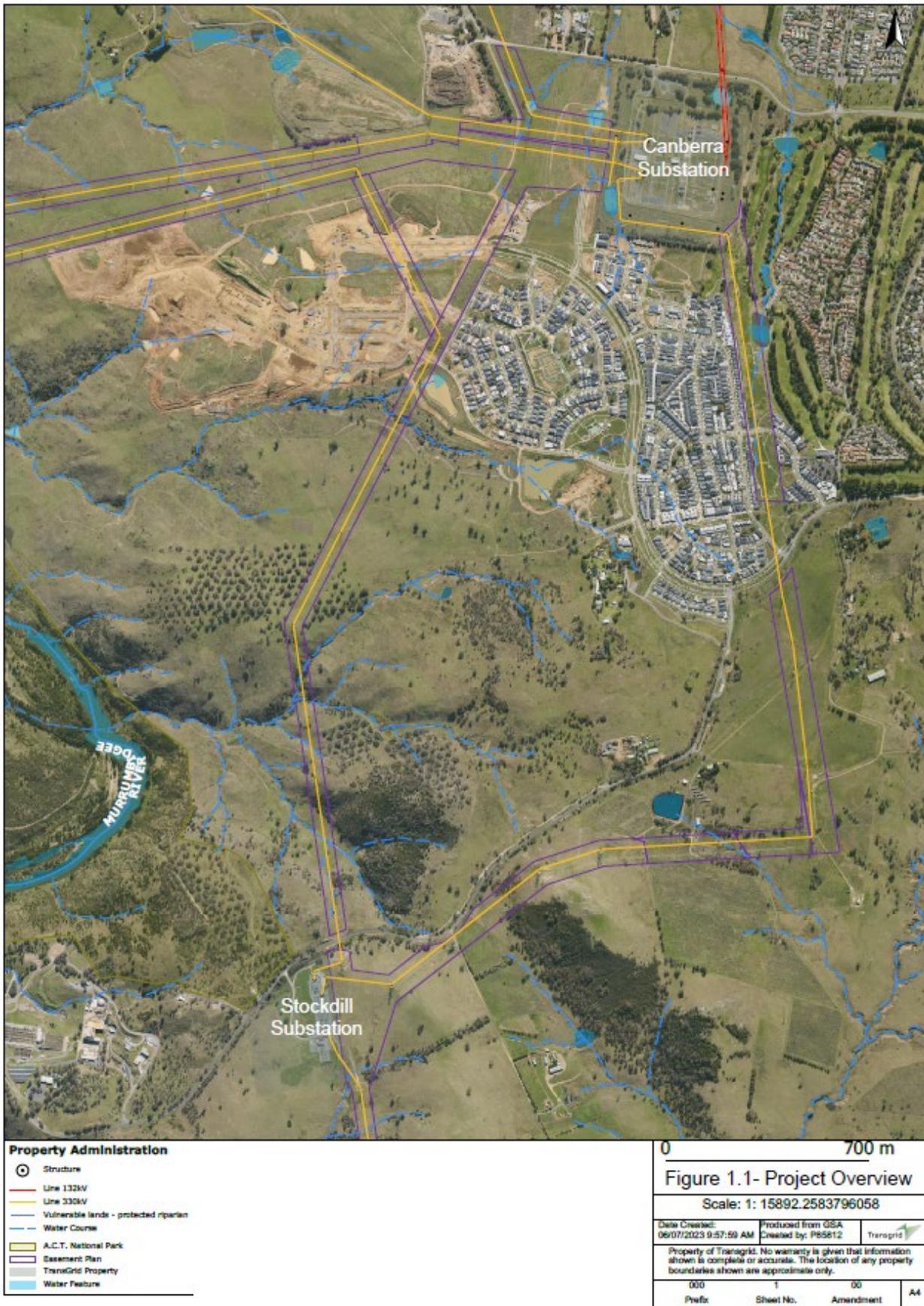


Figure 1.1 Project Location Overview

2. Environmental Management

2.1. Environmental Policy

Transgrid is committed to conducting its activities and services in a manner that minimises pollution and complies with relevant legislation, industry standards and codes of practice. Transgrid implores all employees and contractors to stop and consider the potential impact to the environment from their activities.

The Environment Policy covers all activities and services undertaken by Transgrid including the planning, building and operation of infrastructure, ongoing management of these assets and their decommissioning. We aim to enhance our systems and processes in a manner that promotes continuous improvement in environmental management and which will lead to the achievement of good industry practice.

Transgrid maintains an Environmental Management System (EMS) that provides the necessary structure to implement environmental policy, plan effectively, monitor performance and correct any issues. The EMS is certified under the international standard ISO 14001:2015 and includes procedures, training, records, inspections, objectives and policies which are periodically reviewed.

2.2. Approvals and licencing requirements

2.2.1. Post Construction Requirements

The plan has been prepared to comply with the approved environmental management measures that are required to be implemented during the operational phase of the Project, outlined in the table 1 below. Details on how these measures and the commitments made in the EIS are implemented are outlined in Section 3.

Table 1: ACT Government Conditions of Approval under Part 7 of the Planning and Development Act 2007

Part 1 – D2:

The proponent must prepare an Operating Phase Environmental and Sustainability Plan prior to operation of the proposal. The Operational Management Plan must include the commitments made in the EIS, such as commitments to amend existing Transgrid / Evoenergy operational management procedures, the inclusion of updated environmental maps and other environmental management plans. The plan must also detail adequate procedures to maintain/replace planting intended for visual mitigation through the life of the project.

Part 1 – E1:

The design and construction of all water bodies must minimise the potential to become a local mosquito nuisance.

Part 1 – E3:

Noise from equipment which may be installed or used at the site, including air conditioning units, must comply with the noise standard at the block boundary at all times as per the Environmental Protection Regulation 2005. Please consider the type and location of noise generating equipment prior to installation. Assurance should be sought from the supplier/installer of the equipment that it complies with the Noise Zone Standard as per the Environmental Protection Regulation 2005.

Part 1 – E4:

All rain water that enters the site and pools in excavations during a rain storm event will be considered as a sediment control pond, and must meet the following requirements:

- No discharge from a pond unless the sediment level is less than 60mg/litre. If sediment level is greater than this amount, then prior to discharge, the pond must be dosed with wither Alum or Gypsum and allowed to settle until the sediment is less than 60mg/litre.

Part 1 – E1:

The design and construction of all water bodies must minimise the potential to become a local mosquito nuisance.

2.2.2. Other Statutory Requirements

Environmental legislation applying to the maintenance and operation of Transgrid assets is detailed in Transgrid’s Environmental Compliance Requirements Register. The key legislation relating to the operation of the Project is outlined in table 2.

Table 2: ACT Second Electrical Supply Project EIS – Operation phase management measures

| Legislation | Activity | Potential approval / licensing requirements | Supporting document |
|--|---|---|--|
| Environmental Protection Act 1997 | Pesticide application (Ground Application Work) | Commercial use of pesticide requires environmental authorisation under the Act. | Transgrid procedure: Use of Pesticides |
| Environmental Protection Act 1997 | Discharge of sediment control ponds | Discharge from a sediment control pond is only allowed when the water pH is 6.5-8.5 and is clarified to below 60 mg/L (suspended solids) for urban areas. | Access Canberra: Discharge from Sediment Control Ponds |
| Environmental Protection Regulation 2005 | Operational Noise | No permit required. Operational noise must comply with the Noise Zone Standard | N/A |
| Environmental Protection Act 1997 | Waste Management | No permit / licence required. | Access Canberra: Assessment and Classification of Liquid and Non-liquid Wastes (July 2021) |

2.2.3. Bushfire Prone Land Requirements

Asset Protection Zones are required to be maintained as per ACT bushfire management standards (2014) Table 4 (pg. 4).

3. Environmental Management – Risk and Controls

Environmental management measures to be implemented during the operational phase of the project are outlined in Section 3.1 and 3.2. The operational phase of the project consists mainly of routine maintenance and defect management carried out on an ongoing basis for the life of the assets. Routine maintenance activities are detailed in the Maintenance Plan – Network Property.

3.1. Key Environmental Commitments

Table 3 lists the EIS commitments made for the operational phase of the Project and details how each commitment is to be implemented and maintained.

Table 3: ACT Second Electrical Supply Project EIS – Operation phase management measures

| ID No. | Environmental Management Measure | Requirement / Responsibility |
|--|--|---|
| General environmental management measures | | |
| O-G1 | The operation of the Project would be managed in accordance with Transgrid's EMS and Evoenergy's IMS, which each include detailed maintenance procedures to minimise potential environmental impacts. Details of the environmental constraints identified as part of this environmental impact assessment, that are relevant to the ongoing operation and maintenance of the asset, would be included in the appropriate Transgrid and Evoenergy Geographical Information Systems (GIS). Due diligence environmental checks, including environmental information generated from GIS where relevant, would be undertaken before any maintenance works are carried out. | Transgrid commits to maintaining an EMS that includes detailed maintenance procedures that adhered to these requirements for the duration of the operational phase of the substation and associated transmission lines. |
| Biodiversity | | |
| O-B1 | Upload records of threatened species identified and their habitats into Transgrid and Evoenergy GIS databases to ensure impacts are avoided during ongoing maintenance and operational activities | Threatened species shapefiles for Pink Tail Worm Lizard habitat have been obtained and incorporated into Transgrid geospatial system. |
| O-B2 | <p>Incorporate a management and monitoring plan within Transgrid's standard procedure for the fenced Stockdill Substation property to ensure appropriate management of Pink-tailed Worm-Lizard habitat in particular that management of the Asset Protection Zone (and fire break) is undertaken in an ecologically sensitive manner. This would include:</p> <ul style="list-style-type: none"> - maintain fuel loads by slashing. Prior to entering site, thoroughly clean slashing equipment of all potentially weed seed laden material. Set cutter blades high enough to avoid rocks. - restrict vegetation maintenance activities to between months of December to August (except in emergency situations). - monitor habitat condition including weeds and develop weed management plan for substation site. | <p>Maintenance of the substation property will be undertaken as per the Maintenance Delivery Manual and the associated Maintenance Plans.</p> <p>Maintenance Plan – Network Property outlines the requirements for preventative, corrective and condition-based maintenance on Transgrid owned and managed lands.</p> <p>The requirements identified have been included in the Site Management Plan (Attachment B).</p> |

| Land use and property | | |
|------------------------------|--|--|
| O-LP1 | Landholders with easements over their property would be provided clear guidance on the requirements of access and maintenance during the property acquisition process. | Property access and maintenance requirements are outlined in the Property Acquisition Procedure and Easement Guidelines. |
| Electric and magnetic fields | | |
| O-EM1 | To minimise potential long-term exposure to members of the public, development of homes or workplaces within high voltage easements of the transmission lines would be prohibited. | Any development of buildings for housing or workspaces within HV easements will not be permissible. |
| O-EM2 | Any developments and activities within easements shall be in accordance with the easement safety requirements established by Transgrid or Evoenergy. | All developments and activities shall be undertaken in accordance with Transgrid procedures. |
| Aboriginal heritage | | |
| O-AH1 | Sites RC1, RD3, SDRA1, SDRA2 and SDRA3 would be included in Transgrid Geographical Information System (GIS) to allow for identification and avoidance during operation. This information will be made known to all workers and inspectors that will access the line near the site during the operation of the Project. This will ensure that the site is not impacted into the future. | All Sites have been included in Transgrid geospatial system. All activities undertaken by Transgrid that have the potential to impact known sites should be identified and avoided, otherwise an AHIP shall be obtained. |
| Soils and contaminated land | | |
| O-SC1 | Transgrid and Evoenergy would be required to accord with their company standard procedures for maintenance works and incident management to minimise potential for spills and leaks resulting in contamination of lands. | Transgrid's EMS and HSE Incident Management procedure shall be implemented at all times. Transgrid procedure HSE Incident Management outlines reporting, responsibilities and notification requirements. |
| O-SC2 | Storage of any chemicals associated with the operation and maintenance of the substation would be designed in line with the appropriate ACT EPA guidelines and legislative requirements, including implementation of storage bunding (AS1940) as required. | Storage of all chemicals shall be done in accordance with Transgrid procedure: Hazardous Chemicals Handling, Storage and Transport. This procedure has been prepared to meet AS1940 and EPA guidelines. |
| Hydrology and flooding | | |
| O-HF1 | Establishment (through physical separation) of clean and possible 'oily water' flow areas at the facility to minimise the possibility of cross contamination while minimising the volume of 'oily water' containment to be retained on the substation bench. | Transgrid shall maintain an oil containment system that adheres to the requirements outlined in Transgrid procedure: Substation Oil Containment. |
| O-HF2 | Bunding of transformers and isolation of oil filled equipment by earthwork design and drainage path isolation, to minimise the risk of inappropriate substances entering into the site drainage system. Bunding is to be in accordance with Transgrid oil containment policy and generally with other industry standards. Stormwater runoff would be temporarily detained on the site through On Site Detention (OSD) with | Oil-filled equipment shall be installed with bunding as per Transgrid procedure: Substation Oil Containment. Stormwater drainage is to be physically separated from the oil |

| | | |
|---|--|--|
| | bench design capturing and reducing peak stormwater flows from the bench. Stormwater runoff would be disposed of in accordance with relevant regulatory guidelines. | containment system. Two rain gardens have been installed to reduce peak stormwater flow. |
| O-HF3 | Inclusion of three rain gardens and swales at the facility. These are designed to reduce the export from the bench of suspended solid, total phosphorus and total nitrogen. These gardens form part of the OSD system and help reduce the peak stormwater flow. They will be sized using Model for Urban Stormwater Improvement Conceptualisation (MUSIC) software to meet ACT's WSUD targets. | Rain gardens and swales have been installed in accordance with the approved Layout Plan (SDL200230/3). |
| O-HF4 | All upstream stormwater flow from the hill will be intercepted upstream from the bench and embankments and diverted around the substation bench, these will take the form of grassed swales. On the eastern side of the facility the flow will be directed to the existing dam facility south of the substation and to the drainage channel adjacent to the road. | Site drainage has been installed in accordance with the approved Layout Plan (SDL200230/3). |
| Air quality, climate change and greenhouse gases | | |
| O-AQ1 | During operation of the substation, ancillary service vehicles and maintenance equipment would be well maintained and regularly serviced. | Transgrid shall ensure all fleet, mobile plant and equipment are appropriately maintained prior to operation. |
| Waste, energy and resources | | |
| O-WR1 | Rubbish bins would be provided within the Stockdill Substation site for the appropriate disposal of any general or putrescible wastes and disposed of an appropriate local waste management facility. | Appropriate waste bins shall be located on site at all times. All waste generated on site shall be disposed to a licensed waste facility. |
| Hazards and risk | | |
| O-HR1 | Storage of hazardous materials and chemicals associated with the operation and maintenance of the new Stockdill Substation would be designed in line with the appropriate EPA guidelines, Australian Standards and regulatory requirements. | All activities shall be undertaken in accordance with Transgrid procedure: Hazardous Chemicals Handling, Storage and Transport. |
| O-HR2 | Hazardous material procedures (including procedures for managing spills, and the refuelling and maintenance of vehicles/equipment) would be developed and implemented during the operation of the Project to minimise potential for impacts associated with chemical spills and leaks. | All activities shall be undertaken in accordance with the Transgrid Environmental Handbook and Transgrid procedure: Hazardous Substances Handling, Storage and Transport. |
| O-HR3 | Regular checks on the Stockdill Substation perimeter security fencing to ensure no public/livestock access. An Operations Emergency Response Plan (OERP) would be prepared by Transgrid for management of the Stockdill Substation. This would outline the procedures to be followed in the event of an emergency including for any required shutdowns and the emergency services contact details relevant to different types of emergencies (i.e. fire, police, ambulance, etc.). | Regular inspections will be undertaken as outlines in the Maintenance Plan – Network Property. Stockdill Substation – Emergency Response Manual: MNA-SUB-ERM-594 outlines the procedures to be followed in the event of an emergency. |

| | | |
|-------|---|--|
| O-HR4 | Routine checks on transmission lines would occur in order to ensure the infrastructure is in safe working order. | Routine inspections and asset maintenance in accordance with Transgrid's Maintenance Delivery Manual. |
| O-HR5 | Maintenance activities would be undertaken in accordance with the relevant Transgrid and Evoenergy operational work health and safety procedures and to meet regulatory work health and safety requirements in order to minimise potential for worker safety risk and risk to public and livestock. | Transgrid's HSMS and EMS shall be maintained and adhered to for all maintenance activities being undertaken during the operation of the assets. |
| O-HR6 | Easement maintenance to keep fuel loads under control, including: <ul style="list-style-type: none"> — Grass (excluding EPBC Act listed communities) within the Project easements including the vineyard blocks is to be maintained to achieve a Grassland fire hazard score of less than 35 when grassland curing is greater than 70 per cent in accordance with ESA standards (2014). — Vegetation management practices within easements should be reviewed to incorporate specific management measures for Burgan (<i>Kunzea ericoides</i> Tablelands Shrubland vegetation community). Burgan is to be cleared from the proposed easement plus an additional 10 metres clearance of burgan to form an extended buffer zone. | Routine maintenance procedure to be reviewed and processes implemented to ensure fuel loads are managed in accordance with ESA standards (2014). |
| O-HR7 | Maintenance of APZs in accordance with ESA fuel management standards (2014), including removal of lower branches (up to two metres) from trees within identified APZs. | All maintenance activities will be undertaken as per ESA fuel management standards (2014). |
| O-HR8 | Regular checks and undertaking of maintenance of equipment to ensure operational functionality. | Routine inspections and asset maintenance in accordance with Transgrid's Maintenance Delivery Manual. |
| O-HR9 | With respect to the Canberra Substation the Bushfire Risk Assessment (GFE, 2017) has recommended changes to the existing OAPZ boundary and some additional APZ's in the area. As the area to the west of the Canberra Substation is to be developed as part of the Ginninderry development it is recommended that the need for these changes and additions is reviewed in consultation with the Ginninderry developers and the ACT Government to determine the requirements. The impacts of the potential changes around the Canberra Substation have not been assessed at this stage. If changes to the existing APZ's are determined to be required additional assessment and approvals would be undertaken as necessary. | If changes to the existing APZ's is determined to be required, then additional assessment and approvals would be undertaken as necessary. |

3.2. Operational environmental risk assessment

The Project EIS provided an operation impact assessment for various environmental factors. In general, the predicted impacts are not considered to be significant.

Table 4: Operational environmental risk assessment

| Environmental Risk | Control | Residual Risk Rating |
|--------------------------------------|---|----------------------|
| Air Quality | Vehicles & equipment must be maintained in accordance with the manufacturer's specifications. | Low |
| Bushfire | All activities shall be undertaken as outlined in Transgrid Procedure: Hot Work and Fire Risk Work. | Low |
| Damage to PTWL habitat | Refer to the Stockdill Site Management Plan prior to undertaking routine maintenance or repair activities on Transgrid's Premises. See Section 3.3 for additional detail. For works outside Premises, a GSA Report is to be obtained which shall identify all known sensitivities within the area of works. All controls to be implemented for the scope of work required shall be documented in an Environmental Risk Checklist or similar. | Low |
| Damage to known heritage site | For works outside Premises, a GSA Report is to be obtained which shall identify all known sensitivities within the area of works. All controls to be implemented for the scope of work required shall be documented in an Environmental Risk Checklist or similar. | Low |
| Mosquito Nuisance | Routine inspections of the Rain Garden to ensure local mosquito population is minimised. Management by spraying or re-stocking with fish to manage mosquito larvae shall be considered. | Low |
| Operational Noise | All equipment installed shall adhere to the Noise Zone Standard as per the Environmental Protection Regulation 2005. | Low |
| Sediment in water prior to discharge | Routine Inspections of the Rain Gardens to ensure sediment levels do not exceed 60mg/L at the point of discharge. Treatment of Alum, Gypsum or a similar product will be utilised to manage sediment level. | Low |
| Soil Disturbance | All works as per Transgrid EGN: Erosion and Sediment Control. | |
| Traffic / Transport | Transportation and equipment delivery/removal movements on public roads shall be in accordance with Roads ACT & Council requirements. | Low |
| Use of fuels, solvents and chemicals | All activities shall be undertaken as outlined in the Transgrid Environmental Handbook. This includes implementing SDS requirements such as PPE, storage and spill response. | Low |
| Waste | All waste shall be managed as outlined in Transgrid Procedure: Waste Management and Environmental Standards: Assessment and Classification of Liquid and Non-Liquid Wastes (July 2021). | Low |
| Weeds | Mandatory hygiene and biosecurity protocols to be implemented prior to access properties. Refer to Transgrid EGN: Biosecurity | Low |

3.3. Site Management Plan

This Plan covers works that are considered maintenance and have been prepared to provide directions for the environmental management to be undertaken for maintenance activities on Transgrid managed land. This includes all areas within the property boundary unless specified otherwise.

Refer to Site Management Plans procedure for more information. Site management plans are available on The Wire and shall be verified for currency prior to use. Refer Attachment D for the indicative Stockdill 330kV Site Management Plan.

This plan only applies to maintenance or repair activities, including:

- Minor civil works involving maintenance or repair of services (such as water supply, sewer, stormwater or non-network electrical services),
- Minor building maintenance involving repair or replacement of a component of a building,
- Mowing and slashing,
- Vegetation maintenance of existing cleared areas,
- Servicing and minor repairs to non-network equipment,
- Cleaning and waste management,
- Dam & drainage maintenance,
- Fire protection equipment; and
- Weed/pest control activities.

All environmental control measures identified must be implemented prior to undertaking any maintenance works. Refer to the Project Constraint Overview for all known site-specific environmental sensitivities.

Prior to any site inductions, all relevant Environmental Guidance Notes must be attached to the induction documentation for this property where a site-specific environmental aspects or sensitivities is flagged. Contractors/staff are to be inducted onto this plan by an E3 authorised person prior to any maintenance work being undertaken. Records of the induction shall be noted on the site induction checklist.

The following documentation must be included in the Site Management Plan prior to the Induction*:

- Site Management Plan Map with property boundary, showing known environmental aspects and sensitive areas and other relevant information
- Environmental Guidance Notes where environmental aspects are flagged in the SMP (map)
- Hot Work Permit &/or Fire Risk Assessment and Control Measures Form (FRACM)

This plan does not apply to the following activities. These actions require addition assessment/approval, contact Transgrid's Environmental Team for advice.

- New works or activities that may require further assessment or approval under the EP&A Act (refer to the Environmental Assessment Framework or contact the HSE Group for further information);
- Maintenance, modification or repair of oil spill systems,
- Maintenance, modification or repair of network assets,
- Easement or transmission line maintenance, or
- Access track maintenance.

4. Sustainability

4.1. Sustainability Objectives and Performance

Transgrid utilise Environment, Social and Governance (ESG) metrics to help measure sustainability. These are summarised as follows:

- **Environment** considers how Transgrid uses natural resources and how our operations impact the environment, including for example our climate action and greenhouse gas emissions.
- **Social** considers the relationships Transgrid has with its employees, communities where we operate and other stakeholders. Social factors also include diversity and inclusion, health and safety, human rights and labour standards in the supply chain.
- **Governance** refers to Transgrid's framework for making the right decisions, Transgrid's ethical impact and meeting external stakeholder needs.

Transgrid's ESG program enables our vision, purpose and our Corporate Strategy. Our ESG top three priorities are:

- **Be a leader in the energy transition**, including advocating for the transition to a clean energy future and reducing Transgrid's environmental impact.
- **Work closely with our customers and communities**, including listening to our customers, strengthening our community partnerships program and investing in our communities.
- **Be a trusted and ethical organisation**, including increasing voluntary reporting, continuing to operate with integrity and being known as a trusted and ethical organisation

Transgrid participates in the annual Global Real Estate Sustainability Benchmark (GRESB) survey, which is the leading ESG benchmark for global real estate and infrastructure investments, and the results of this survey will be used to track our progress.

4.2. Environmental Sustainability Metrics

Environmental sustainability metrics that are to be used to measure Transgrid's performance for the operation of the Project and meet business objectives are identified in Table 5.

Table 5: Environmental Sustainability Metrics

| Metric | Objective |
|-----------------------|--|
| Vegetation Management | Minimise percentage of overdue work orders for vegetation management to reduce bushfire risk |
| Pesticide Management | Track and reduce amounts of pesticide used for vegetation management |
| Fleet Efficiency | Track and reduce amounts of carbon dioxide emitted in fleet operation |
| Waste Oil | Track and increase amounts of transformer oil recycled |
| SF6 Leakage | Minimise SF6 leakage |
| E-waste | Track and increase amounts of e-waste recycled |

5. Monitor and Review

5.1. Environmental Monitoring

Routine environmental inspections will be undertaken in accordance with the Maintenance Delivery Manual and associated Maintenance Plans or as otherwise outlined in this OESP. Recommendations outlined in Attached C shall be implemented until successful rehabilitation of Pink-tailed Worm-lizard habitat is achieved, or alternative requirements are prepared.

5.1.1. Corrective Actions

Issues identified through environmental auditing will be reported in CAMMS, Transgrid's hazard and incident reporting system, as outlined in Transgrid's HSE Incident Management Procedure. Corrective maintenance will be undertaken as outlined in the Maintenance Plan – Network Property.

5.2. Incident Notification

All incidents and 'near misses' incidents shall be reported in CAMMS, Transgrid's hazard and incident reporting system, as outlined in Transgrid's HSE Incident Management Procedure.

5.3. Complaint Management

All complaints will be managed as outlined in Transgrid's Complaints and Enquiries Management Policy. Complaints are to be recorded in Consultation Manager software.

5.4. OEMP Review

The OEMP shall be reviewed currency and effectiveness on a three yearly basis or when:

- There is a change to the scope of the installation or its maintenance requirements
- Following a major environmental incident
- At the completion of environmental audits
- Transgrid's environmental management standards are reviewed.

Appendix A – Project Sensitivity Overview

This document has been redacted.

Appendix C – PTWL Habitat Recommendation Plan



Commercial in Confidence

30 June 2023

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Report on inspection of Pink-tailed Worm-lizard habitat rehabilitation at the Stockdill Substation site

Capital Ecology project no. 3171

Dear Mr Littlemore,

This letter provides the findings of my inspection on 20 June 2023 of the Pink-tailed Worm-lizard habitat rehabilitation areas at the Stockdill Substation site. The specifications for the habitat rehabilitation are outlined in Section 3 of *Appendix B: Management of Pink-tailed Worm-Lizard habitat at the Stockdill Substation* of the *Biodiversity and Rehabilitation Management Plan – Revision 2 (Plan No.: P810024-EN-PL-013 Rev 2)*, a copy of which is provided in as Attachment A to this letter. *Appendix C: Stockdill Substation – Pink-tailed Worm-Lizard habitat Rehabilitation Plan* provides additional detail on the proposed rehabilitation, and a copy of this is provided in as Attachment B to this letter.

The key actions as outlined in the above noted plans can be summarised as follows.

1. Preparation of the site by applying pesticide (sic, should be herbicide) to remove weeds and then spreading of topsoil to a minimum depth of 100 mm.
2. Placement of appropriately sized rocks.
3. Application of native seed mix containing *Themeda triandra* and *Poa* sp.
4. Monthly monitoring of weed growth to ensure that 70% native grass coverage is achieved through maintenance including weed spraying where required.

In addition to the placement of appropriately sized rocks, Section 3. vi. outlines the 'indicators of success' as "a transfer of the dominance (>70% cover) of exotic grasses to a dominance (>70% combined

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cover of Kangaroo grass, spear and wallaby grasses, and native herbs).” and then provides a series of contingency actions that the operator should undertake if this is not met within three years.

Site Inspection Findings

As shown in Plates 1 and 2 below, the observations from my inspection of the Pink-tailed Worm-lizard habitat rehabilitation areas are as follows.

1. The placement of appropriately sized rocks has occurred, and the scatter density is generally suitable.
2. The native grass seed application has been unsuccessful. No *Themeda triandra* or *Poa* sp., nor any other native grasses, were observed growing in the habitat rehabilitation areas. Instead, the groundcover throughout the habitat rehabilitation areas is currently composed almost entirely of Subterranean Clover *Trifolium subterraneum*. Several exotic annual grasses (e.g. Brome Grasses *Bromus* spp., Rat’s Tail Fescue *Vulpia* sp. etc.), perennial grasses (incl. African Love Grass *Eragrostis curvula*), and herbaceous weeds (e.g. Great Mullein *Verbascum thapsus*, Fleabane *Conyza* sp.) occur in the areas around the patches dominated by the Subterranean Clover.

In addition, I found approx. ten plants of Madagascan Fireweed *Senecio madagascariensis* in a patch between the two larger Pink-tailed Worm-lizard habitat rehabilitation areas (see Plate 3). I removed these plants and disposed of them at a waste facility.



Plate 1. Pink-tailed Worm-lizard habitat rehabilitation areas



Plate 2. Pink-tailed Worm-lizard habitat rehabilitation areas



Plate 3. Madagascan Fireweed *Senecio madagascariensis* next to Pink-tailed Worm-lizard habitat rehabilitation areas.

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3



Discussion

Whilst I have been informed by Zinfra that both *Themeda triandra* and *Poa labillardieri* were applied across the Pink-tailed Worm-lizard habitat rehabilitation areas, unfortunately there is no evidence of the successful establishment of these species. Although I am not aware of the source of the Subterranean Clover, the very high density and uniformity of its cover suggests that it must have been applied across the habitat rehabilitation areas. This may have been as a contaminant in either the topsoil or the seed mix applied. It is notable however that the vegetation cover across the rehabilitation areas, including the dominance of Subterranean Clover, is very consistent with that across the batters around the substation which have been sown for sediment and erosion stabilisation purposes.

Recommendations

In light of the above, the Pink-tailed Worm-lizard habitat rehabilitation works undertaken to date have clearly not met the indicators of success. Accordingly, I recommend that the operator undertake the series of contingency actions as prescribed in the applicable management plans. However, I note that the existing cover of Subterranean Clover will need to be removed (i.e. via application of an appropriate herbicide) for the prescribed contingency actions to have a chance of success.

In addition to the above, it is highly recommended that the operator undertakes monthly searches for Madagascan Fireweed throughout the site, particularly in the vicinity of the Pink-tailed Worm-lizard habitat rehabilitation areas and anywhere else where imported topsoil has been spread (noting that the species has likely be introduced in imported soil). Any plants found should be removed in their entirety and disposed of at a registered waster facility.

I trust that this letter provides the required report on my inspection. If, however, you should have any questions relating to this letter, please do not hesitate to contact me to discuss.

Yours sincerely,



Robert Speirs

Director / Principal Ecologist

Attachments

Attachment A. *Appendix B: Management of Pink-tailed Worm-Lizard habitat at the Stockdill Substation of the Biodiversity and Rehabilitation Management Plan – Revision 2 (PlanNo.:P810024-EN-PL-013 Rev2)*

Attachment B. *Appendix C: Stockdill Substation – Pink-tailed Worm-Lizard habitat Rehabilitation Plan*

- No-go-zone and reptile barrier fencing will be installed prior to construction works commencing.

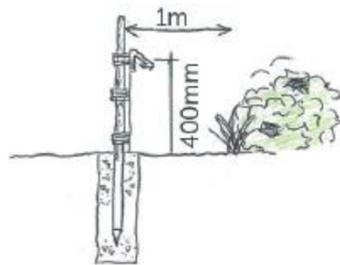


Figure 25: Free standing frog fence (adapted from 3003181 -BFF-020-6003) (PacificLink Alliance 2006d).

Figure 1: Frog resistant fencing from VicRoads Fauna Sensitive Road Design Guidelines (VicRoads 2012)

b. Removal of habitat rocks

Rocks suitable for recreation of PtWI habitat will be recovered from the construction impact zone and moved to PtWI habitat to be retained within the Stockdill Substation. The following principles will apply to this action:

- Rock removal will only occur within areas that are to be impacted by construction activity.
- Rock removal will only occur on days that are predicted to reach an ambient temperature of less than 25°C.
- A wildlife catcher will be present during rock removal to capture and treat injured PtWI or to relocate snakes or other reptiles and amphibians that may be disturbed by the rock removal.
- Injured animals will be treated in accordance with the wildlife catcher's permit and ethics approval
- A grid of at least 5-10 terracotta tiles (min size 400mm x 400mm) will be placed within the PtWI habitat to be retained within the Stockdill Substation prior to rock disturbance. The purpose of the tiles is to provide a relocation point for any PtWI that are found during disturbance activities. These terracotta tiles are to be recorded spatially and assigned a number that will be referenced against translocated PtWI.

The process to relocate habitat rocks is as follows:

- A wildlife catcher with the relevant permits will be identified and contracted to the project.
- The no-go-zones and reptile barriers will be installed around PtWI habitat to be retained prior to any rock relocation.
- Once the no-go-zone fencing is installed, terracotta tiles will be placed in the habitat to receive any PtWI caught within the impact area.
- Suitable rocks for relation will be identified within the impact area based on a minimum size of 10-30cm diameter. These rocks will be marked in the field with yellow marker paint so they can be found upon return.
- Rocks previously marked for relocation will be moved on suitable days with temperatures predicted not to exceed 25°C ambient temperature.
- Relocation and transport of rocks by machinery will be required. Relocation actions shall not occur on days of heavy rainfall of enough intensity to make the retained PtWI habitat boggy and subject to disturbance from vehicle tracks.

c. Salvage and Translocation

Two methods will be employed for PtWI salvage and translocation operations. The first is a targeted salvage for PtWI in areas marked as High potential habitat in Figure 4.4 (WSP 2018). The second is incidental salvage of PtWI in areas of Moderate and Low potential habitat for PtWI in Figure 4.4 (WSP 2018).

Targeted Salvage and Translocation for PtWI

Any salvage action will only occur once the no-go-zones and reptile barriers are installed around PtWI habitat that will receive the salvaged PtWI. Targeted salvage will only occur in those areas of high potential habitat (WSP 2018) that have been approved for disturbance. The following outlines the targeted salvage approach:

- i. A wildlife catcher with the relevant permits will be identified and contracted to the project.
- ii. The no-go-zones and reptile barriers will be installed around PtWI habitat to be retained prior to any rock relocation.
- iii. Once the no-go-zone fencing is installed, terracotta tiles will be placed in the habitat to receive any PtWI caught within the impact area that require translocation.
- iv. A grader equipped with rear rippers will rip the soil to a minimum depth of 300mm through the high potential habitat.
- v. Two suitably qualified observers will follow on foot at a safe working distance and search for PtWI dislodged with the soil material.
- vi. If a PtWI is found the animal will be collected and inspected for injury. If uninjured, the animal will have its details such as length and weight recorded along with a detailed photograph of the animals head scales. The animal will then be moved to the recipient site and placed under a terracotta tile or rock where the temperature under that structure does not exceed 25°C.
- vii. Any injured animals will be treated in accordance with the wildlife carers ethics approval for such instances.

Incidental Salvage for PtWI

Incidental salvage for PtWI will follow the below approach:

- i. A wildlife catcher with the relevant permits will be identified and contracted to the project.
- ii. The no-go-zones and reptile barriers will be installed around PtWI habitat to be retained prior to any rock relocation.
- iii. Once the no-go-zone fencing is installed, terracotta tiles will be placed in the habitat to receive any PtWI caught within the impact area.
- iv. As habitat marked as Moderate or Low potential habitat type in Figure 4.4 of WSP (2018) is encountered for disturbance, the wildlife catcher will be present.
- v. If PtWI are observed during the soil disturbance component of the construction activity the targeted salvage protocol will be implemented for the remainder of that habitat type.

If excess rock is produced onsite, TransGrid will consult with the ACT Government to have excess rock of the appropriate size transported to an agreed site(s) for restoration works within the Molonglo Reserve. The outcome of this consultation will be advised to Zinfra, as necessary.

3. Rehabilitation of habitat within the Stockdill Substation

The suitable habitat for PtWI to be retained and managed within the Stockdill Substation site was identified in Figure 4.4 of WSP (2018). These areas are dominated by exotic grassland with scattered rocky outcrops. Rehabilitation of such a grassland back to one that represents a native grassland is the identified objective.



Native grassland can be restored through mechanical and passive methods. Mechanical methods include where the top soil, soil structure and exposed rock are completely removed (scalped or scraped), disposed of, and combined with direct drill seeding to establish native grassland (Greening Australia 2017). Passive methods include the manipulation of the exotic to native plant cover balance combined with reseeding to establish native grassland (Mason 2005). The first method is not considered suitable in this instance as it will result in the removal of PtWI habitat (Rocks and cracking soil) and may directly impact on any PtWI that may be present in the restoration site. Both methods will take 1-3 years to establish a grassy sward on the site. The second method will not alter structural PtWI habitat elements so will be more suited for use in restoration of the translocation recipient site and can be undertaken during translocation of PtWI to the site.

A specific Native grassland restoration action plan will be developed by the site operator to detail the actions required to restore native grassland in the Stockdill Substation area and retain and improve PtWI habitat. Such an action plan shall include:

- i. A timeline for actions.
- ii. Identification in the field and on a map of the specific areas to be restored back to native grassland. The area (hectares) of required restoration is required to:
 - a. Calculate the amount of native grass seed needed to introduce back to the site. Mason (2005) provides a guide on how to calculate the volume of seed needed to account for natural seed dormancy, viability and survival of germinant through to seedlings and mature plants.
 - b. Calculate the labour required to control weeds.
- iii. An indication of vegetation species and abundance. The restoration site will have the ratio of native to weedy grasses and herbs determined on the Braun Blanquet scale and mapped using basic quadrat assessments. This ratio will be used to develop a specific weed control strategy. For example, where can suitable control measures such as fire or herbicide be used to knock down weeds, allow spaces for native grasses to germinate and grow, and at the same time as not impacting on the life cycle of the PtWI population.
- iv. Identification of native grass seed source or supplier. Suitable native grass seed harvesting sites or suppliers will be identified. The key will be to purchase or harvest enough suitable seed for the restoration exercise. Given the sparse distribution of native grasslands, a staged restoration of the area may be needed as native seed is likely to also be sparse. Timelines may also be interrupted by dry or drought conditions that can cause native grasses to abort seed production, in a given year.
- v. Introduction of native grass seed to the site. The scalp and seed method requires all seeds to be processed so that awns are removed. However, the proposed passive restoration method relies on the native grass to have the awns remain intact and attached to the seed in a chaffy form. These awns are essential for the seed to self drill into suitable microhabitats in the soil. Leaving awns attached also reduces double handling of seed and reduces the risk of damage to seed during processing. Chaffy seed will be introduced to the weed controlled area in late autumn by hand or hay spreader. Weed invasion will be controlled through applying a straw mulch to the site and chemical control where needed. The mulch retains soil moisture and suppresses weeds over the winter period. The mulch is then removed (by hand or controlled burn) in early spring allowing for native seed germination.
- vi. Indicators of success. In this instance success will be a transfer of the dominance (>70% cover) of exotic grasses to a dominance (>70% combined cover of Kangaroo grass, spear and wallaby grasses, and native herbs).

If restoration works do not achieve the criteria 'a transfer of the dominance (>70% cover) of exotic grasses to a dominance (>70% combined cover of Kangaroo grass, spear and wallaby grasses, and native herbs), within three years it is recommended that the operator of the site trigger the following contingency actions :

- a. An assessment of the percentage cover of the dominant grasses and weeds will be undertaken in spring of the third year. Signs of soil disturbance that may hinder regeneration of native flora will be identified. For example, such factors include intensive grazing, invasive weed establishment, poor soil moisture, increases soil salinity, underlying bedrock and red legged earth mites.
- b. The native grass with the greatest dominance across the site resulting from the restoration program will be identified from the assessment. This grass will then be used as the key grass for a supplementary seeding program.

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- c. The supplementary seeding program will see the areas requiring reestablishment reseeded at sufficient densities to enable densities of native grass emergence and survival. This may require the weed control program to be adapted to control any particular weeds that may have established.
- d. If soil moisture is determined to be an issue, a supplementary watering program will be developed and implemented over the summer establishment period.
- e. It is recommended that following practical completion, TransGrid monitor monthly over the summer-autumn period and then annually for 5 years.
- g. If at the five year period native grass establishment is still patchy, a suitable pasture species will be sown across the site in the bare areas. Such pasture species that are susceptible to invasion by native grasses will be selected as a preference, such as Cocksfoot and Annual Rye grass. This strategy aims to allow for long term natural establishment and invasion of native grass species into the bare or pasture species.
- vii. A monitoring schedule linked to annual action planning to direct on ground efforts.
- viii. A proforma for annual reporting of actions and outcomes back to TransGrid.

4. Fire Management

Fire is essential for improving grassland vigour and diversity and to stimulate life cycles of insects. In the ACT controlled ecological burns are undertaken in autumn and winter in key habitats for PtWI. The objective with such timing is to keep the burn cool and to coincide when PtWI are in torpor within soil burrows (ACT 2017).

Once the native grassland (point 5) has been established it will require periodic burning to maintain its vigour.

5. Monitoring, Review and Updating

Monitoring, review and updating of this rehabilitation plan will be undertaken as described in the Construction Environmental Management Plan and any subsequent Operational Environmental Management Plan for the Stockdill Substation Environmental Values.

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Plan Name: Biodiversity and Rehabilitation Management Plan – Revision 2
Plan No.: P810024-EN-PL-013 Rev 2
Process Area: Environmental Management



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Attachment B

Plan Name: Biodiversity and Rehabilitation Management Plan – Revision 2
 Plan No.: P810024-EN-PL-013 Rev 2
 Process Area: Environmental Management



Appendix C: Stockdill Substation – Pink-tailed Worm-Lizard habitat Rehabilitation Plan

1. Introduction

This plan is to outline for the Stockdill Substation project the necessary actions to meet the obligations of the EIS for the Pink Tailed Worm Lizard (PTWL) potential habitat area relocation.

The attached highlights the location of the disturbed potential habitat. Of these as part of the EIS areas C (0.146ha), D(0.19ha), E(0.244) and F (0.029ha) are required to be relocated as they are specifically for the Substation. The other areas nominated on this drawing are for the transmission line construction.

The total area required to be relocated is therefore 0.609 ha.

The area nominated for this relocation is the temporary stockpile area, nominated as area G (1.022ha).

2. Actions to Date

The areas marked C,D,E and F were cleared in accordance with the EIS. The surface rocks from these areas were stockpiled in area G for re-use. In addition to this, some of the areas C,D E and F were sparsely populated with rock, to further improve the new habitat a significant quantity of rocks, of appropriate size, from the excavation works for the new substation were separated and also stockpiled in Area G. These additional rocks will be used to ensure the new area is improved habitat from the areas removed.

The grass species nominated in the EIS being *Themeda triandra* and *Poa sieberiana* is not available, potentially due to the previous drought conditions. Zinfra have located a native seed mix with a significant quantity of *Poa labillardieri* which is proposed to be used in lieu of *Poa sieberiana*.

3. Scope

Below outlines the method used to create the new habitat area.

4. Method

4.1 Prepare site

- Remove weeds in Area G by applying an approved pesticide; The pesticide used shall be in accordance with the TransGrid schedule of approved pesticides, and placed in accordance with the TransGrid specification on pesticide use.
- Spread topsoil to a minimum depth of 100mm; The topsoil used shall be locally sourced, within a 10km radius.

4.2 Placement of Rock

- Place appropriately sized rocks (225-625mm) that are stored on site, the majority of these being the rocks that were recovered from previous PTWL area, and the rocks selected of the required size and recovered from the earthworks;
- Rocks will be relocated into the rehabilitated PtWL habitat in clusters of no more than 2 rocks to avoid the potential of creating rabbit harbour. Rock density across the restoration site should be between 10 – 20%.
- The spread of relocated rocks across the rehabilitated PtWL habitat will be such as to not hinder vegetation management activities in the habitat. Spaces between the rocks that allow a 4WD vehicle to traverse the habitat shall be retained.
- The rock density across the restoration site should be approximately 3 rocks per sq.m.
- During the initial rock placement, representatives of TransGrid and ACT Parks and Conservation will be invited to site to confirm the placement meets the expectations for PTWL habitat.

4.3 Seed Application

- Seed the area by hand with the native seed mix containing *Themeda triandra* and *Poa labillardieri* ^{Note 1} (approx. 5:1) – This should be planned for a day when rain is forecast within the next week.

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Plan Name: Biodiversity and Rehabilitation Management Plan – Revision 2
Plan No.: P810024-EN-PL-013 Rev 2
Process Area: Environmental Management



- Use hand methods (to avoiding use of vehicles in area) to bury the seed, and mix with topsoil.
- Due to the compaction that would occur with vehicle traffic, and the size of the area, watering of the area will not be undertaken.
- Once the above has been undertaken, remove surrounding PTWL fence to allow them to return to the area.

4.4 Monitoring

- Monitor weed growth monthly and ensure 70% grass coverage is achieved through maintenance including weed spraying where required. This would be with a Transgrid approved broad leaf selective non residual herbicide.

Note 1: As *Poa sieberiana* is unavailable reportedly due to recent drought conditions it has been advised that *Poa labillardieri* is a suitable replacement.

Appendix D – Site Management Plan

This document has been redacted.