





PUBLIC



Soil and Water Management Plan EnergyConnect (NSW - Western Section) Stage 2

45860-HSE-PL-D-0021

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Revision History	
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G	Updated following receipt of DPE comments and issued to DPE
H	Updated following receipt of DPE comments received on 5 July 2022
1	Revised to include updated Dewatering Procedure
2	Revised to update to Elecnor template and Elecnor management system

Key Document Stakeholders
To be communicated with during reviews and revisions of this document

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Abbreviations

Acronym	Definition
AHD	Australian height datum
Amendment Report	<i>EnergyConnect (NSW - Western Section) - Amendment Report</i>
AS/NZ	Australian Standard/New Zealand Standard
ASS	Acid sulfate soils
AWS	Automatic weather station
BC Act	<i>Biodiversity Conservation Act 2016</i>
BoM	Bureau of Meteorology
BTENX	Benzene, toluene, ethylbenzene, xylene, and naphthalene
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
Contamination	Contamination means the presence in, on or under land or any other aspect of the environment of a substance (i.e. gas, chemical, liquid or other matter) whether occurring naturally or otherwise, which is: <ul style="list-style-type: none"> a) at a concentration above the concentration at which the substance, gas, chemical, liquid or other matter, whether occurring naturally or otherwise, is normally present in, on or under land or any other aspect of the environment in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment; or b) toxic, flammable or otherwise capable of causing harm to humans or damage to the environment including asbestos (man-made or naturally occurring), toluene, polychlorine biphenyls, lead based paints, glues, solvents, cleaning agents, paints, water treatment chemicals and acid producing spoil.
CSSI	Critical State significant infrastructure
Cth	Commonwealth
DAWE	Department of Agriculture, Water and the Environment, now known as Department of Climate Change, Energy, the Environment and Water
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DPE	NSW Department of Planning and Environment, now known as NSW Department of Planning, Housing and Infrastructure
DPHI	NSW Department of Planning, Housing and Infrastructure
DPIE	NSW Department of Planning, Industry and Environment, now known as NSW Department of Planning, Housing and Infrastructure
EIS	<i>EnergyConnect (NSW - Western Section) Environmental Impact Statement</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
ER	Environmental Representative
ESCP	Erosion and Sediment Control Plan
ESCS	Erosion and Sediment Control Strategy
GDEs	Groundwater dependent ecosystems

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Acronym	Definition
NSW	New South Wales
PASS	Potential acid sulfate soils
PESCP	Progressive Erosion and Sediment Control Plan
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
project, the	EnergyConnect (NSW - Western Section)
Response to DPIE Request for Information	The 'additional information letter dated 10 August 2021' in the definition section of the Infrastructure Approval; document is also titled <i>EnergyConnect (NSW - Western Section) Response to DPIE Request for Information - 7 May 2021 and subsequent discussions</i>
RMMs	Revised mitigation measures
SA	South Australia
SAPs	Sensitive area plans
SecureEnergy	Transgrid has engaged Elecnor Australia, trading as SecureEnergy, to design and construct the EnergyConnect project.
Submissions Report	<i>EnergyConnect (NSW - Western Section) Submissions Report</i>
SWMP	Soil and Water Management Plan
UXO	Unexploded Ordnance
WAL	Water access licence
WM Act	<i>Water Management Act 2000</i>
WMS	Work method statements
WWTP	Wastewater treatment plant

1 Introduction

1.1 Context

This Soil and Water Management Plan (SWMP or this plan) forms part of the Construction Environmental Management Plan (CEMP) for Stage 2 of EnergyConnect (NSW - Western Section).

This document has been prepared for construction activities undertaken during Stage 2 of the project, and supersedes the existing Stage 1 Soil and Water Management Plan. It does not address the operational phase of the project.

This plan has been prepared to address the relevant requirements of the Infrastructure Approval (SSI 10040), the *EnergyConnect (NSW - Western Section) Environmental Impact Statement (EIS)*, *EnergyConnect (NSW - Western Section) Submissions Report (Submissions Report)*, *EnergyConnect (NSW - Western Section) Amendment Report (Amendment Report)* and the additional information letter dated 10 August 2021 (Response to DPIE Request for Information).

1.2 Background

On 29 August 2019 the then NSW Minister for Planning and Public Spaces declared the NSW component of EnergyConnect to be critical State significant infrastructure (CSSI) under the *Environmental Planning and Assessment Act 1979 (EP&A Act)* on the basis that it is critical to the State for environmental, economic or social reasons. Within NSW, EnergyConnect is therefore subject to assessment under Part 5, Division 5.2 of the EP&A Act.

Transgrid have two environmental planning approval applications for the sections within NSW:

- EnergyConnect (NSW - Western Section) - SA/NSW border to Buronga and Buronga to the NSW/Victorian border (the project); and
- EnergyConnect (NSW - Eastern Section) - Buronga to Wagga Wagga.

A referral under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* was submitted on 27 May 2020. The Australian Department of Agriculture, Water and the Environment (DAWE) determined the project to be a controlled action on 26 June 2020 and thus, it would be assessed using the bilateral assessment process. As such, the project also requires approval from the Australian Minister for the Environment under the EPBC Act.

The EIS was prepared for the project in October 2020 and was placed on public exhibition from 30 October 2020 to 10 December 2020. A total of 20 submissions were received, with 15 from government agencies, three from organisations and two from the public.

The Submissions Report was prepared for the project in response to the submissions and was finalised on 14 April 2021.

Transgrid also prepared a separate Amendment Report to document design changes and additional environmental assessment undertaken since exhibition of the EIS. The Amendment Report describes the updated project for which approach has been sought and was finalised on 14 April 2021.

On 7 May 2021, Department of Planning and Environment (DPHI) requested additional information (*EnergyConnect (NSW - Western Section)(SSI-10040) Request for Additional Information*) to assist with the assessment of the project. In response Transgrid prepared and provided the Response to DPIE Request for Information, which included revised mitigation measures (RMMs) which are to be applied. The Response to DPIE Request for Information was dated 10 August 2021.

Approval for the project under the EP&A Act was granted by the NSW Minister for Planning and Public Spaces (Infrastructure Approval SSI 10040). Approval for the project under the EPBC Act was granted by the Australian Minister for the Environment.

Transgrid have engaged Elecnor Australia, trading as SecureEnergy, to design and construct their portion of the EnergyConnect project.

1.3 Staging

Condition E2 allows preparation of plans on a staged basis, with the approval of the Planning Secretary. Where a plan is staged, the scope of works can be carried out without addressing particular requirements of conditions of approval that are not applicable to the particular stage. This SWMP is staged in accordance with condition E2.

The conditions of the Infrastructure Approval, and the RMMs identified in the Appendix G of the Response to DPIE Request for Information, that are relevant to soil, water and contamination aspects of the construction phase are included in Table 2.1 and Table 2.2 respectively. The applicability of each requirement to this SWMP is also addressed in the identified tables.

This SWMP has been prepared specifically for EnergyConnect (NSW - Western Section) Stage 2 and will be implemented for the duration of Stage 2 of construction. The key project components of Stage 2 of construction include, but are not limited to, the activities provided in Table 1.1.

Table 1.1 - Key project components of Stage 2 of construction

Key activity	Description of key activity
Pre-construction minor works permitted in accordance with the Infrastructure Approval	<p>Key activities nominated in this stage will have already commenced as part of the pre-construction minor works permitted in accordance with the Infrastructure Approval.</p> <p>The definition of 'construction' within the Infrastructure Approval excludes these activities. They will therefore not be subject to the Stage 2 CEMP and CEMP sub-plans. Irrespective of this, these activities will occur in accordance with the relevant conditions of the Infrastructure Approval.</p> <p>Key activities include:</p> <ul style="list-style-type: none"> • environmental investigations, including biodiversity and heritage protection, salvage and recordings; • Aboriginal heritage assessment, mitigation (ie exclusions zones) and salvage activities, including subsurface testing/test excavation, additional survey, and consultation with RAPs; • other survey work, such as road dilapidation surveys, and surveys of the general alignment and existing utilities; • installation of environmental management measures, fencing, enabling works; • connections and pre-commissioning of utilities (wastewater treatment plant, electrical power, lighting etc.).
Continuation of any outstanding Stage 1 construction activities	<p>Construction activities undertaken during Stage 1 of the project will continue where required. This includes, but is not limited to continuation of the following activities:</p> <ul style="list-style-type: none"> • any outstanding construction earthworks activity at the Buronga substation; • operation of the Buronga earthworks material site, including the crushing and screening plant, where required; • operation of the Buronga construction compound including offices and laydown area; and • use of access and egress points.
Establishment of Wentworth accommodation camp	<p>The main activities that would be undertaken at the Wentworth accommodation camp and construction compound include:</p>

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Key activity	Description of key activity
Establishment and operation of Wentworth construction compound	<ul style="list-style-type: none"> • clearing of vegetation within the disturbance area; • clearing and removal of topsoils. Topsoil would be stockpiled on site for later reuse; • establishing the Wentworth accommodation and associated facilities, site offices, amenities, wastewater treatment plant, power generators, hazardous material and fuel storage area, and internal roads; and <ul style="list-style-type: none"> • establishing and operating Wentworth construction including but not limited to amenities compound site offices, concrete batching plant, internal roads and other ancillary facilities.
Buronga substation upgrade and expansion	<p>The existing Buronga 220kV substation would be upgraded and expanded to add a new 330kV substation on the land parcel adjacent to the existing 220kV substation. The upgrade and expansion of the Buronga substation would consist of the following key activities in addition to the works undertaken during Stage 2 of construction:</p> <ul style="list-style-type: none"> • civil works including: <ul style="list-style-type: none"> – underground mesh installation (earthing grid); – foundation and footing works for the electrical equipment; and – installation of the synchronous condenser (SynCon) building slab; • mechanical works including: <ul style="list-style-type: none"> – erection of the SynCon, transformers, shunt reactor and capacitor banks; – installation of oil treatment; – gantry erection; – installation of electrical equipment; – installation of supporting steel structure; – overhead HV cables and cable pulling; – switchyard building installation (including control equipment); and – construction of the SynCon building; • electrical works including: <ul style="list-style-type: none"> – LV cable pulling, cable dressing and terminations; and – outdoor installation of the lighting system.
Establishment ancillary facilities along the transmission line corridor	<p>A number of minor staging, storage and laydown ancillary areas would be required within the project corridor for temporary storage of materials, plant and equipment required to construct the various elements of the proposal (in particular transmission line structures). Some temporary mobile batching plant locations may also need to be established to enable for easily access to concrete.</p> <p>Upon completion of works, these ancillary sites would be cleared of any temporary infrastructure and equipment, and rehabilitated. These sites would be in place for shorter periods at locations suitable to support the construction works as they move along the alignment.</p>
Property adjustment work, including adjustments to property fencing	<p>Installation or adjustment of gates and fences would be required at some locations along the alignment to enable access from the nearest roadway to construction areas. These would be constructed in consultation with the relevant council and/or affected landholder.</p>
Water supply points - establishment and/or use	<p>A series of water supply points have been identified as suitable connection points to existing water supply pipelines. The proposed water supply points which are to be established and / or used include:</p> <ul style="list-style-type: none"> • Alcheringa Drive, Buronga; • Modica Crescent, Buronga; • Fletchers Lake Drive, Dareton; • Beverley Street, Wentworth; and • 690 Pomona Road, Pomona/Oxley Drive, Pomona.

Key activity		Description of key activity
Construct access points		<p>The establishment of access points would include:</p> <ul style="list-style-type: none"> establishing vehicle access and egress points including adjustment of state and regional roads to ensure safe vehicle movements; and establishing truck wheel wash or rumble grids. <p>The definition of construction within the Infrastructure Approval does not include road upgrades (which includes access points). Road upgrade works are, however, incorporated within the Traffic and Transport Management Plan as required by condition D40 b).</p>
Construct access tracks		<p>Access to each tower would be required during construction. Access tracks would be required to be traversable by a range of vehicles. Access tracks would fall into two broad groups:</p> <ul style="list-style-type: none"> un-improved access tracks - using existing roads or tracks, or driving on existing soil or ground surface with minimal or no prior preparation; and constructed access tracks - around six metres wide and would generally follow the natural contour of the land as far as practicable to minimise the amount of cut and fill and soil disturbance. Access tracks would also include drainage control features such as table drains or cross banks to minimise erosion. <p>Constructed access tracks would be required in areas, outside identified heritage risk zones, where there are no existing roads or tracks, or where terrain conditions prevent continuous access along the line easement between road crossings.</p>
Temporary works		<p>The project will require a significant quantity of temporary works during construction. Temporary works will be undertaken outside identified heritage risk zones. The temporary works will includes, but not limited to, the following:</p> <ul style="list-style-type: none"> earthworks, including trenches, excavations, temporary slopes, stockpiles, and embankments; structures, such as formwork, shoring, edge protection, temporary bridges, solid fencing/guardrails/barriers and signage, temporary scaffold; and equipment/plant foundations, such as work platforms, crane, and piling platforms.
Transmission line construction	Earthworks and transmission tower footing construction	<p>Excavation works and establishment of construction pads at each tower site would be required for the installation of foundations, levelling around the individual tower foundations, drainage and grading or preparation for construction at the tower site. Excavations would typically be up to five metres in depth. Construction of footings and foundation works for the new transmission line towers includes:</p> <ul style="list-style-type: none"> piling. Typical transmission line tower piling depth would be generally up to 6-15 metres below ground level and would depend on ground conditions (e.g. greater piling depths would be required where soft soil types are present). The foundation type would also vary (subject to detailed design) but would consist of either: <ul style="list-style-type: none"> bored pile (reinforced concrete); driven or screw pile (concrete or steel); and helical screw anchor, or cast in-situ reinforced concrete; excavation to create bench sites (stepped ground excavation) where required to provide a level platform for equipment setup, the erection of the tower and other construction activities. Benching would be constructed by use of earthing equipment such as graders and excavators; steel fabrication works; and concrete pours.

Key activity		Description of key activity
	Assembly and erection of transmission line towers	<p>The transmission line towers would typically be erected by assembling in sections on the ground and hoisting or lifting successive sections into place using cranes.</p> <p>Alternatively, towers may be erected in place on the footings by installing individual members. These towers would include infrastructure such as step bolts, climbing attachment plates, ladders, platforms, climbing barriers, identification plates, warning plates, other fixtures and fittings for the attachment of earth wires and insulators.</p>
	Stringing of transmission lines including conductors and overhead earth wires and optical ground wire	<p>Following erection and securing of the tower, the transmission line would be strung by either a ground pulled draw wire (with brake/winch sites) or a line stringing drone.</p> <p>The area required for the construction of each tower would require access for tower assembly and stringing works. Where a transmission tower is proposed to allow for a direction change of the transmission line, a larger area would be required (to allow for brake and winching sites). At a typical site, this would include a temporary area of up around 60 metres by 80 metres at each transmission line tower location.</p> <p>Stringing of transmission line would also be required across the following three major watercourses:</p> <ul style="list-style-type: none"> • the Great Darling Anabranch, Wentworth NSW; • Darling River, Elerslie NSW; and • Murray River, Monak NSW / Red Cliffs Victoria. <p>The general construction methodology is to assemble and erect a transmission line structure on either side of each major river crossing. A drone would then be used to take a lead wire over the river to allow cables to then be pulled and strung tower to tower.</p>
	Installation of earthing conductors	<p>The following key activities will be undertaken:</p> <ul style="list-style-type: none"> • installation of earthing conductors at each of the transmission tower arms; and • installation of earthing or isolation sections of fences and gates where the transmission line crosses or closely runs parallels to a metallic fence.
Utility works, adjustments and protection		<p>Utility adjustment works would be required to convert several overhead distribution powerlines up to and including 66kV to underground cables.</p> <p>The existing alignment of the Broken Hill transmission line would require relocation at two locations. This would comprise of:</p> <ul style="list-style-type: none"> • a permanent relocation of the existing transmission line in the vicinity of the Darling River. This would require the construction of two new monopoles, and the stringing of conductors/earth wires between the existing and new structures. The redundant tower would be decommissioned; and • a temporary relocation of a section of the existing transmission line that currently passes through the existing Buronga substation. This would be temporarily relocated around 200 metres to the east of its current alignment (along the eastern boundary of the existing substation site). Once the construction works to upgrade the substation are completed, the alignment of the 220kV Broken Hill line would be restored in a location generally consistent with the original line location. <p>General utility protection and adjustment works, where required, to allow for the Buronga substation expansion and upgrade works to occur, the establishment and operation of the construction compound and accommodation camps, and where else required.</p>
Decommissioning of existing infrastructure		<p>Decommissioning and removal of:</p> <ul style="list-style-type: none"> • the existing 220 kV transmission line between Buronga substation and the NSW / Victoria border;

Key activity	Description of key activity
	<ul style="list-style-type: none"> the temporary bypass transmission line infrastructure installed to allow construction of the new double circuit 220kV line; and a single tower on the existing 220kV Broken Hill line in the vicinity of the Darling River.
Progressive site rehabilitation and landscaping	<p>Site rehabilitation would be carried out progressively along completed sections of the transmission line as well as the expanded substation site. These activities includes:</p> <ul style="list-style-type: none"> removal of redundant environmental controls within the transmission tower footprint; and removal of temporary equipment and machinery.

Some activities nominated in this stage will have already commenced as part of the pre-construction minor works permitted in accordance with the Infrastructure Approval. These works remain excluded from the definition of 'construction' and will therefore not be subject to the Stage 2 CEMP and this SWMP.

1.4 Environmental management system

The overall environmental management system for the project is described in Section 4 of the CEMP.

This SWMP is a sub-plan that forms part of the CEMP and is also part of the environmental management framework for the project, as described in the CEMP. Figure 1.1 shows the CEMP framework for the project.

Management measures identified in this plan will be incorporated into relevant site-based documents including, but not limited to, site or activity specific work pack or work method statements (WMS), sensitive area plans (SAPs) or training and awareness material.

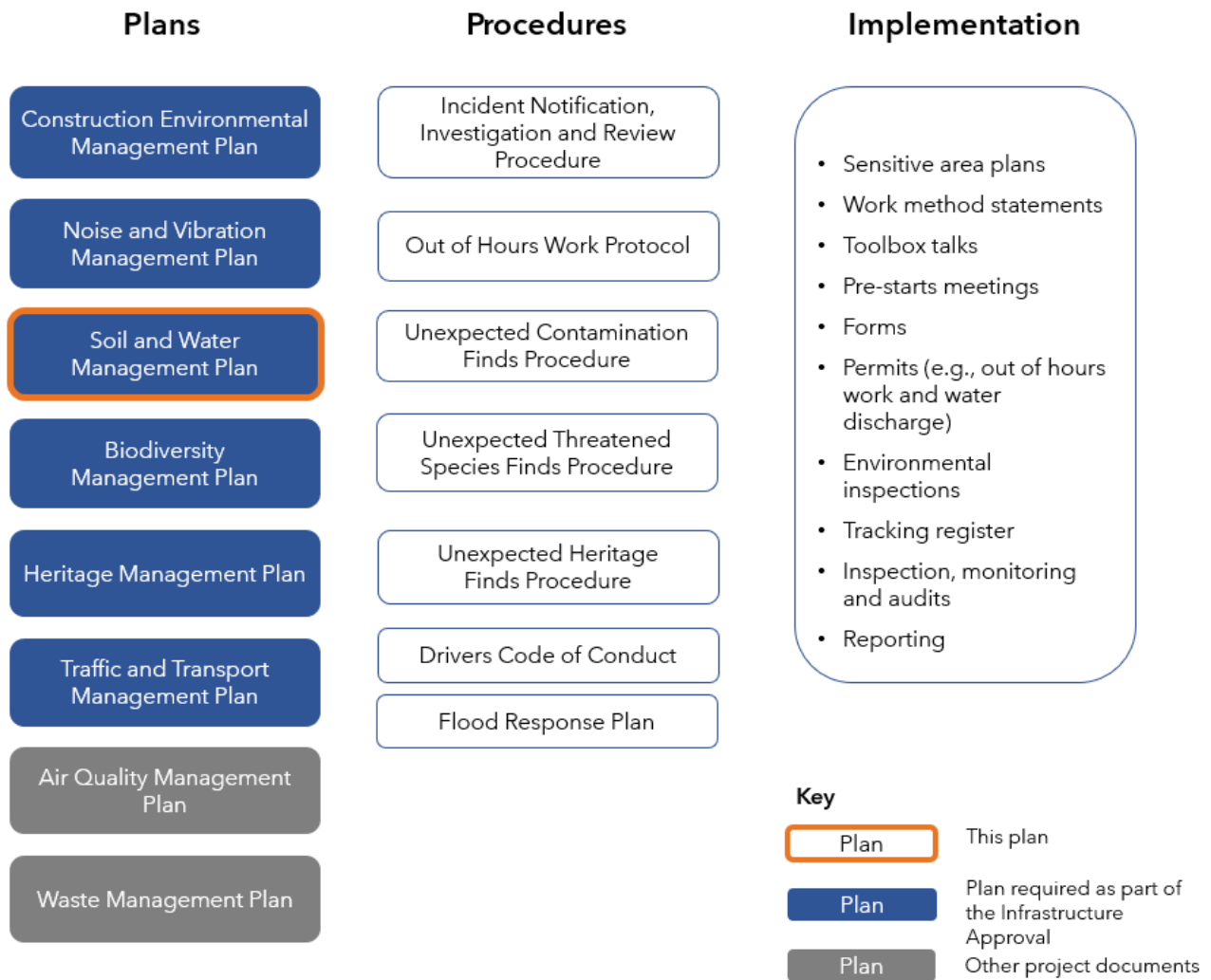


Figure 1.1 - CEMP framework

1.5 Purpose and objective

The purpose of this SWMP is to describe the approach to manage soil and water impacts that will be adopted during construction of the project.

The key objective of this plan is to detail management measures and inform site procedures so that soil, water and contamination impacts are minimised and managed within the scope permitted by the Infrastructure Approval. To achieve this, the following will be undertaken:

- implement appropriate measures to address the requirements outlined in the Infrastructure Approval, EIS and Response to DPIE Request for Information;
- implement appropriate measures during construction to minimise soil, water and contamination impacts; and
- implement appropriate measures to comply with relevant legislative requirements as described in Section 2.1 of this plan.

As a means of assessing environmental performance, environmental objectives (performance measures), targets (criteria) and performance indicators have been established for the project and are provided within Table 4.2 of the CEMP. All performance measures and indicators are applicable to the project, however, those most relevant to soil, water and contamination are detailed in Table 1.2.

Table 1.2 - Environmental objectives, targets and performance indicators relevant to soil, water and contamination

Aspect	Objectives (performance measures)	Targets (criteria)	Performance indicators
Compliance	Compliance with Statutory Approvals and Infrastructure Approval	<ul style="list-style-type: none"> • Full compliance with statutory approvals. • No regulatory infringements (PINs or prosecutions). • No formal regulatory warning. 	Number of regulatory infringements (PINs or prosecutions), formal regulatory warning, audits.
	Implement and comply with the CEMP and associated management plans	<ul style="list-style-type: none"> • Zero non-compliances identified during each compliance audit of CEMP and sub-plans. 	Number of non-compliance arising from each audit.
Soil and water	Minimise erosion and sedimentation	<ul style="list-style-type: none"> • Implementation of controls in accordance with the PESCPs. 	Environmental inspections, audits.
	Ensure that the project does not cause water pollution as defined in section 120 of the POEO Act	<ul style="list-style-type: none"> • 100% completion of scheduled inspections. • 100% compliance with the Dewatering Procedure. 	Environmental inspections, audits.
Incident management and response	Ensure timely communication of incidents. Minimise the risk of an incident by identifying risks and developing actions to minimise those risks	<ul style="list-style-type: none"> • All incidents reported in accordance with the CEMP. • All risks reviewed in accordance with the Elecnor management system. 	Follow up action of incidents as recorded in incident reports.
Inspections and audits	Completion of weekly inspections and audits	<ul style="list-style-type: none"> • 100% completion of scheduled audits and weekly inspections. • 100% compliance with: <ul style="list-style-type: none"> – Dewatering Procedure; • Unexpected Contamination Finds Procedure. 	Environmental inspections, audits.

1.6 Preparation of this plan

In accordance with condition B6 of the Infrastructure Approval, this plan has been prepared by suitably qualified and experienced person. This plan was prepared by Martin Lee and reviewed by Cheryl Cahill, who has attained certification as a Certified Professional in Erosion and Sediment Control (CPESC). Cheryl Cahill's CPESC certification number is 6086.

1.7 Consultation

1.7.1 Development of this plan

In accordance with condition B2 of the Infrastructure Approval, this plan has been prepared in consultation with:

- DPE Water Division (DPE Water); and
- Wentworth Shire Council (council).

The plan was issued to relevant stakeholders for review and comment. Wentworth Shire Council confirmed they have no comments in relation to this plan. DPE Water have provided comments upon their review of the plan, however the comments did not request, nor require, a change to the plan. A response has been provided to DPE Water. Details of all consultation with DPE Water

and Wentworth Shire Council will be submitted to DPHI along with the submission of this management plan.

1.7.2 Ongoing communication and consultation

Elecnor will use a range of tools in accordance with the *Community Communication Strategy* (CCS) (45860-CM-PL-G-1001) to facilitate ongoing consultation and communication with the community and stakeholders regarding the project. Communication tools include, but are not limited to, stakeholder briefings, project website, community drop-in sessions via the project's mobile van, door knocks and project factsheets. Notifications will be issued for, but not limited to following, commencement of construction, significant milestones and changes to the scope of work. Refer to the CCS for further information.

In accordance with condition E12 a) of the Infrastructure Approval, project documents including the EIS, approved strategies, plans or programs required under the conditions of approval and independent reports will be publicly available on the project website. The project website is <https://www.projectenergyconnect.com.au>. A 24-hour toll-free telephone number (1800 490 666) is also available for any project enquiries.

1.7.3 Complaints

Complaints will be managed by the Engagement Team with the use of the Sales Force database. Complaints will be received via phone calls, emails and letters. Any complaint received is regarded as a high priority and will be recorded, tracked and responded to in accordance with the CCS. Complaints will be investigated and dealt with impartially. The key principles of the complaint management process include:

- acknowledge - Elecnor staff should respect the communities' right to voice their concerns. All complaints received should be acknowledged to the complainant either by telephone or in writing;
- resolve - Elecnor staff should aim at first contact, resolution for all community concerns. Elecnor staff should investigate community concerns in detail before negotiating a resolution. All Elecnor staff should use their relevant discretions to achieve a mutually acceptable resolution to complaints;
- escalate - all Elecnor staff should aim to escalate the complaint if the community member remains dissatisfied with the investigation and/or resolution offered by their first point of contact at Elecnor. All complaints where community request to speak to a higher-level representative, should also be escalated;
- record - Elecnor staff should aim through the Engagement Team at recording all relevant information, on the community account in Sales Force, regarding customer concerns along with details of all discussions had with the community member in the process of investigating and/resolving the complaint. Detailed information on the resolutions offered to address community concerns should also be clearly recorded;
- communicate - Elecnor staff should remain in constant touch with the community member while their concerns are being investigated. The community member should be informed of all steps of the investigation and the resulting outcome at appropriate times;
- report - Elecnor should report on all complaints received to the Elecnor Management Team and Transgrid. The reporting should include information on the number as well as type of complaints being received, the status of these complaints from time to time and the resulting outcomes or resolutions offered to close them;

- feedback - the Elecnor Engagement Team should aim at regular and intensive reviews to identify possible trends in the complaints being received. These reviews should be aimed at highlighting improvements required to avoid complaints being repeated;
- action - Elecnor should aim at effective implementation of improvements suggested directly by the community or highlighted by complaint trends.

Wherever possible, complaints will be resolved directly between Elecnor and the stakeholder. If the complaints management process has been followed and the issue cannot be resolved, dispute resolution will be undertaken in accordance with the CCS. DPHI may request the Environmental Representative (ER) assist in dispute resolution of community complaints.

All complaints will be provided to the ER and a summary of complaints received, such as a complaint register, will be updated monthly on the project website.

1.8 Submission and approval

Prior to submission to DPHI, the SWMP was reviewed by the ER to ensure that the plan was consistent with the requirements of the Infrastructure Approval. A written statement to this effect was prepared and submitted to DPHI. This review was undertaken in accordance with condition A19 of the Infrastructure Approval.

This SWMP was submitted to DPHI for review and approval by the Planning Secretary prior to the commencement of Stage 2 of construction.

Stage 2 of construction did not commence until the CEMP and all sub-plans required under condition B2, or where staging is proposed the plans required for that stage, were approved by the Planning Secretary. The approved SWMP will be implemented for the duration of the Stage 2 construction activities.

1.9 Periodic review

This SWMP will be reviewed at least annually and updated, if required, in accordance with Section 1.10 of the CEMP - Updating the CEMP. Any updates to the SWMP will be approved as described in Section 1.10 of the CEMP.

2 Environmental requirements

2.1 Legislation

Legislation relevant to this SWMP includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Protection of the Environment Operations Act 1997* (POEO Act);
- *Contaminated Land Management Act 1997* (CLM Act); and
- *Water Management Act 2000* (WM Act).

Relevant provisions of the above legislation are detailed within the register of legal and other requirements included in Appendix A1 of the CEMP. Refer to Appendix E for further details on the legislations relevant to this SWMP.

2.2 Conditions of Approval

The conditions of the Infrastructure Approval relevant to soil, water and contamination are presented in Table 2.1. A cross reference is also included to indicate where the condition is addressed within this plan or other project management documents.

Table 2.1 - Conditions of Approval relevant to soil, water and contamination

Condition no.	Requirement	Where addressed	How addressed						
B1	Prior to commencing construction, a Construction Environmental Management Plan (CEMP) must be prepared to detail how the performance outcomes, commitments and mitigation measures specified in the EIS will be implemented and achieved during construction to the satisfaction of the Planning Secretary.	Section 2.3 Section 5 The CEMP	The CEMP has been prepared and will be implemented during construction. The CEMP incorporates and responds to all relevant conditions of the Infrastructure Approval and RMMs identified in the EIS, Submissions Report, Amendment Report and Response to DPIE Request for Information. Section 2.3 and Section 5 of this SWMP describe how the commitments of the EIS relevant to soil and water management will be implemented.						
B2	The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan in Table 1. Table 1: CEMP Sub-plans	Section 1.7	This SWMP was provided to DPE Water and Wentworth Shire Council for consultation. Wentworth Shire Council confirmed they have no comments in relation to this plan. DPE Water have provided comments upon their review of the plan, however the comments did not request, nor require, a change to the plan. A response has been provided to DPE Water.						
	<table border="1"> <thead> <tr> <th></th> <th>Required CEMP Sub-plan</th> <th>Relevant government agencies and stakeholders to be consulted for each CEMP Sub-plan</th> </tr> </thead> <tbody> <tr> <td>(a)</td> <td>Soil and Water</td> <td>DPIE Water and Council</td> </tr> </tbody> </table>		Required CEMP Sub-plan	Relevant government agencies and stakeholders to be consulted for each CEMP Sub-plan	(a)	Soil and Water	DPIE Water and Council		
	Required CEMP Sub-plan	Relevant government agencies and stakeholders to be consulted for each CEMP Sub-plan							
(a)	Soil and Water	DPIE Water and Council							
B3	Details of all information requested by an agency to be included in a CEMP Sub-plan	Section 1.7	This SWMP has been developed in consultation with DPE Water and Wentworth Shire Council. Details of all consultation with DPE Water						

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Condition no.	Requirement	Where addressed	How addressed
	as a result of consultation must be provided with the relevant CEMP Sub-Plan.		and Wentworth Shire Council will be submitted to DPHI along with the submission of this SWMP.
B4	Any of the CEMP Sub-plans may be submitted along with, or subsequent to, the submission of the CEMP but in any event prior to commencing construction.	Section 1.8	This SWMP was submitted as a CEMP sub-plan to DPHI for review and approval by the Planning Secretary prior to commencing Stage 2 of construction.
B5	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, must be implemented for the duration of construction. Where construction of the development is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been approved by the Planning Secretary.	Section 1.8	Stage 2 of construction commenced after the CEMP and all CEMP Sub-plans (including this SWMP), were approved by the Planning Secretary. The CEMP and CEMP Sub-plans (including this SWMP) will be implemented for the duration of construction for Stage 2.
B6	The CEMP and CEMP Sub-plans required under this approval must be prepared by suitably qualified and experienced persons in accordance with relevant guidelines, and include where relevant:	Title page Section 1.6	This SWMP has been prepared by suitably qualified and experienced people, and in accordance with relevant guidelines.
	a) a summary of relevant background or baseline data;	Section 3	The existing environment (including topography, soils, water and contamination) within and adjacent to the disturbance area is outlined in Section 3.
	b) details of:		
	(i) the relevant statutory requirements (including any relevant approval or licence conditions);	Section 2 Appendix E	The relevant legislation, conditions, RMMs and guidelines applicable to soil, water and contamination are outlined in Section 2. Appendix E provides further detail on the relevant legislation applicable to soil, water and contamination.
	(ii) any relevant limits or performance measures and criteria; and	Section 1.5 Section 4.2 of the CEMP - Objectives and targets	The objectives (performance measures) and targets (criteria) relevant to soil, water and contamination management are outlined in Section 1.5 of this SWMP. The CEMP also provides project-wide environmental objectives (performance measures) and targets (criteria).
(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 1.5 Table 1.2 Section 4.2 of the CEMP - Objectives and targets	The performance indicators relevant to soil, water and contamination management are outlined in Section 1.5 and Table 1.2 of this SWMP. The CEMP also provides project-wide performance indicators.	

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Condition no.	Requirement	Where addressed	How addressed
	c) any relevant commitments or recommendations identified in the EIS;	Section 2.3	Relevant soil, water and contamination commitments and recommendations identified in the EIS, known as RMMs, have been outlined in Section 2.3.
	d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 5	Specific soil, water and contamination related safeguards and management measures to address potential impacts associated with Stage 2 of construction and comply with the relevant statutory requirements, limits and performance measures are outlined in Section 5.
	e) a program to monitor and report on the:		
	(i) impacts and environmental performance of the development (including a table summarising all the monitoring and reporting obligations under the conditions of this approval); and	Section 6 Section 6.3 Section 6.4 Section 6.5 Section 6.6	Monitoring, inspections, auditing and reporting is outlined in Sections 6.3 to 6.6 of this SWMP.
	(ii) effectiveness of the management measures set out pursuant to paragraph (d);	Section 6	Monitoring of the effectiveness of management measures is outlined in Section 6.
	f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 6.8 Appendix B Section 8 of the CEMP - Incidents and emergencies Section 10 of the CEMP - Reporting Section 11 of the CEMP - Non-compliance, non-conformance, corrective and preventative action	Section 6.8 outlines a contingency plan in the event that unpredicted impacts are identified. In the event of the discovery of any unexpected contamination, the <i>Unexpected Contamination Finds Procedure</i> (Appendix B) will be followed. The CEMP also provides additional detail regarding incidents and emergencies, reporting, non-compliance, non-conformance, corrective and preventative actions.
	g) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 1.9 Section 6 Section 1.9 of the CEMP - Continuous improvement	Section 6 of this SWMP outlines procedures for compliance management, including details for monitoring, inspections, auditing and reporting. This SWMP will be reviewed at least annually as described in Section 1.9 of this SWMP and Section 1.9 of the CEMP. The Plan-Do-Check-Act model will be applied to the continuous improvement process, also outlined in Section 1.9 of the CEMP.
	h) a protocol for managing and reporting any:	Section 6.7 Section 6.8	Sections 6.7 and 6.8 describe the procedures for emergencies,

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Condition no.	Requirement	Where addressed	How addressed
	(i) incident, non-compliance or exceedance of any impact assessment criterion and performance criterion;	Section 8 of the CEMP - Incidents and emergencies Section 10 of the CEMP - Reporting Section 11 of the CEMP - Non-compliance, non-conformance, corrective and preventative action	incidents and non-compliances, including those related to soil, water and contamination. Additional detail for managing incidents and emergencies, non-compliances and non-conformances is included in the CEMP. The protocol for reporting any incidents, non-compliances or non-conformances is included in Section 10 of the CEMP.
	(ii) complaint; or	Section 1.7.3 Community Communication Strategy	A summary of the complaints management procedure and reporting of complaints is included in Section 1.7.3 of this SWMP. The procedure for managing and reporting any complaints is described in the <i>Enquiries, Complaint and Dispute Resolution Management Procedure</i> provided in the CCS. The procedure includes a complaints management process which outlines how Elecnor will respond to complaints related to the project.
	(iii) failure to comply with other statutory requirements;	Section 6.7 Section 8 of the CEMP - Incidents and emergencies Section 10 of the CEMP - Reporting Section 11 of the CEMP - Non-compliance, non-conformance, corrective and preventative action	In the event of failure to comply with statutory requirements, the procedures summarised in Section 6.7 of this SWMP, and described in more detail in the CEMP, would be followed.
	i) set out the procedures that would be implemented to: (i) keep the local community and relevant agencies informed about the construction and environmental performance of the development;	Section 1.7.2 Community Communication Strategy	The local community and relevant agencies will be kept informed of construction progress and environmental performance through communication tools such as notifications, the project's mobile van and the project website as summarised in Section 1.7.2 of this SWMP. Detailed information regarding project communication is found in the CCS.
	(ii) receive, handle, respond to, and record complaints;	Section 1.7.3 Community Communication Strategy	Section 1.7.3 of this SWMP summarises the complaints management system, which includes a process to manage complaints including receiving,

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Condition no.	Requirement	Where addressed	How addressed
			recording, tracking and responding to complaints within a defined timeframe. The complaints management system is described in detail in the CCS.
	(iii) resolve any disputes that may arise;	Section 1.7.3 Community Communication Strategy Section 7.2 of the CEMP - Complaints management	Section 1.7.3 of this SWMP describes dispute resolution, which is described in detail in the CCS. Wherever possible, complaints will be resolved directly between Elecpor and the stakeholder.
	(iv) respond to any non-compliance;	Section 6.7 Section 10.1 of the CEMP - Reporting non-compliances Section 11 of the CEMP - Non-compliance, non-conformance, corrective and preventative action	Section 6.7 of this SWMP outlines that where a non-compliance has been identified, corrective actions will be developed as required and implemented to address the non-conformance that occurred (as described in more detail in the CEMP). Reporting of non-compliances will be undertaken as described in the CEMP.
	(v) respond to emergencies; and	Section 6.7 Section 8.1 of the CEMP - Emergency preparedness and emergency responses	Emergency management and planning including environmental emergencies related to soil, water and contamination will be undertaken in accordance with the Clough management system and relevant procedures as described in Section 6.7 of this SWMP. Additional detail regarding emergency management is described in the CEMP.
	j) a description of the roles and environmental responsibilities, authority and accountability for all relevant employees, as well as training and awareness; and	Table 5.1 Section 6.1 Section 6.2 Section 4.9 of the CEMP - Roles and responsibilities	Section 6.2 identifies that Elecpor's organisational structure and overall roles and responsibilities are outlined in the CEMP. Specific responsibilities for the implementation of mitigation measures are detailed in Section 5 of this SWMP. Training and awareness for all site personnel is outlined in Section 6.1.
	k) a protocol for periodic review of the CEMP and associated Sub-plans and programs.	Section 1.9 Section 1.10 of the CEMP - Updating the CEMP	This SWMP will be reviewed at least annually in accordance with the CEMP.
	The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	Noted	Noted

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Condition no.	Requirement	Where addressed	How addressed
Water Supply			
D15	<p>The Proponent must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply.</p> <p><i>Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.</i></p>	Section 2.4.2	Discussions with Wentworth Shire Council and private water owners regarding water supply volumes and access options have occurred and will be ongoing throughout the project where required.
Erosion and Sedimentation			
D16	The Proponent must:		
	<p>a) minimise erosion and control sediment generation; and</p> <p>b) ensure all land disturbances have appropriate drainage and erosion and sediment controls designed, installed and maintained in accordance with <i>Managing Urban Stormwater - Soils and Construction Volume 1</i> (Landcom, 2004) and <i>Managing Urban Stormwater - Soils and Construction Volume 2C Unsealed Roads</i> (DECC, 2008);</p>	<p>Section 5.1 Table 5.1 - SW5 and SW7</p> <p>Table 5.1 - SW4 Appendix A</p>	<p>A CPESC will prepare the initial ESCP covering a range of erosion hazards for the different receiving environments across the project, which will be used as a basis for the development of the Progressive Erosion and Sediment Control Plans (PESCPs).</p> <p>The PESCPs will outline controls to be implemented to minimise soil erosion and sedimentation of waters.</p> <p>An <i>Erosion and Sediment Control Strategy</i> (Appendix A) has been prepared in line with the erosion and sediment principles and requirements of the listed guidelines.</p>
Pollution of Waters			
D17	Unless otherwise authorised by an EPL, the Proponent must ensure the development does not cause any water pollution, as defined under Section 120 of the POEO Act.	Table 5.1 - SW3	No pollution to water, as defined under section 120 of the POEO Act, is to occur, unless authorised by an EPL.
D18	The Proponent must:		
	<p>a) ensure that appropriate components of the concrete batching plants and substation are suitably bunded; and</p> <p>b) minimise any spills of hazardous materials or hydrocarbons, and clean up any spills as soon as possible after they occur.</p>	<p>Table 5.1 - SW27</p> <p>Table 5.1 - SW29 Appendix C</p>	<p>Appropriate components of the concrete batching plant, such as the concrete mixing and washout areas, and the oil filled components of the substation, will be suitably bunded.</p> <p>Spill kits will be provided in strategic and accessible locations adjacent to chemical storage areas, relevant work area and refuelling area.</p> <p>If a spill occurs during construction of the project, the Spill Response Procedure will be followed.</p>

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Condition no.	Requirement	Where addressed	How addressed
D19	The Proponent must ensure that any groundwater dewatering activities do not discharge to watercourses.	Table 5.1 - SW35 Appendix D	Dewatering of groundwater will not be discharged directly into watercourses.
Riparian Areas			
D20	The Proponent must ensure:		
	a) all activities on waterfront land are constructed in accordance with the Guidelines for Controlled Activities on Waterfront Land (2012), unless DPIE Water agrees otherwise; and	Table 5.1 - SW21	All activities on waterfront lands will be guided by the principles from the <i>Guidelines for Controlled Activities on Waterfront Land</i> (2012).
	b) the geomorphic condition of the major rivers and distributary channels crossed by the development is not impacted.	Section 3.3.2	The project does not include construction within the main channel of the Murray River, the Great Darling Anabranch and the Darling River (other than stringing activities which occurs in the spatial environment above the main watercourses). Impacts to the geomorphology of these major river systems is considered to be negligible.
Flooding			
D21	The Proponent must ensure that the development:		
	a) does not materially alter the flood storage capacity, flows or characteristics in the development area or off-site; and	Section 3.3.4	Most construction activities occur in areas not prone to flooding and as such would not materially alter the flood storage capacity, flow or characteristics of the local area. Construction activities within flood prone areas may temporarily redistribute flood flows and characteristics. Design and the implementation of appropriate management measures during construction, particularly in advance of a predicted flood, will reduce the impacts of localised flooding.
	b) is designed, constructed and maintained to reduce impacts on surface water, localised flooding and groundwater at the site, unless otherwise agreed by Council.	Section 3.3.4 Table 5.1 - SW8 and SW9	The project will be designed and constructed to minimise impacts on surface water, localised flooding and groundwater.
Acid Sulfate Soils			
D22	The Proponent must ensure that any construction activities in identified areas of acid sulfate soil risk are undertaken in accordance with the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee, 1998).	Section 3.2.2 Table 5.1 - SW11	If acid sulfate soils are encountered during construction, the appropriate management measures will be implemented with guidance from <i>Acid Sulfate Soil Manual</i> (ASSMAC, 1998).
Salinity			

Condition no.	Requirement	Where addressed	How addressed
D23	The Proponent must ensure that any construction activities in identified areas of moderate to high salinity are undertaken in accordance with the <i>Salinity Training Manual</i> (DPI, 2014) and <i>Book 4 Dryland Salinity: Productive use of Saline Land and Water</i> (NSW DECC, 2008).	Table 5.1 - SW12	Where saline soil is confirmed, excavated soils will be managed in accordance with <i>Book 4 Dryland Salinity: Productive use of Saline Land and Water</i> (NSW DECC 2008) and the <i>Salinity Training Manual</i> (DPI, 2004) to manage salinity impacts.
Soil and Water CEMP Sub-Plan			
D24	The Soil and Water CEMP Sub-Plan required under condition B2 must include provisions for:		
	a) ensuring the requirements in conditions D15 to D23 are complied with;	Management of Condition D16 to D23 requirements are outlined in the above rows.	How conditions D15 to D23 are addressed is outlined in the above rows.
	b) managing flood risk during construction;	Section 3.3.4 Section 5.5 <i>Flood Response Plan</i> (45860-HSE-PL-D-0023)	The majority of the construction activities occur in areas not prone to flooding. Areas with flood risk are detailed in Section 3.3.4. Section 5.5 provides a summary of the key points in the <i>Flood Response Plan</i> . Procedures to safely access to and from the site during a flood event is detailed in the <i>Flood Response Plan</i> .
	c) investigating, assessing and managing contaminated land, soils and groundwater in the development area;	Investigating, assessing and managing contaminated land is addressed in Section 3.4 and Table 5.1 - SW13 to SW16. Investigating, assessing and managing soil is addressed in Section 3.2 and Table 5.1 - SW10 to SW12. Investigating, assessing and managing groundwater is addressed in Section 3.3.5 and Table 5.1 - SW17.	There is a moderate potential for contaminants to be present at localised areas within the disturbance area. If any suspected contaminated land, soils and groundwater is discovered during the construction of the project, the <i>Unexpected Contamination Finds Procedure</i> will be followed.
	d) investigating, assessing and managing the potential for asbestos and other hazardous materials in the development area; and	Investigating, assessing and management asbestos and other hazardous material is addressed in Section 3.2.4, 3.4	The EIS indicates that the risk of naturally occurring asbestos being present within project area is low. If any suspected asbestos and/or other hazardous material is discovered during construction,

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Condition no.	Requirement	Where addressed	How addressed								
		and Table 5.1 - SW14 Appendix B	the <i>Unexpected Contamination Finds Procedure</i> will be followed.								
	e) managing any unexpected and / or suspected contaminated land, asbestos and unexploded ordinance excavated, disturbed or otherwise discovered during construction.	Appendix B Table 5.1 - SW14, SW30 and SW31	If any unexpected contaminated land, asbestos and unexploded ordinance is discovered during construction, the <i>Unexpected Contamination Finds Procedure</i> will be followed.								
Rehabilitation											
D54	<p>Within 6 months of the completion of construction, upgrading or decommissioning, unless the Planning Secretary agrees otherwise, the Proponent must rehabilitate the areas where ancillary facilities, accommodation camps and earthwork material sites are located, to the satisfaction of the Planning Secretary. This rehabilitation must comply with the objectives in Table 3.</p> <p>Table 3: Rehabilitation Objectives</p> <table border="1"> <thead> <tr> <th>Features</th> <th>Objectives</th> </tr> </thead> <tbody> <tr> <td>Ancillary facilities, accommodation camps, earthwork material sites, the existing 220 kV transmission line between Buronga substation and the NSW / Victoria border (Line 0X1), and the temporary bypass transmission line between Tower 1 and Tower 19 of existing transmission line 0X1.</td> <td> <ul style="list-style-type: none"> Safe, stable and non-polluting Progressively rehabilitate the site as soon as possible following disturbance To be decommissioned and removed, unless the Planning Secretary agrees otherwise </td> </tr> <tr> <td>Land use</td> <td> <ul style="list-style-type: none"> Restore land capability to pre-existing use </td> </tr> <tr> <td>Community</td> <td> <ul style="list-style-type: none"> Ensure public safety at all times </td> </tr> </tbody> </table>	Features	Objectives	Ancillary facilities, accommodation camps, earthwork material sites, the existing 220 kV transmission line between Buronga substation and the NSW / Victoria border (Line 0X1), and the temporary bypass transmission line between Tower 1 and Tower 19 of existing transmission line 0X1.	<ul style="list-style-type: none"> Safe, stable and non-polluting Progressively rehabilitate the site as soon as possible following disturbance To be decommissioned and removed, unless the Planning Secretary agrees otherwise 	Land use	<ul style="list-style-type: none"> Restore land capability to pre-existing use 	Community	<ul style="list-style-type: none"> Ensure public safety at all times 	Table 5.1 - SW43	Rehabilitation of ancillary facilities and the earthwork material site will be undertaken progressively where feasible or within 6 months of the completion of the construction phase of the project with the aim to provide a safe, stable and non polluting area.
Features	Objectives										
Ancillary facilities, accommodation camps, earthwork material sites, the existing 220 kV transmission line between Buronga substation and the NSW / Victoria border (Line 0X1), and the temporary bypass transmission line between Tower 1 and Tower 19 of existing transmission line 0X1.	<ul style="list-style-type: none"> Safe, stable and non-polluting Progressively rehabilitate the site as soon as possible following disturbance To be decommissioned and removed, unless the Planning Secretary agrees otherwise 										
Land use	<ul style="list-style-type: none"> Restore land capability to pre-existing use 										
Community	<ul style="list-style-type: none"> Ensure public safety at all times 										

2.3 Revised mitigation measures

The revised mitigation measures (RMMs) for the project are defined in Appendix G of the Response to DPIE Request for Information. The RMMs relevant to soil, water and contamination management for the project are presented in Table 2.2 below. The RMMs provided below are extracts from the Response to DPIE Request for Information. A cross reference is also included to indicate where the measure is addressed within this plan or other project management documents.

The management measures that will be implemented for the project are provided in Section 5 of this plan.

Table 2.2 - Revised mitigation measures relevant to soil, water and contamination

Reference	Revised mitigation measures	Application location(s)	Where addressed	How addressed
SCG1	Locations of transmission line structure foundations, and ancillary construction sites will be positioned to avoid disturbance to any known farm dams where practicable.	Transmission line	Table 5.1 – SW22	Transmission line structure foundations and ancillary construction sites will consider the location sites of known farm dams, where practicable, to avoid disturbance.
SCG2	Existing areas of waterlogging and poor drainage will be avoided, where possible, with regard to both access tracks and permanent structures.	Locations mapped as moderate to high-risk salinity	Table 5.1 – SW8	Existing areas prone to waterlogging or poor drainage will be avoided where possible in locations mapped as moderate to high-risk salinity.
SCG3	Construction materials will be selected to withstand high saline soil and groundwater environment (where applicable).	Locations mapped as moderate to high-risk salinity	Table 5.1 – SW2	The interaction between construction materials and high saline soils and the groundwater environment will be considered during detailed design, where applicable.
SCG4	A review of additional geotechnical and hydrogeology data, and any publicly available mapping of high priority groundwater dependent ecosystems (GDEs) as documented in the latest relevant water sharing plan, will be carried out to confirm the groundwater conditions and to: <ul style="list-style-type: none"> determine if any additional mitigation measures are required to limit groundwater inflows, or impacts to GDEs; and confirm no or minimal impact to groundwater sources as per the minimal impact criteria listed within the Aquifer Interference Policy. 	All locations	Section 3.3.5	A review of the relevant water sharing plan for mapped high priority GDEs was undertaken and summarised in Table 3.4. No additional mitigation measures are recommended to limit groundwater inflow or impacts to GDEs.
SCG5	Disturbance to areas of medium risk of contamination will be avoided or minimised where practicable during construction. This includes the position of foundations for transmission line	All locations	Table 5.1 – SW15 Table 3.7	The disturbance to areas identified in Table 3.7 as having a medium risk of contamination, will be avoided or minimised where practicable during detailed design and construction.

Reference	Revised mitigation measures	Application location(s)	Where addressed	How addressed
	<p>structures and ancillary construction sites.</p> <p>Areas of medium risk of contamination that will be disturbed by construction activities will be further investigated including completion of a site inspection. Where considered to be required, a Phase 2 investigation will be completed in accordance with NEPM 2013.</p> <p>Mitigation measures identified through further investigation will be implemented.</p>			
SCG6	<p>To limit the potential for groundwater inflows, the construction methodology for transmission line structure foundations will ensure that excavations will not occur within 40 metres of the Darling River, Great Darling Anabranh or Murray River.</p> <p>Where groundwater may be encountered, the design and construction methodology will be adjusted to minimise groundwater inflows.</p> <p>The depth of groundwater will be confirmed prior to commencement of construction at each relevant transmission line structure locations.</p>	All locations	Table 5.1 - SW20 and SW21	<p>The construction methodology for the transmission line structure foundations within 40m of the Darling River, Great Darling Anabranh or Murray River will consider alternative methodologies to excavations, where feasible, to minimise groundwater inflows.</p> <p>Depth to groundwater will be confirmed at each relevant transmission line structure location during drilling activities.</p>
SCG7	<p>Direct impacts to registered bores GW088454 (nested), GW087531 and GW600452 will be avoided, where possible. If the bores are:</p> <ul style="list-style-type: none"> not required to be removed during construction, then they will be clearly demarcated with a 5x5 metre construction exclusion zone; and are to be removed during construction or unavoidably damaged, then make good provisions will apply in consultation with the registered bore owner. 	Transmission line - Registered bores GW088454 (nested), GW087531 and GW600452	Table 5.1 - SW36	<p>Direct impacts to registered bores GW088454 (nested), GW087531 and GW60045 will be avoided, where possible.</p> <p>Repair or replacement of impacted bore will be undertaken in consultation with the registered owner should the bore need to be removed or is unavoidably damaged.</p>
SCG8	<p>Prior to ground disturbance in areas of potential acid sulfate soil occurrence (e.g. in low lying areas surrounding former or current lakes and river beds), testing will be carried out to determine the presence of actual and/or potential acid sulfate soils. If acid sulfate soils are encountered, they will be managed in accordance with the Acid Sulfate Soil Manual (ASSMAC,</p>	All locations	Table 5.1 - SW11	<p>Prior to ground disturbance in areas of known acid sulfate soil occurrence known, on-site field testing will be carried out to determine the presence of actual and/or potential acid sulfate soils.</p>

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Reference	Revised mitigation measures	Application location(s)	Where addressed	How addressed
	1998) and Transgrid's HSE Guideline.			
SCG9	<p>Prior to ground disturbance, a visual inspection will be undertaken for the presence of saline soils. Areas of known or suspected salinity will be subject to further testing as required.</p> <p>If salinity is confirmed, excavated soils will be managed in accordance with <i>Book 4 Dryland Salinity: Productive use of Saline Land and Water</i> (NSW DECC 2008) and the <i>Salinity Training Manual</i> (DPI, 2014) to manage salinity impacts.</p> <p>Erosion controls will be implemented in accordance with <i>Blue Book</i> (Landcom, 2004).</p>	All locations	Table 5.1 – SW12	<p>A visual inspection would be undertaken for the presence of saline soils prior to ground disturbance.</p> <p>For areas of confirmed salinity, excavated soils will be managed in accordance with <i>Book 4 Dryland Salinity: Productive use of Saline Land and Water</i> (NSW DECC 2008) and the <i>Salinity Training Manual</i> (DPI, 2004).</p>
SCG10	Earthworks and construction activities that result in compaction of soils will be limited where possible in areas within 40 metres of the Darling River, Murray River and Great Darling Anabranh to prevent potential impacts to groundwater.	Transmission line - locations adjacent to the Darling River, Murray River and Great Darling Anabranh	Table 5.1 – SW18	Earthworks that involve compaction will be limited, where feasible, in areas within 40m of Darling River, Murray River and Great Darling Anabranh.
SCG11	<p>A bore condition assessment is to be conducted prior and post construction on GW088454 (nested), GW087531 and GW600452 where required to identify any adverse impact to the bores integrity that may have resulted during construction.</p> <p>If impacts are identified, repair or replacement of the bore will be undertaken in discussion with the registered owner.</p>	Registered bores GW088454 (nested), GW087531 and GW600452	Table 5.1 – SW37	<p>A bore condition assessment to identify the integrity of bore GW087531, GW088454 (nested) and GW600452 will be conducted prior to and post construction.</p> <p>Repair or replacement of impacted bore will be undertaken in consultation with the registered owner should the bore need to be removed or is unavoidably damaged. .</p>
SCG12	Construction materials, spoil and waste will be suitably stored to minimise the potential for soil, groundwater or water quality impacts.	All locations	Table 5.1 – SW9	Long term storage of construction material particularly spoil and waste will be appropriately stored with the aim to minimise the potential for soil, groundwater or quality impacts.
SCG13	The discovery of previously unidentified contaminated material will be managed in accordance with a contamination unexpected finds procedure.	All locations	Table 5.1 – SW13 Appendix B	If any unexpected suspected contaminated land, asbestos and unexploded ordinance is discovered, the Unexpected Contamination Finds Procedure will be followed.
SCG16	A site-specific risk assessment will occur for locations where there is a risk of encountering UXO. The risk assessment will be carried out	Til Til UXO area Oak Plains UXO area	Table 5.1 – SW30	A site-specific risk assessment will occur for locations where there is a risk of encountering UXO.

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Reference	Revised mitigation measures	Application location(s)	Where addressed	How addressed
	prior to any activities that could interact with UXO. This will include field verification to validate the historical assessment of UXO contamination and identify appropriate mitigation practices. The risk assessment will occur with input from an appropriate UXO specialist and will identify if and when an explosives engineer is required during site activities. An unexpected finds procedure will be implemented. The procedure will specify the actions that site personnel must take to minimise the risk to and from any UXO encountered. The management actions identified in the risk assessment will be implemented prior to and during all relevant site activities. All personnel conducting intrusive works within an identified UXO area will be provided with appropriate safety and awareness briefing(s) prior to the participating in the intrusive works.			
HF1	Permanent operational infrastructure and landforms within the transmission line corridor will be designed and implemented/formed to minimise any potential scour and erosion risks associated with surface water runoff.	All locations	Table 5.1 - SW7	Disturbed surfaces in the immediate vicinity of permanent infrastructure will be shaped to minimise scouring and erosion.
HF2	Detailed construction planning will consider flood risk at construction areas. This will include identification of measures that will be implemented to not worsen flood impacts downstream and on other property and infrastructure during construction up to and including the 1% AEP flood event, and review of site layout and staging of construction works to avoid or minimise obstruction of overland flow paths and to limit the extent of flow diversion required. Procedures as detailed in the flood emergency management procedures will be implemented in response to flood events, including the evacuation of personnel.	Transmission line and construction sites within flood prone land	<i>Flood Response Plan (45860-HSE-PL-D-0023)</i>	This revised mitigation measure is addressed through the <i>Flood Response Plan</i> provided in Appendix B of the <i>Traffic and Transport Management Plan</i> .
HF3	A water quality monitoring program will be implemented to establish baseline water quality conditions in the Darling River,	Transmission line - Darling River, Darling Anabranh,	Table 5.1 - SW17 Section 6.3	A water quality monitoring program as described in Section 6.3 will be undertaken for the Darling River, Darling

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Reference	Revised mitigation measures	Application location(s)	Where addressed	How addressed
	<p>Darling Anabranh and Murray River prior to construction, and to observe any changes in water quality that may be attributable to the proposal during construction. The frequency, location and duration of sampling will be detailed in the monitoring program, but will include:</p> <ul style="list-style-type: none"> at least two monitoring locations located downstream and upstream of the proposal on the Darling River, Darling Anabranh and, Murray River; and monitoring for total dissolved solids, total suspended solids, total nitrogen and total phosphorus. <p>Sampling will commence at least 6 months prior to the commencement of construction at each respective location, and then monthly during construction until the surfaces in the vicinity of the waterways that were disturbed by proposal activities are adequately stabilised and no longer pose a significant sedimentation risk to the waterways.</p> <p>The monitoring program will include corrective and preventative actions that will be taken to address any water quality issues caused by the proposal, as indicated by the water quality monitoring results.</p>	and Murray River		<p>Anabranh and Murray River prior to construction at locations adjacent to these watercourses.</p> <p>Water quality monitoring will be undertaken monthly throughout construction until the completion of construction in areas adjacent to the Darling River, Darling Anabranh and Murray River.</p>
HF4	Water supply options and management will be undertaken in accordance with agreements between the construction contractor and Wentworth Shire Council.	All locations	Table 5.1 - SW33 Section 3.3.7	Discussions with Wentworth Shire Council regarding water supply options will be ongoing throughout the project where required.
HF5	<p>Erosion and sediment measures will be implemented in accordance with the principles and requirements in:</p> <ul style="list-style-type: none"> <i>Managing Urban Stormwater - Soils and Construction, Volume 1</i> (Landcom 2004), and <i>Volumes 2A and 2C</i> (NSW Department of Environment, Climate Change and Water 2008), commonly referred to as the 'Blue Book'; <i>Best Practice Erosion and Sediment Control</i> (IESCA - 2008) 	All locations	Table 5.1 - SW4 Appendix A	<p>An <i>Erosion and Sediment Control Strategy</i> has been prepared in line with the erosion and sediment principles and requirements of the listed guidelines. Additionally, a <i>Dewatering Procedure</i> has been prepared and outlines the appropriate methods to discharge the water.</p>

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Reference	Revised mitigation measures	Application location(s)	Where addressed	How addressed
	<ul style="list-style-type: none"> Transgrid's HSE Guideline; and <i>Guidelines for Controlled Activities on Waterfront Land</i> (NRA 2018). <p>Additionally, any water collected from construction areas would be appropriately treated and discharged to avoid any potential contamination.</p>			
HR8	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and applicable guidelines. The capacity of any bunded area shall be at least 130 per cent of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s shall be shown on the site plans.	All locations	Table 5.1 - SW25 and SW26	All chemicals, fuels or other hazardous substances will be stored in a bunded area, with the capacity of the bunding sized at 130 per cent of the largest chemical volume. Locations of bunded areas will be shown on the ESCP and relevant PESCPs.
HR10	Appropriate spill containment equipment will be provided and located at strategic, accessible locations.	All locations	Table 5.1 - SW29	Spill kits will be provided in strategic and accessible locations adjacent to chemical storage area, relevant work area and refuelling area. If spills occur during construction of the project, the Spill Response Procedure will be followed.
LP5	Disturbed areas will be stabilised and appropriately rehabilitated as soon as feasible and reasonable following the completion of construction. This will be carried out in consultation with the relevant landholder.	All locations	Table 5.1 - SW42	Areas disturbed by construction will be stabilised and appropriately rehabilitated to a similar condition prior to construction, where feasible and reasonable.

2.4 Licences and permits

2.4.1 Environment protection licence

Subject to the outcomes of geotechnical investigations, crushing and screening may be required. If necessary, an Environment Protection Licence (EPL) will be obtained in accordance with POEO Act for the project for the scheduled activity of crushing and screening. The EPL will detail conditions which must be complied with when undertaking the crushing and screening activities.

2.4.2 Water licensing and approvals

Water use approval

Under Section 89 of the WM Act, water use approval grants the right for its holder to use water for a particular purpose at a particular location. However, under section 5.23 of the EP&A Act, the project is exempt from requiring a water use approval.

Water access licence

Section 60A of the WM Act requires that a water access licence (WAL) to be obtained in order to extract water from a water source, such as a river, lake or surface water runoff, or an aquifer, in water-sharing plan areas. It is an offence to take water from a water source without a water access licence.

The project will purchase water from the existing water market within the region or from local council facilities under existing WAL arrangements. Water will be purchased under standard supply/purchase agreement with various water suppliers/landholders who holds existing WAL agreements. As part of the ongoing discussions with potential water suppliers, water supply locations would be confirmed during final negotiations with the water supplier. Ongoing consultation with water suppliers may also identify other water sources that may be used for the construction of the proposal which would be secured under standard supply/purchase agreement from existing facilities. Proposed water supply points are listed in Section 3.3.7.

As part of the ongoing discussions, the project will ensure that the existing WAL arrangements have adequate water entitlement and allocation such that there is sufficient water for the applicable stages of construction. Where necessary the amount of water used will be allocated depending on the project activity at the time, or additional water supply will be sought in consultation with Transgrid.

Elecnor will request for a copy of the existing WAL agreements held by the water suppliers/landholders. The details of the licences will be checked to confirm the water to be purchased is regulated and eligible for project use. Copies of licences will be saved on to the project document management and storage system.

Water management works approval

As all water will be purchased under existing licence agreements with the various water suppliers/landholders, water will be extracted from existing water supply points. The water supply point will be identified once ongoing discussion with potential water suppliers are finalised. It is anticipated that a series of existing water supply points will provide connection points to existing water supply pipelines. Proposed water supply points are listed in Section 3.3.7.

No new extraction infrastructure is proposed for the project. However installation of connection points such as piped connections or standpipes to the existing water supply points are required for certain water supply points. Further details on installation or connection to water supply points are provided in Section 3.3.7.

It should also be noted that under section 5.23 of the EP&A Act the project is exempt from requiring a water management works approval.

2.5 Guidelines

The guidelines, specifications and policy documents reference in this plan includes:

- *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom, 4th Edition March 2004) and Volume 2D Main Roads Construction (DECC, 2008) - commonly referred to as the 'Blue Book';
- *Managing Urban Stormwater - Soils and Construction, Volumes 2A and 2C* (NSW Department of Environment, Climate Change and Water 2008) - commonly referred to as the 'Blue Book'; and
- *Best Practice Erosion and Sediment Control* (IESCA, 2008).

3 Existing environment

This section summarises the existing environmental setting relating to aspects of soil, water and existing contamination within and adjacent to the project. The information below is from Chapter 15 and 20 of the EIS, Technical Paper 6 (Hydrology, flooding and water quality), Technical Paper 12 (Phase 1 contamination assessment) and the Amendment Report.

3.1 Topography

The topography of the project is largely flat with gentle slopes towards the existing major watercourses including the Darling River, Darling Anabranh and the Murray River. The elevation across the project area ranges from approximately 35m to 80m Australian Height Datum (AHD).

3.2 Soils

3.2.1 Geology and soils

The geology underlying the project area includes the Woorinen Formation, Blanchetown Clay, Yamba Formation and Coonambidgal Formation, collectively from 10m to approximately 30m below ground level. The Shepparton Formation may exist within the eastern portion of the groundwater study area.

These formations include aeolian and alluvial sediments in areas close to watercourses. Alluvial soils extend across the entirety of the large flood plains associated with major watercourses within the project area. Deeper geological formations underlying the project area include:

- Loxton-Parilla Sands, underlying the above formations, with anticipated thickness of 40m to 60m;
- Bookpurnong Beds, possible Gera Clay and Winnambool Formation of 10m to 40m thickness;
- the Murray Group with considerable thickness potentially in excess of 100m; and
- the Ettrick Formation and Renmark group are likely to occur at depth and to a considerable thickness.

There are no published soil landscape maps for the project area, however neighbouring published maps indicates soil type is predominantly Quaternary-aged sediments deposited in alluvial flood plains and dunes, which occur along the length of the project area. The predominant soil types include sand, clay or a mixture of the two. Existing geotechnical investigations completed for the project identified soils associated with the Woorinen Formation typically comprise large proportions of very stiff to hard calcareous clays and dense to very dense sands. Soils with high erodibility were identified in samples collected.

3.2.2 Acid sulfate soils

Acid sulfate soils (ASS) and potential acid sulfate soils (PASS) are naturally occurring soils containing iron sulfides. The EIS concluded there is a low risk of acid sulfate soils occurring across the project corridor, with the potential exception of low lying areas surrounding lakes and river beds, which are mapped as potentially containing acid sulfate soils. Refer to Figure 3.1 below.

Hence, ASS or PASS impacts are generally not expected during Stage 2 of the project except for low lying areas surrounding lakes and river beds. Areas of PASS occurrence (i.e. low lying areas surrounding lakes and river beds) will be tested to determine the presence of ASS prior to ground disturbance. Refer to Table 5.1 for further details.

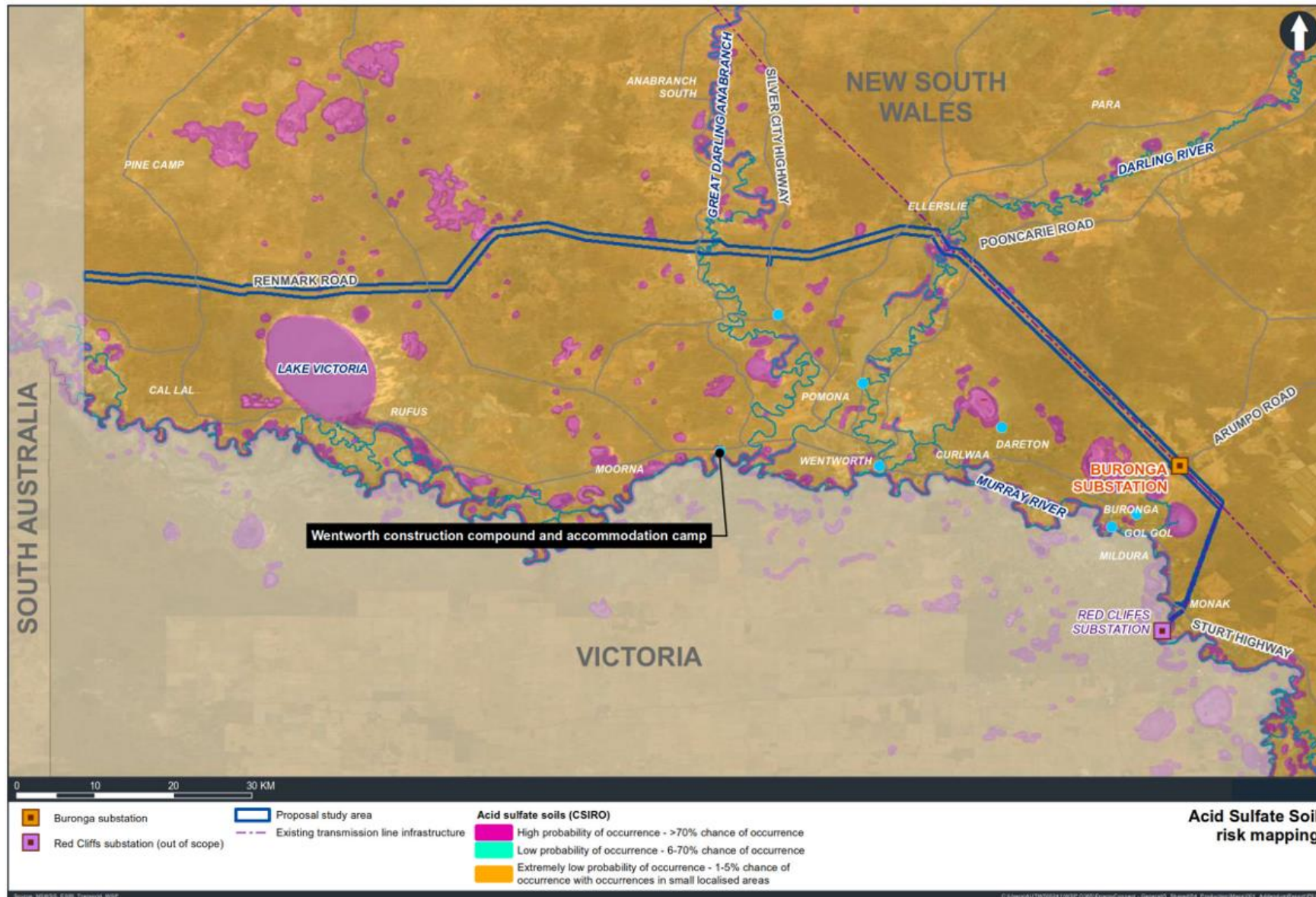


Figure 3.1 - Acid sulfate soil risk mapping

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3.2.3 Soil salinity

Dryland salinity is the accumulation of salts in the soil surface and groundwater in non-irrigated areas. The majority of the project corridor is mapped as having low salinity potential, with no mapped areas of high salinity soils.

Soil salinity risk mapping included in Technical Paper 12 (Phase 1 contamination assessment) in the EIS did not indicate dryland salinity or saline land along the project corridor. Technical Paper 12 (Phase 1 contamination assessment), however, goes on to indicate "Geotechnical testing has indicated that while saline soils would likely be encountered within the proposal study area, this is not likely to present a significant contamination risk".

Prior to the commencement of ground disturbance associated with the Stage 2 of the project, a visual assessment will occur in the areas that will be affected to confirm the presence of saline soils in areas. The visual inspection would examine known characteristics of salt affected soils, including a white crust on soil surface, black powdery residue on soil surface, grey-colored soil, the presence of water-stressed plants (eg leaf tip burn) or the presence of salt tolerant plants. Refer to Table 5.1 for further details.

3.2.4 Naturally occurring asbestos

Naturally occurring asbestos refers to the mineral component found as a natural component of soils or rocks. The EIS concluded there are no mapped areas indicating naturally occurring asbestos minerals to be present within the project area. Therefore, no naturally occurring asbestos impacts are expected during Stage 2 of the project.

3.3 Water

3.3.1 Rainfall

Rainfall data were obtained from the Bureau of Meteorology (BoM). The BoM collects data from three automatic weather stations (AWS) near the project to determine the relative long term climate statistics. The three AWS are as follows:

- Mildura Airport ASW - located 21km to the southwest of Buronga substation and 16km to the west of the closest transmission line;
- Lake Victoria Storage AWS - located approximately 15km to the south of the closest transmission line; and
- Wentworth Post Office AWS - located 24km to the south west of the closest transmission line. However, as most of the climatic data has not been collected at the Wentworth Post Office AWS since 1967 except for rainfall, the climate statistics data from this station were not considered in the EIS.

As the land is relatively flat surrounding the project, the climatic data at Mildura Airport AWS and Lake Victoria Storage AWS were selected in the EIS as the representative climate of the project. The climate statistics data considered in the EIS for Mildura Airport AWS is from 1946 to 2020, while Lake Victoria Storage AWS is from 1922 to 2020. Noting that the mean 3pm condition data was not collected at Lake Victoria Storage AWS.

Table 3.1 provides a summary of the climate statistics for Mildura Airport AWS from 1946 to 2020.

Table 3.1 - Summary of climate statistics for Mildura Airport AWS

Month	Temperature (1946 to 2020)		Rainfall (1946 to 2020)		Mean 9am condition (1946 to 2020)			Mean 3pm condition (1946 to 2020)		
	Max (°C)	Min (°C)	Mean rainfall (mm)	Mean days of rain	Temp. (°C)	Relative humidity (%)	Wind speed (km/h)	Temp. (°C)	Relative humidity (%)	Wind speed (km/h)
Jan	32.5	16.8	21.9	2.5	21.7	52	15.7	30.5	27	16.9
Feb	31.8	16.5	21.5	2.1	20.9	56	14.5	29.9	30	16
Mar	28.5	13.9	19.4	2.4	18.5	61	13.4	27.1	33	15.6
Apr	23.7	10.2	19.5	2.8	14.9	68	11.6	22.7	40	15.4
May	19.1	7.4	25.3	4.1	10.8	81	9.5	18.3	50	15.1
Jun	16	5.2	22	4.6	7.8	88	9.4	15.3	56	15.6
Jul	15.5	4.4	24.7	5.1	7.1	86	10.4	14.6	54	17.3
Aug	17.3	5.2	25.2	5.1	9.1	78	12.8	16.4	47	19.3
Sep	20.6	7.3	26.6	4.3	12.7	67	15.7	19.4	40	19.7
Oct	24.2	9.8	28.2	4.4	16.1	57	17.4	22.6	34	19.7
Nov	27.7	12.6	25.9	3.6	18.4	53	16.6	25.9	30	18.4
Dec	30.4	15	25.5	2.8	20.5	50	16	28.4	27	18.1
Annual average	23.9	10.4	285.8 *	43.8 *	14.9	67	13.6	22.6	39	17.3

Note: * - annual total

Table 3.2 - Summary of climate statistics for Lake Victoria Storage AWS

Month	Temperature (1922 to 2020)		Rainfall (1922 to 2020)		Mean 9am condition (1922 to 2010)		
	Max (°C)	Min (°C)	Mean rainfall (mm)	Mean days of rain	Temp. (°C)	Relative humidity (%)	Wind speed (km/h)
Jan	32.3	16.6	19.6	2.3	21.6	58	10.5
Feb	31.7	16.5	18.7	2.1	21.1	61	9.3
Mar	28.6	14.1	14.6	2	18.7	65	8.8
Apr	23.6	10.5	18.8	2.9	15.2	71	7.8
May	19.1	7.8	23.5	4.3	11.6	80	6.6
Jun	15.7	5.7	22.6	4.6	8.8	86	7.1
Jul	15.4	5.3	23.8	5.4	8.4	84	8.5
Aug	17.2	6.1	23.5	5.2	9.9	78	9.7
Sep	20.5	8.1	24.2	4.2	13	71	10.8
Oct	23.9	10.6	26.1	4	16	65	11.4
Nov	27.4	13.2	23.4	3.4	18.5	61	10.4
Dec	30.5	15.3	20.5	2.7	20.7	58	10.7
Annual average	23.8	10.8	259.1 *	43.1 *	15.3	70	9.3

Note: * - annual total

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In addition, Technical Paper 6 (Hydrology, flooding and water quality) obtained data from Irymple weather station (station number: 076015), located approximately 16km south of Buronga substation.

Irymple weather station recorded an average annual rainfall of 271mm between 1908–2020. The data showed rainfall occurs fairly evenly across the year, with higher peak rainfall values from November to April.

Due to the low average rainfall values and relatively low gradient of the topography, limited concentrated surface water run-off is expected to be generated from the catchment.

3.3.2 Waterbodies and watercourses

There are three major rivers that intersects the project area. The major river systems are the Murray River, the Great Darling Anabranch, Darling River (also known as the Barka by the Barkandji people), and associated lakes. Surface water also discharges to the Murray River via Lake Victoria at the western extent of the project area. Lake Victoria is located about 3km south of the project area. Refer to Figure 3.2.

Other watercourses intersecting the project area are limited to unnamed ephemeral creeks and drainage lines. Generally impacts to these unnamed ephemeral creeks and drainage lines is considered to be very low to negligible.

As the project does not include construction within the main channel of the Murray River, the Great Darling Anabranch and the Darling River (other than stringing activities which occurs in the spatial environment above the main watercourses), impacts to the geomorphology of these major river systems is considered to be negligible. Some impacts to riparian environments and floodplains are expected, in association with the construction of towers in these areas, however the works will be managed through the implementation of erosion and sediment controls to reduce erosion and sedimentation risks to nearby waterways. Works will not be undertaken within the floodplains of the three major river systems during periods of flooding, where flooding would impact the construction area. These measures are detailed within Table 5.1.

3.3.3 Water quality

Water quality within the water catchment is known to be impacted by existing land uses, particularly agricultural activities. Surface water run-off from agricultural areas is commonly identified as a diffuse source of high levels of nutrients, with this run-off being captured in major watercourses resulting in degradation of water quality.

The existing water quality for the nearby Murray-Darling Basin has been monitored and assessed by a range of external management plans and other documents. The State of the Catchment (OEH, 2010), and National Water Quality Assessment (Sinclair Knight Merz, 2011) identified that levels of phosphorus and turbidity often exceeded the trigger values provided in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC and ARMCANZ, 2000).

The EIS concluded that the existing water quality within the project area predominately exceeds the water quality trigger values outlined in the *Basin Plan Annual Report 2018-2019* (MDBA, 2020) for nutrients (nitrogen and phosphorus), pH, turbidity and dissolved oxygen. It should also be noted that no background water quality monitoring was carried out as part of the EIS assessment. As such, the EIS has not identified the water quality levels specifically within the disturbance area for Stage 2 of the project.

3.3.4 Flood prone land

The historical flood patterns of the whole project area are highly variable due to the semi-arid climate, sporadic rainfall, drought events and the general flat topography. Flooding events are

focused around the three major river systems, the Murray River, the Great Darling Anabranch and Darling River.

Flood data for the Murray River, including flows within Lake Victoria are largely historic due to much of the flow being regulated, thus significant flooding depth is not anticipated for the Murray River. Flood modelling estimated a flood extent for the 1% annual exceedance probability (AEP) event up to 4km wide at the Darling Anabranch and 18km wide at the Darling River. During floods, depths in the main river channels were estimated to be up to 6m and up to 2m across the floodplains for the project area.

Wentworth construction compound is located within the flood prone land to the north of the Murray River as identified by the *Wentworth Local Environmental Plan 2011* (Wentworth LEP). Renmark Road, which is the access road for the site, is also mapped by the Wentworth LEP as being flood affected.

Most construction activities occur in areas not prone to flooding and as such would not alter the flood storage capacity, flow or characteristics of the local area. Activities such as the construction of access tracks would require limited diversion of surface water runoff for temporary access tracks, and may result in new flow paths forming. However, any impacts will be limited to periods of flooding, which have a low likelihood of occurring during construction.

Construction activities within flood prone areas and floodplains may temporarily redistribute flood flows and may alter localised flood characteristics, particularly near tower footings. The design of transmission towers within floodprone areas will be accordance with relevant Transgrid design guidelines and standards. Measures to reduce localised scouring around the tower footings are being considered, and would likely consist of a geofabric and rock apron embedded in the soil around the footings. The implementation of the appropriate management measures during construction, particularly in advance to a predicted flood, will reduce the impacts of localised flooding. Refer to Table 5.1.

No impacts to floodplain storage areas are anticipated during construction of the proposal. Overall, the tower structures are open, enabling floodwaters to flow through, under and around the structures during flood conditions, and would not materially alter the flood storage capacity, flow paths or flood characteristics of the surrounding floodplain. Works within the floodplains of the three major river systems will not be undertaken during periods of flooding, where flooding would impact the construction area.

A *Flood Response Plan* (45860-HSE-PL-D-0023) has been prepared to manage flood risk and provides details of the procedures and options for safe access to and from the site in the event of a flood event.

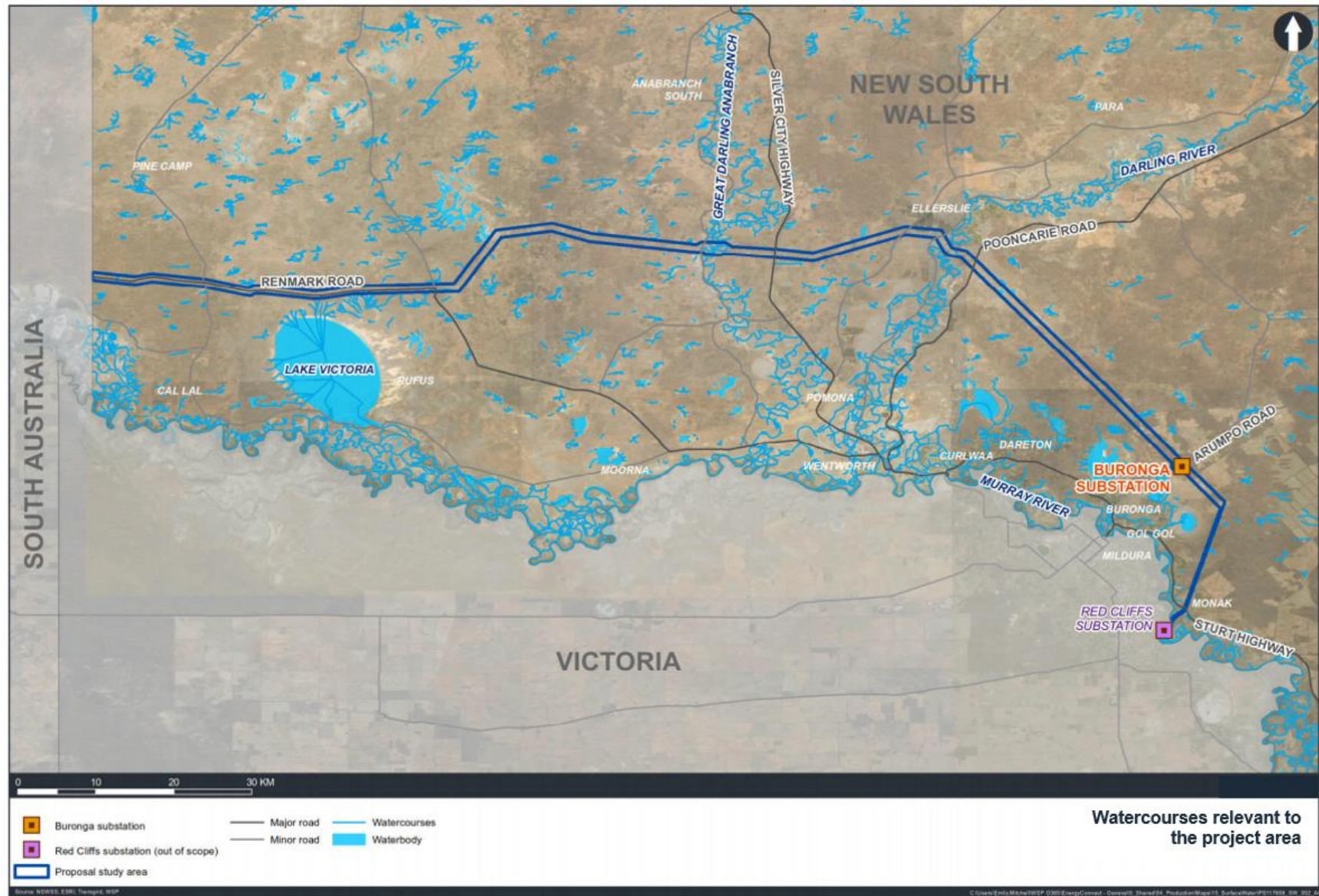


Figure 3.2 - Major watercourses

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3.3.5 Groundwater

The local groundwater levels vary across the wider project area due to influences from surface water features, climatic conditions and localised geological controls, such as topography and the presence of perched shallow aquitards.

From previous geotechnical investigations conducted for EnergyConnect (NSW - Western Section) the EIS concluded that groundwater levels generally range from 2.8m to 12.5m below ground level. This water level is inferred to be associated with upper aquifers, including:

- unconfined perched aquifers; and
- unconfined alluvial aquifers, within a few kilometres of major surface water bodies.

The EIS identified seven registered groundwater bores in the vicinity of the Darling River, Great Darling Anabranh and Murray River which measured groundwater within 5m below ground levels.

The anticipated groundwater depth across the project area is provided in Table 3.3.

Table 3.3 - Anticipated groundwater depth

Location	Groundwater depth (meters below ground surface)	Details
Across majority of the project area	20 to 30m	Groundwater is anticipated to be between 20m to 30m below ground level and associated with the Loxton-Parilla Sands aquifer.
Near Lake Victoria	< 2m to 15m	<ul style="list-style-type: none"> • Shallow groundwater (less than 2m below ground level) is anticipated approximately 1.25km to the northwest, up to 7.5km to the east and 5km to the south and south east from the top of bank due to low elevations. • To the north, within the project area, groundwater is generally greater than 15m below ground level.
Near Great Darling Anabranh	2.5m to 10m	<ul style="list-style-type: none"> • Groundwater is approximately 2.5m to 5m below ground level within 500m of the Great Darling Anabranh. • Generally 5m to 10m below the ground surface within its floodplain which is up to 1.2km away from the river.
Near Darling River	Within 5m depth	<ul style="list-style-type: none"> • Groundwater is generally anticipated to be within 5m below ground level in areas within 500m of the Darling River floodplain. • Groundwater is generally deeper than 5m below ground level within the Darling River floodplain.
Near Murray River	2.5m to 5m	Groundwater is approximately 2.5 to 5 metres below ground level within the Murray River floodplain and shallower groundwater levels may occur at closer distances to the river.

Groundwater-dependent ecosystems (GDEs) are those that need access to groundwater to meet all or some of the water requirements necessary to maintain their plant and animal communities and ecological processes. A review of the high priority GDEs as document in the latest relevant water sharing plans was undertaken, with the results of the high priority GDEs locations summarised in Table 3.4 below.

Table 3.4 - Location of high priority GDEs within the project

Water sharing plan	Location of high priority GDEs within the project
Darling Alluvial Groundwater Sources 2020	Darling River
NSW Murray Darling Basin Porous Rock Groundwater Sources Order 2020	Great Darling Anabranch, Darling River, Murray River, Lake Victoria and other scattered areas along the Great Darling Anabranch and Murray River.

3.3.6 Registered groundwater bores

Technical Paper 13 (Groundwater impact assessment) identified 53 registered bores under the BoM’s National Groundwater Information System. However, only three registered bores are within the project disturbance area. These three bores are subjected to revised mitigation measure SCG11 within the Response to DPIE Request for Information. The bore ID and location are provided in Table 3.5 below.

Table 3.5 - Registered groundwater bores

Bore ID	Type	Location
GW600452	Monitoring bore	Located approximately 500m south of Buronga Substation, on the south side of Arumpo Road, Wentworth.
GW087531	Monitoring bore	Located within the transmission line corridor, approximately 2.5km east of the Darling River.
GW088454	Unknown purpose	Located within the transmission line corridor, north of Lake Victoria. It should be noted that GW088454 is listed as a nested bore and may exist as a single bore with a multiscreen set up or as two individual bores in proximity.

As identified within the Amendment Report, there are four registered groundwater bores within 3km of Wentworth construction compound and accommodation camp, with the closest bore located 1km west. These bores are not subjected to the revised mitigation measure SCG11.

3.3.7 Water supply points

A series of water supply points have been identified in the EIS as suitable connection points to existing water supply pipelines. The water supply points nominated for the project are provided in Table 3.6 and Figure 3.5 below. No new extraction infrastructure from existing watercourses are being proposed as part of the project. Water will be purchased under licensing agreements with the various water suppliers/landholders as required. These agreements are part of ongoing discussions and final locations will be determined during final negotiations. Additional water supply points may also be identified as the detailed design stage is progressed in order to reduce the distance to, and the number of vehicle movements associated with water supply.

Table 3.6 - Water supply points

Location	Type	Description
Alcheringa Road, Buronga	Non-potable	<p>This site was proposed for use as part of Stage 1.</p> <p>This site would be located at the point of the existing Buronga re-lift pump station operated by Western Murray Irrigation pipeline. The works would include installation of a new standpipe and connection to the existing Western Murray Irrigation pipeline. Refer to Figure 3.3. The proposed alteration includes:</p> <ul style="list-style-type: none"> • upgrade of the existing air valve with a concentric reducer; • installation of connection pipeworks with associated valve and fitting at the supply end; • installation of a mechanical meter reader; and • installation of two steel support poles with concrete footings. <p>The area is currently not utilised (road reserve/verge) adjacent to Alcheringa Road. It is estimated that, at peak construction, the site would accommodate up to around 20 loads per day (indicatively using between 15,000 and 40,000L water trucks).</p>
Modica Crescent, Buronga	Potable	<p>This site was proposed for use as part of Stage 1.</p> <p>A metered hydrant standpipe will be connected to the hydrant. No permanent works are required for this water supply point.</p>
Fletchers Lake Drive, Dareton	Non-potable	<p>The works would include installation of a new standpipe and connection to the existing Western Murray Irrigation pipeline. Refer to Figure 3.4. The proposed alteration includes:</p> <ul style="list-style-type: none"> • installation of a new connection on the existing pipeline; • installation of connection pipeworks with associated valve and fitting at the supply end; • installation of a mechanical meter reader; and • installation of two steel support poles with concrete footings. <p>The area is currently not utilised (road reserve/verge) adjacent to Fletchers Lake Drive. It is estimated that, at peak construction, the site would accommodate up to around 20 loads per day (indicatively using between 15,000 and 40,000L water trucks).</p>
Beverly Street, Wentworth	Potable	<p>The site currently includes an access road to an existing overhead fill point along Beverly Street, Wentworth.</p> <p>No new infrastructure would be required for access to this water supply point.</p> <p>It is estimated that, at peak construction, the site would accommodate up to around two loads per day (indicatively using between 15,000 and 40,000L water trucks).</p>
690 Pomona Road, Pomona / Oxley Drive, Pomona	Non-potable	<p>The site currently includes an access road to an existing water pump out point within the property of 690 Pomona Road, Pomona.</p> <p>No new infrastructure would be required to allow for access to this water supply point.</p> <p>It is estimated that, at peak construction, the site would accommodate up to around four to five loads per day (indicatively using up to 25,000L water trucks).</p>

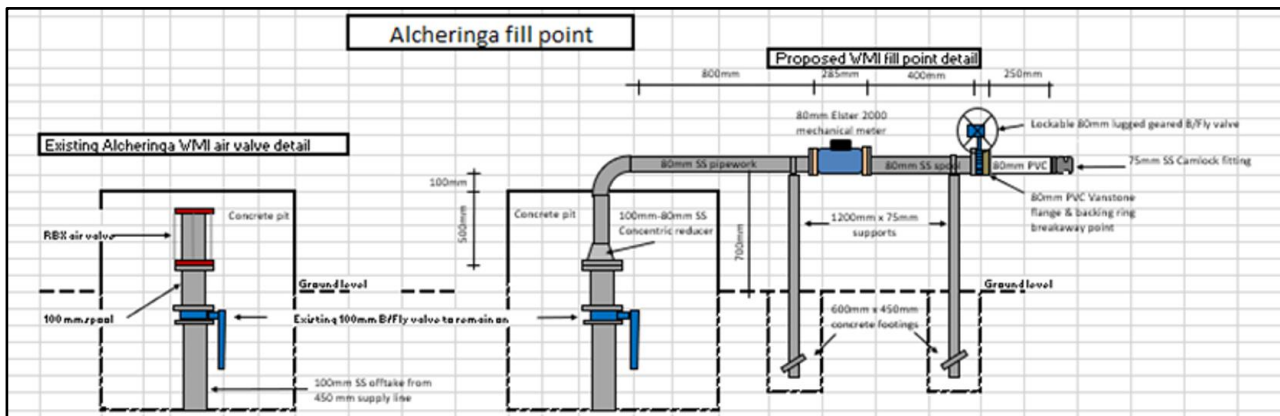


Figure 3.3 - Indicative schematic diagram of the alteration works at Alcheringa Drive, Buronga water supply point

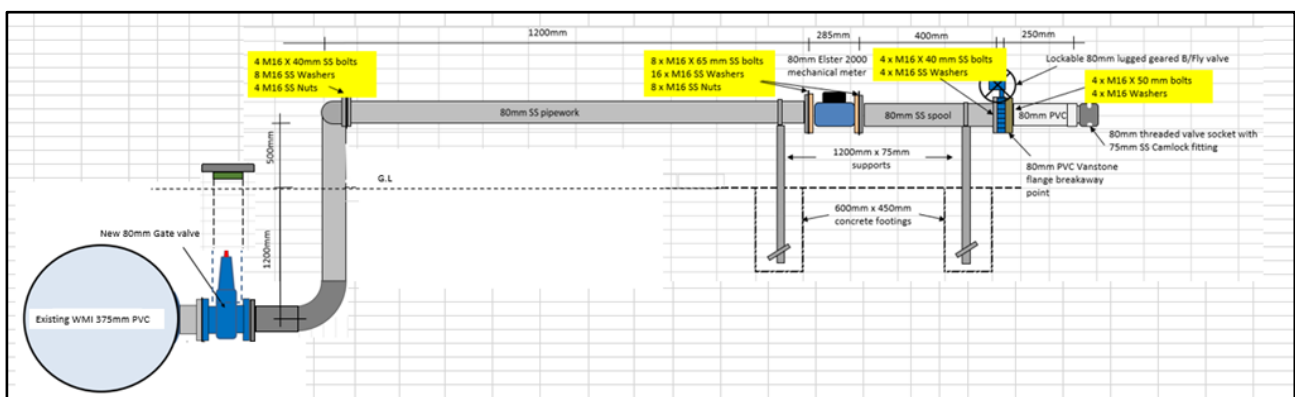


Figure 3.4 - Indicative schematic diagram of the alteration works at Fletchers Lake Road, Dareton water supply point

The water supply points situated at Alcheringa Road, Buronga and Fletchers Lake Drive, Dareton will require minor civil works to facilitate appropriate access to the water supply point from the existing road infrastructure. The civil works will consist of minor clearing (where required), earthworks, drainage, installation of gravel access, and installation of traffic signs.

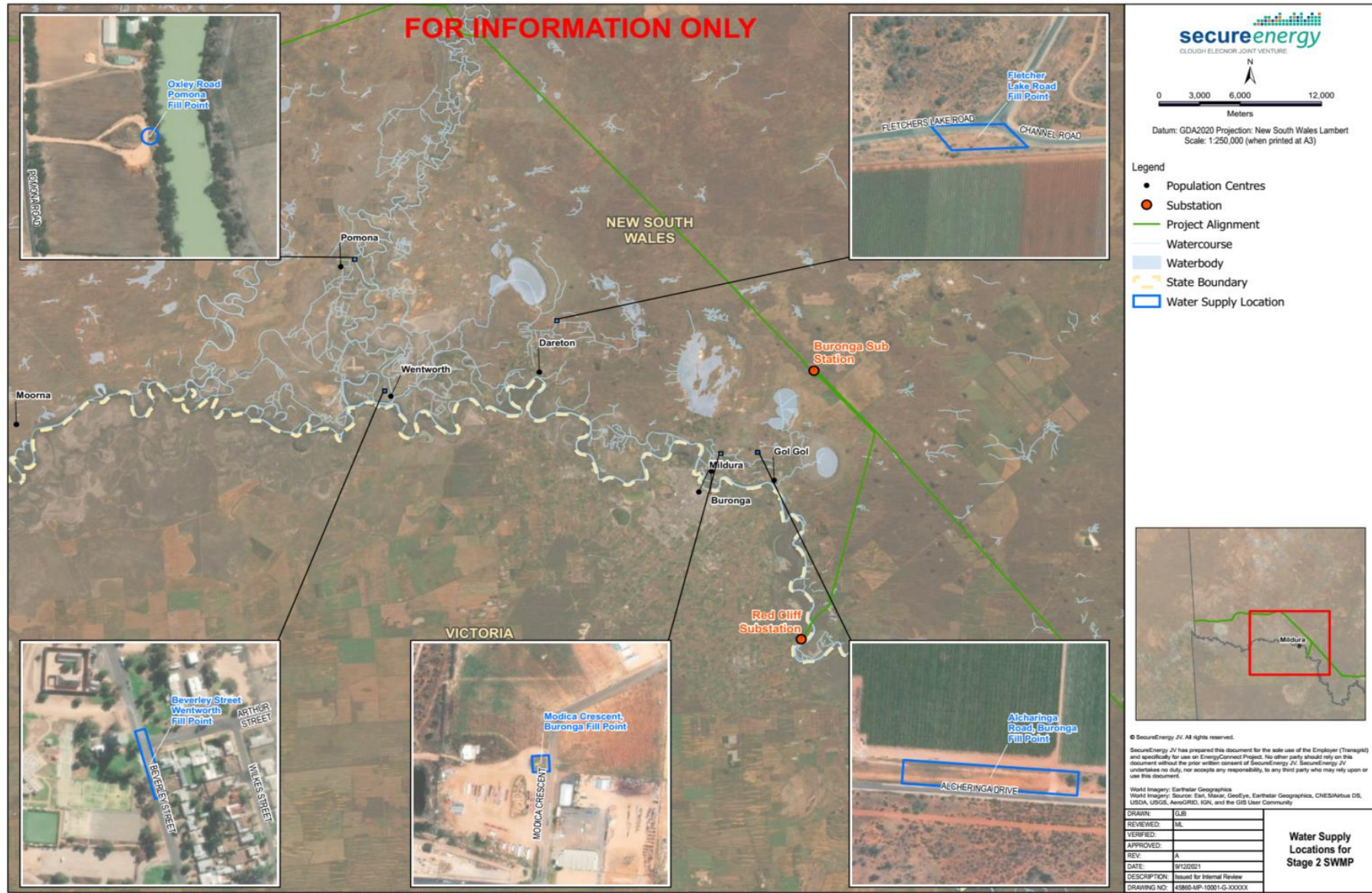


Figure 3.5 - Water supply points

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3.4 Contamination

3.4.1 Site history

A desktop assessment was undertaken as part of the EIS. The majority of the land within the project corridor is agricultural land with no significant development and sparsely intersected by infrastructure such as roads and electrical easements.

A search of the NSW EPA contaminated land database was undertaken in July 2020 as part of the desktop assessment. No records were identified within the NSW EPA database for the project corridor.

The EIS concluded there was no evidence suggesting gross contamination in the soils and groundwater across the project corridor. Whilst areas known to be contaminated have not been identified, the EIS has reviewed previous investigations and historical aerial photographs, and have identified several areas within the project corridor where there is the potential to encounter contamination during construction. These areas are outlined in Table 3.7 and Figure 3.6.

The Amendment Report described a similar outcome for the Wentworth construction compound and accommodation camp site. It was identified that the area is generally undisturbed with minimal areas of contamination concern identified.

The Response to DPIE Request for Information identified asbestos containing paint on some of the older existing transmission towers. The paint was only applied to the transmission tower legs by hand and only as high as a person can reach. The paint has a very small percentage of asbestos fibres. Asbestos containing paint was identified on the legs of 30 transmission towers from the existing Buronga to Red Cliffs line, which includes the first 26 towers in NSW heading north from the Murray River. These towers would be decommissioned as part of the project.

Asbestos containing paint was also identified on the legs of the first 31 transmission towers on the existing Buronga to Broken Hill line, heading northwest from the Buronga Substation. While the new transmission line would be constructed adjacent to this existing line, the existing affected towers would not be affected as part of the project. The remediation of these 31 towers would be undertaken as part of a separate Transgrid program and is not part of the scope of this project.

Further assessment will be undertaken for areas that will be disturbed through construction activities and identified as medium risk evaluation. Refer to Table 5.1 for further details.

Table 3.7 - Area of potential contamination

Area of potential contamination	Potential contamination source	Potential contamination	Potential for encountering contamination	Preliminary risk evaluation
Buronga substation	Spills from maintenance activities on-site, leaks of transformer oils.	Potential contaminants including hydrocarbons, poly chlorinated biphenyls (PCBs), benzene, toluene, ethylbenzene, xylene and naphthalene (collectively referred to as BTEXN).	Medium potential for contaminants to be present Low potential for groundwater contamination	Low
Ellerslie substation (off Pooncarie Road)	Spills from maintenance activities on-site, leaks of transformer oils.	Potential contaminants including hydrocarbons and poly chlorinated biphenyls (PCBs).	Medium potential for contaminants to be present Low potential for groundwater contamination	Low
Existing transmission line infrastructure	Spills from maintenance activities on-site.	Potential contaminants including hydrocarbons.	Low potential for contaminants to be present Low potential for groundwater contamination	Low
Built-up areas and residences	Uncontrolled filling and historical buildings and other structures.	Potential contaminants including hydrocarbons, BTEX, pesticides, heavy metals and asbestos.	Low potential for contaminants to be present Low potential for groundwater contamination	Low
Cleared improved agricultural land (including cropping and irrigated land)	Chemical spraying, use of heavy machinery.	Potential contaminants including pesticides, and heavy metals.	Medium potential for agricultural contaminants to be present in soil Low likelihood for groundwater contamination	Medium risk for soil Low risk for groundwater
Farm dams	Uncontrolled filling.	Potential contaminants including hydrocarbons, pesticides, heavy metals and asbestos.	Medium potential for contaminant build-up within the dam sediments; however, it is unlikely that the dam sediments or water would be disturbed during construction	Low
Potential quarry	Areas of potential contaminated sediment build-up.	Potential contaminants including hydrocarbons, pesticides, heavy metals and asbestos.	Low potential for contaminants to be present Low potential for groundwater contamination	Medium risk for soil Low - medium risk for groundwater
26 transmission towers along the existing Buronga to Red Cliffs transmission line	Asbestos containing paint	Asbestos fibres	Highly likely. Affected towers will be decommissioned as part of the project.	Affected towers will be decommissioned as part of the project.

3.4.2 Unexploded Ordnance

The Oak Plains Unexploded Ordnance (UXO) area is located to the south east of Arumpo Road and the existing Buronga substation where there is a substantial occurrence of UXO reported. The existing 220kV transmission line currently passes through the Oak Plains UXO area. The Oak Plains UXO area, in relation to the transmission line corridor, is shown in Figure 3.7.

The project area also crosses the Til Til (NSW) UXO area east of Pooncarie Road in which there is a slight occurrence of UXO reported.

River Drive, Buronga which is one of the possible water supply points, is within 300m of the Sunset Country 2 UXO area which has been given a slight occurrence rating. This site was used for Defence training. Refer to Table 5.1 for further details.

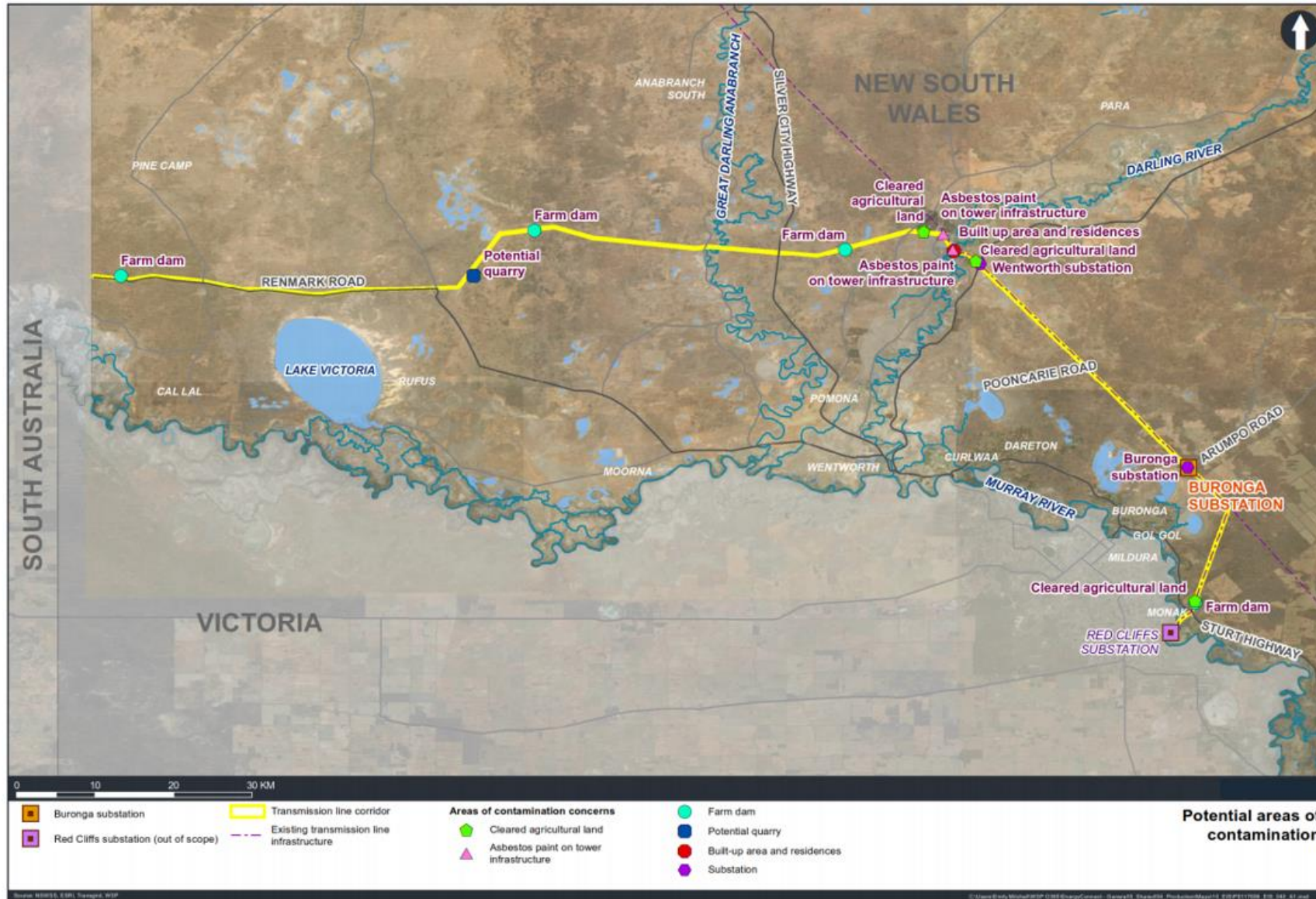


Figure 3.6 - Area of potential contamination

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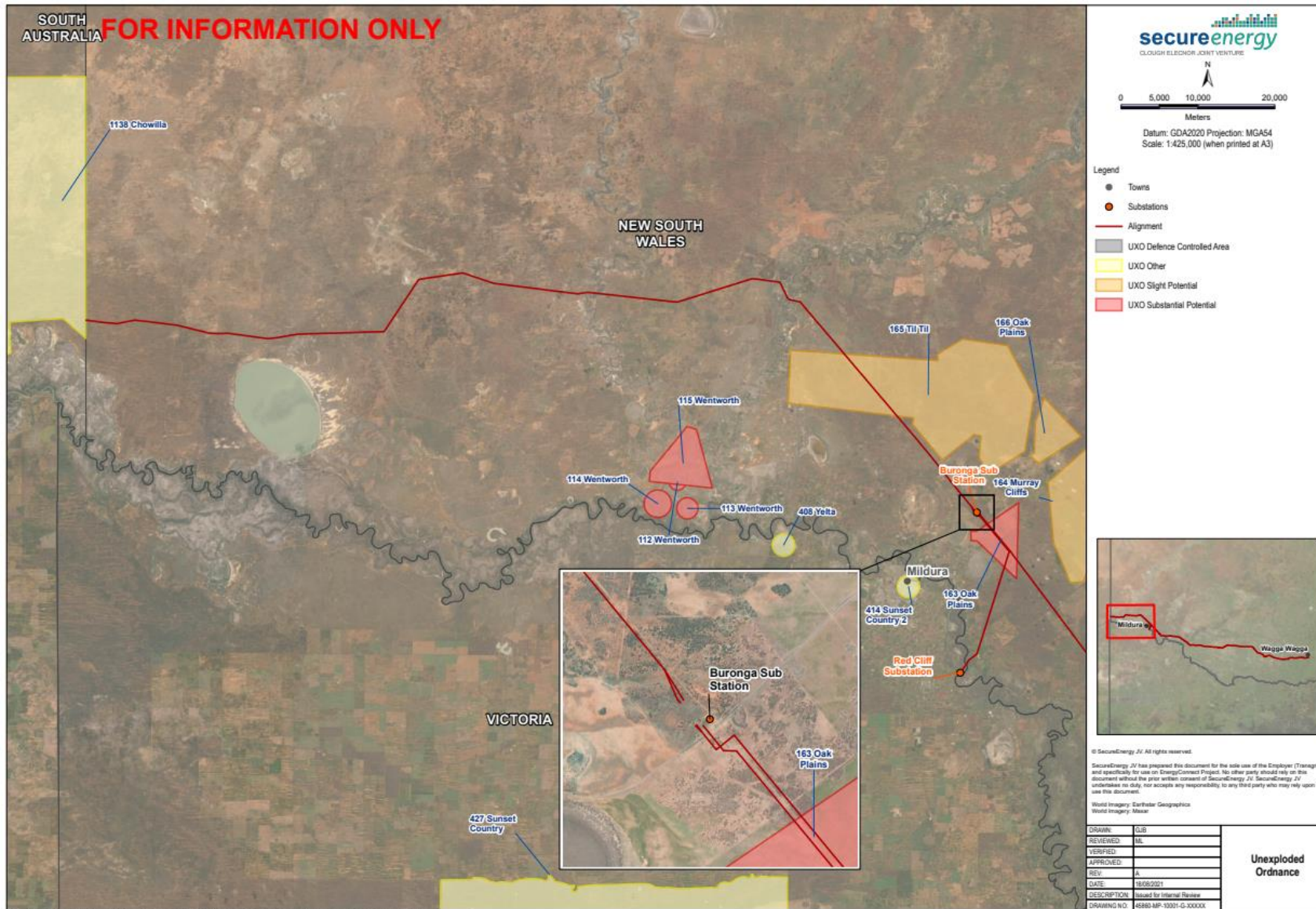


Figure 3.7 - Oak Plains UXO area as shown in Submissions Report

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4 Environmental aspects and impacts

4.1 Construction activities

An environmental aspect is an element of an organisation's activities, products, or services that has or may have an impact on the environment (ISO 14001 Environmental Management Systems). The relationship of aspects and impacts is one of cause and effect.

Key aspects of Stage 2 that could result in adverse impacts to soil and water quality or contamination include:

- surface and/or ground disturbance as a result of vegetation clearing and grubbing;
- surface and/or ground disturbance as a result of ground excavation and earthworks;
- surface and/or ground disturbance as a result of vehicular and machinery movements;
- encountering unexpected existing contaminated/hazardous material as a result of surface and/or ground disturbance; and
- spills and leaks during the operation of plant and machinery, chemical handling or refuelling activities.

4.2 Impacts

The potential for impacts on soil and water will depend on a number of factors. Primarily impacts will be dependent on the nature, extent and magnitude of construction activities and their interaction with the natural environment.

The potential impact to soil and water attributable to Stage 2 works might include:

- erosion and sedimentation due to surface and/or ground disturbance;
- reduction of soil and/or water quality from spills or leaks;
- soil contamination; and
- health and safety impacts when encountering unexpected contamination finds.

5 Management measures

5.1 Erosion and sediment control

An *Erosion and Sediment Control Strategy* (ESCS) (45860-HSE-DOC-D-0002) has been prepared and is provided in Appendix A. The ESCS describes the project's approach to minimising erosion and managing sediment generation for the project. The ESCS outlines the overarching principles to be considered and integrated into the development of the Erosion and Sediment Control Plan (ESCP) and any Progressive Erosion and Sediment Control Plans (PESCPs) required for specific work areas.

A CPESC will prepare the initial ESCP to detail the erosion control measures to be utilised across a range of different receiving environments and landforms on the project. Environmental staff will then typically use the ESCP as a basis to develop PESCPs in consultation with Project Engineers, Superintendents and Supervisors. For high risk environments, such as works near the three major river systems (the Murray River, the Great Darling Anabranch and Darling River), and in steep or highly erodible terrain, the progressive ESCPs will be reviewed by the CPESC. This will ensure that erosion and sediment control management is incorporated into the planning stage of construction activities and is coordinated in its approach. PESCPs will be updated as required as sites and associated erosion and sediment control requirements change as the works progress.

The Environmental Manager will approve PESCPs in the first instance. Minor changes thereafter will be approved by environment staff in consultation with the Environmental Manager and CPESC for high risk environments, as required. PESCPs are designed for use as a practical guide and may be produced in conjunction with Work Packs or WMSs.

5.2 Reuse of treated wastewater

As water is a valuable resource within Western NSW, the project will reuse the wastewater produced from the wastewater treatment plants as part of the construction processes to minimise the volume taken from other local sources.

Wastewater treatment plants (WWTPs) would be established at the accommodation camp sites to manage wastewater generated from construction compounds and accommodation camps (including but not limited to showers, kitchens, laundries, toilets, and other facilities). Refer to the *Accommodation Camp Management Plan* (45860-HSE-PL-G-1027) for further information on the management and operation of the WWTPs.

The treated wastewater will be discharged to a basin type structure (turkey's nests/storage pond) lined with high density polyethylene/geosynthetic clay liner. The wastewater will then be collected and transported via water carts or similar devices for reuse in the following, but not limited to opportunities:

- use in dust suppression on roads;
- use in compaction of soils;
- use in the emplacement areas;
- wheel wash sites; and
- general washdown of equipment.

Wastewater will not be discharged to watercourses or other water bodies. Wastewater is not to be used near food crops or food pastures.

A *Dewatering Procedure* (45860-HSE-PR-G-1006) has been developed and is provided in Appendix D. The Dewatering Procedure addresses the following:

- reinforces the project need for wastewater reuse;

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- provides detail on the treated wastewater quality objectives;
- outlines the water quality testing process; and
- outlines the process to manage the application of the treated wastewater.

Prior to the application of treated wastewater to land, the following factors will be considered to understand if the environment has the capacity to receive the additional water loading:

- the existing soil conditions;
- existing environmental aspects such as salinity or flood prone areas;
- the likelihood of potential runoff at the application areas;
- distance from sensitive receivers and aquatic environments; and
- previous and upcoming climatic and weather conditions.

The consideration of these aspects is further detailed within the *Dewatering Procedure*.

5.3 Unexpected contamination finds

Contamination means the presence in, on or under land or any other aspect of the environment of a substance, gas, chemical, liquid or other matter, whether occurring naturally or otherwise, which is:

- a) at a concentration above the concentration at which the substance, gas, chemical, liquid or other matter, whether occurring naturally or otherwise, is normally present in, on or under land or any other aspect of the environment in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment; or
- b) toxic, flammable or otherwise capable of causing harm to humans or damage to the environment including asbestos (man-made or naturally occurring), toluene, polychlorinated biphenyls, lead based paints, glues, solvents, cleaning agents, paints, water treatment chemicals and acid producing spoil.

Contamination that may not have been detected during previous investigations may be discovered during the project, particularly during ground disturbance activities. Such contamination may be discovered due to observations such as:

- odour;
- unusual discolouration or staining of soil or rock;
- seepage of unusual liquids from soil or rock;
- unusual colour, odours, or sheens on groundwater and/or surface water;
- unusual metal objects or other foreign debris;
- presence of oil;
- presence of waste or rubbish above or below ground; and
- actual or potential asbestos or asbestos containing material.

In such instances, action is required to manage the potential contaminated soil/material encountered during excavation or construction activities. If potentially contaminated material is encountered, the *Unexpected Contamination Finds Procedure* (45860-HSE-PR-D-0003) will be followed.

Works in the vicinity will be stopped or modified and will not recommence until the material has been analysed and management measures developed.

5.4 Disposal of contaminated material

Where contaminated material requires removal from site, the classification, transport and disposal will be carried out in accordance with the *Waste Management Plan* (45860-HSE-PL-D-0026) prepared for the project. Key actions from the *Waste Management Plan* (45860-HSE-PL-D-0026) include:

- all waste material that is to be disposed of off the project will be dealt with in accordance with the POEO Act and *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014);
- wastes that are unable to be reused or recycled will be disposed of at a licensed waste management facility, or a place lawfully permitted to accept such waste;
- hazardous waste and wastes regulated under a Chemical Control Order will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the *Environmentally Hazardous Chemicals Act 1985*;
- a waste register will be maintained, detailing types of waste, amounts, date, and details of disposal; and
- a section 143 notice under the POEO Act will be obtained (from the landowner) should waste be transported to a site which is not licensed under the POEO Act to accept such waste. Sites and/or facilities licensed for receipt of waste under the POEO Act will not require a section 143 notice.

5.5 Flood response

The majority of the construction activities occur in areas that are not prone to flooding. There are however, localised areas that are prone to flooding, with these locations focused around the three major river systems, the Murray River, the Great Darling Anabranh and the Darling River.

A *Flood Response Plan* (45860-HSE-PL-D-0023) has been prepared to manage flood risk. The *Flood Response Plan* (45860-HSE-PL-D-0023) provides details of the procedures and options for safe access to and from the site in the event of a flood event.

In preparing the site for a flood event, all construction areas will be inspected and prepared in accordance with the *Health and Safety Management Plan* (45860-HSE-PL-D-1004), which is relevant to the on-site emergency response. The Flood Incident Guideline provided in Appendix A of the *Flood Response Plan* (45860-HSE-PL-D-0023) will be completed.

Section 4.3 to 4.5 provides the flood response procedure in relation to health and safety, action and alarm, and evacuation, where required. It must be noted that in the event of a flood, evacuation will be undertaken via a safe route determined by the project management team. Relevant personnel within the PMT (such as the HSSE Manager and/or Construction Manager) will monitor road closure conditions, with direction provided to site personnel (Site Supervisors). Site Supervisors will provide direction to personnel regarding which access route should be used, via two-way radio.

Refer to the *Flood Response Plan* (45860-HSE-PL-D-0023) provided in Appendix B of the *Traffic and Transport Management Plan* (45860-HSE-PL-D-0018) for further information.

5.6 Soil and water management measure

A range of environmental requirements and mitigation measures are identified in the EIS, Response to DPIE Request for Information and Infrastructure Approval. Safeguards and management measures will be implemented to minimise or manage soil, water and contamination impacts.

Specific soil, water and contamination related safeguards and management measures to address impacts associated with Stage 2 of the project are outlined in Table 5.1.

Table 5.1 - Soil and water quality management measures

ID	Measurement / Requirement	When to implement	Responsibility	Source document
General				
SW1	Training will be provided to all project personnel, including relevant subcontractors on soil, water and contamination management and the requirements from this plan through inductions, toolboxes talks and targeted training.	Pre-construction and construction	Environmental Manager, HSSE team	Good practice
SW2	The interaction between construction materials and high saline soils and the groundwater environment will be considered during detailed design, where applicable.	Pre-construction and construction	Design Manager	RMM SCG3
SW3	No pollution to water, as defined under section 120 of the POEO Act, is to occur, unless authorised by an EPL.	Pre-construction and construction	Environmental Manager	Condition D17
Erosion and sediment control				
SW4	<p>An <i>Erosion and Sediment Control Strategy</i> (ESCS) (45860-HSE-DOC-D-0002) provided in Appendix A has been prepared in line with the principles and requirements in:</p> <ul style="list-style-type: none"> • <i>Managing Urban Stormwater - Soils and Construction, Volume 1</i> (Landcom 2004), commonly referred to as the 'Blue Book'; • <i>Managing Urban Stormwater - Soils and Construction, Volumes 2A and 2C</i> (NSW Department of Environment, Climate Change and Water 2008); • <i>Best Practice Erosion and Sediment Control</i> (IESCA - 2008); • Transgrid's HSE Guideline; and • <i>Guidelines for Controlled Activities on Waterfront Land</i> (NRA 2018). <p>The ESCS will be implemented to guide the development of the ESCP and PESCPs for the project.</p>	Construction	Environmental Manager, Supervisor, Transgrid	Condition D16 b) RMM HF5 RMM SCG9
SW5	<p>A Certified Professional in Erosion and Sediment Control (CPESC) will prepare the initial Erosion and Sediment Control Plan (ESCP), which will be used as a basis for the development of Progressive Erosion and Sediment Control Plans (PESCPs).</p> <p>PESCPs will be prepared and implemented for locations where ground disturbance will occur. The PESCPs will outline controls and strategies to be implemented to manage and minimise soil erosion and the movement of sediment and other pollutants to land and/or waters.</p> <p>The PESCPs will be progressively updated throughout the project to reflect the current construction activities occurring on site and to allow the removal of any measures that are ineffective or no longer needed.</p>	Construction	Environmental Manager, Transgrid	Condition D16 a) RMM HF5

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ID	Measurement / Requirement	When to implement	Responsibility	Source document
SW6	Location of known heritage items will be considered during the preparation of PESCPs to ensure that potential harm due to surface water runoff from site is avoided or minimised.	Construction	Environmental Manager, Supervisor	RMM AH7
SW7	Disturbed surfaces in the immediate vicinity of permanent infrastructure will be shaped to avoid concentrating flows and to reduce surface water runoff velocities, minimising the potential for scour and erosion.	Pre-construction, construction	Design Manager, Environmental Manager	RMM HF1 Condition D16 a)
SW8	Any existing areas prone to waterlogging or poor drainage will be avoided during construction where possible in locations mapped as moderate to high-risk salinity.	Construction	Environmental Manager	RMM SCG2 Condition D21 b)
SW9	Construction materials and spoil will be appropriately stored on site and within the construction site compounds with the aim to minimise erosion, dust generation and sediment-related impacts in adjacent areas.	Construction	Supervisor, Environmental Manager	RMM SCG12 Condition D21 b)
Additional soil assessment and management				
SW10	Prior to ground disturbance in areas of known potential acid sulfate soil occurrence (e.g. in low lying areas surrounding former or current lakes and river beds), on-site field testing will be carried out to determine the presence of actual and/or potential acid sulfate soils.	Construction	Supervisor, Environmental Manager	RMM SCG8 Condition D24c)
SW11	Exposure of acid sulfate soils to the atmosphere will be avoided, where possible. The prevention of oxidation of sulfides is the key in managing acid sulfate soils where avoidance of the exposure of acid sulfate soils to the atmosphere is not possible. The exposed acid sulfate soil will be separated from other spoil material and treated using lime or other similar agents. Other appropriate management measures may be implemented to manage exposed acid sulfate soils with guidance from <i>Acid Sulfate Soil Manual</i> (ASSMAC, 1998) and Transgrid's HSE Guideline.	Construction	Supervisor, Environmental Manager	RMM SCG8 Condition D22 Condition D24c)
SW12	A visual inspection would be undertaken for the presence of saline soils prior to ground disturbance. Areas of known or suspected salinity will be subject to further testing as required. Where saline soil is excavated, the soils will be reinstated at the same depth from which it was excavated. Exposure of saline soil to water during activities such as dust suppression and water discharge will be limited in these identified area to reduce evaporation and salinisation.	Construction	Environmental Manager, Supervisor	RMM SCG9 Condition D23 Condition D24c)

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ID	Measurement / Requirement	When to implement	Responsibility	Source document
Contamination assessment and management				
SW13	Promptly notify the Site Supervisor or Environmental Manager of any suspected or actual contamination exposed during construction activities. Cease all work activities within the vicinity of actual or suspected contaminated land. Refer to the <i>Unexpected Contamination Finds Procedure</i> (45860-HSE-PR-D-0003) as provided in Appendix B is to be followed.	Construction	All personnel	RMM SCG13 CLM Act Condition D24 c) Condition D24 e)
SW14	The 26 transmission towers from the existing Buronga to Red Cliffs line (the first 26 towers in NSW heading north from the Murray River) that contain asbestos containing paint will be decommissioned. The tower segments affected by the asbestos containing paint will be either be treated chemically or mechanically trimmed. Any remnants of the hazardous material will be disposed of appropriately according to Section 5.4.	Construction	Supervisor	Condition D24 d)
SW15	Disturbance to areas identified in Table 3.7 as medium risk of contamination will be avoided or minimised where practicable during detailed design and construction.	Design and construction	Design Manager, Environmental Manager	RMM SCG5 Condition D24 c) Condition D24 d)
SW16	A site specific desktop risk assessment will be undertaken for medium risk areas identified in Table 3.7 which will be disturbed during construction. Following the conclusion of the site specific desktop risk assessment, a Phase 2 investigation will be undertaken where required. This may include a site inspection completed in accordance with NEPM 2013. The Phase 2 investigation may identify additional mitigation measures.	Design and construction	Environmental Manager	RMM SCG5 Condition D24 c) Condition D24 d)
Works near major river systems				
SW17	A water quality monitoring program will be implemented as detailed in Section 6.3 to gather baseline water quality conditions in the Darling River, Darling Anabranh and Murray River prior to construction in the vicinity of the transmission line works at the Darling River, Darling Anabranh and Murray River. Water quality monitoring will be undertaken monthly throughout construction until the completion of construction in areas adjacent to the Darling River, Darling Anabranh and Murray River.	Pre-construction and construction	Transgrid, Environmental Manager	RMM HF3
SW18	Earthworks and construction activities that result in compaction and disturbance of soils will be limited, where feasible, in areas within 40m of the Darling River, Murray River and Great Darling Anabranh to prevent potential impacts to groundwater and sedimentation of adjacent waterways.	Pre-construction and construction	Supervisor	RMM SCG10 Condition D24 c)

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ID	Measurement / Requirement	When to implement	Responsibility	Source document
SW19	All activities on waterfront lands will be guided by the principles from the <i>Guidelines for Controlled Activities on Waterfront Land</i> (2012), unless DPE Water agrees otherwise. Measures to control and manage erosion and minimise sedimentation on waterfront lands are further detailed in the ESCS and will be documented for specific areas and activities in the initial ESCP and PESCPs to be developed prior to the works commencing in waterfront areas. Works will not be undertaken within the floodplains of the three major river systems during periods of flooding, where flooding would impact the construction area.	Pre-construction and construction	Environmental Manager, Supervisor	Condition D20 a)
SW20	The construction methodology for the transmission line structure foundations within 40m of the Darling River, Great Darling Anabranch or Murray River will consider alternative methodologies to excavations, where feasible, to minimise groundwater inflows. Measures to reduce localised scouring around the tower footings are being considered, and would likely consist of a geofabric and rock apron embedded in the soil around the footings.	Pre-construction and construction	Design Manager, Supervisor	RMM SCG6 Condition D19 Condition D24 c)
SW21	The depth of groundwater will be confirmed at each relevant transmission line structure location during drilling activities. Where groundwater was not encountered during drilling activities, the depth of groundwater will be recorded as being greater than the termination depth of the borehole.	Pre-construction and construction	Supervisor	RMM SCG6 Condition D24 c)
Construction of transmission line structure, site compounds, ancillary facilities and access tracks				
SW22	Transmission line structure foundations and ancillary construction sites will consider the location sites of known farm dams, where practicable, to avoid disturbance.	Pre-construction and construction	Construction Manager, Environmental Manager	RMM SCG1
SW23	Long-term placement of construction materials, particularly spoil and waste will be appropriately managed with the aim to minimise the potential for soil, groundwater or water quality impacts.	Construction	Supervisor, Environmental Advisor, Environmental Manager	RMM SCG12
Chemicals, fuels or other hazardous substances				
SW24	Construction materials such as fuels, chemicals, vehicles and equipment will be appropriately stored to minimise the introduction of contaminants to the existing soil, groundwater and surface water runoff.	Construction	Supervisor, Environmental Advisor	RMM SCG12
SW25	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions, any relevant legislations or Australian Standards or the applicable guidelines.	Pre-construction and construction	Supervisor, Environmental Manager	RMM HR8

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ID	Measurement / Requirement	When to implement	Responsibility	Source document
SW26	All chemicals, fuels or other hazardous substances will be stored in a bunded area, with the bunding sized at 130 per cent of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s will be shown on relevant PESCPs.	Pre-construction and construction	Supervisor, Environmental Manager, Transgrid	RMM HR8
SW27	The appropriate components of the concrete batching plants, such as the concrete mixing and washout areas, and oil filled components of the substation, will be suitably bunded.	Pre-construction and construction	Supervisor, Environmental Manager, Transgrid	Condition D18 a)
SW28	In the event of a spill incident of chemicals, fuels or other hazardous substances, the <i>Spill Response Procedure</i> (45860-HSE-PR-G-1004) provided in Appendix C will be followed.	Pre-construction and construction	Supervisor, Environmental Manager	RMM HR8 Condition D18 b)
SW29	Appropriate spill containment equipment (i.e. spill kits) will be provided and placed at strategic and accessible locations within the site, such as adjacent to chemical storage areas, relevant work areas and refuelling areas.	Construction	Supervisor, Environmental Manager	RMM HR10 Condition D18 b)
Unexploded Ordnance (UXO)				
SW30	<p>A site-specific risk assessment will occur for locations where there is a risk of encountering UXO. The risk assessment will be carried out prior to any activities that could interact with UXO. This will include field verification to validate the historical assessment of UXO contamination and identify appropriate mitigation practices. The risk assessment will occur with input from an appropriate UXO specialist and will identify if and when an explosives engineer is required during site activities.</p> <p>An unexpected finds procedure will be implemented. The procedure will specify the actions that site personnel must take to minimise the risk to and from any UXO encountered. The management actions identified in the risk assessment will be implemented prior to and during all relevant site activities.</p> <p>All personnel conducting intrusive works within an identified UXO area will be provided with appropriate safety and awareness briefing(s) prior to the participating in the intrusive works.</p>	Construction	Transgrid	RMM SCG16
SW31	Promptly notify the Site Supervisor or Environmental Manager of any suspected or potential unexploded ordnance exposed during construction activities. Cease all work activities within the vicinity of actual or suspected unexploded ordnance find. The <i>Unexpected Contamination Finds Procedure</i> (45860-HSE-PR-D-0003) provided in Appendix B is to be implemented.	Construction	All personnel	RMM SCG13 Condition D24 e)

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ID	Measurement / Requirement	When to implement	Responsibility	Source document
Water supply				
SW32	Copies of existing water access licence agreements from the applicable water suppliers/landholders will be requested and saved on to the project document SharePoint site.	Pre-construction and construction	Environmental Manager, HSSE team	Good practice
SW33	Water supply options and management will be undertaken in accordance with agreements with Wentworth Shire Council.	Construction	Environmental Manager	RMM HF4
Dewatering				
SW34	The <i>Dewatering Procedure</i> (45860-HSE-PR-G-1006) provided in Appendix D will be implemented for the discharge of any runoff or stormwater which collects within construction areas (such as sediment basins, trenches, sumps) to minimise the potential for soil and water impacts.	Construction	Supervisor, Environmental Manager	RMM HF5
SW35	Dewatering of groundwater will not be discharged directly into watercourses, but is to be managed in accordance with the methods included in the <i>Dewatering Procedure</i> (45860-HSE-PR-G-1006).	Construction	Supervisor, Environmental Manager	Condition D18
Registered bores				
SW36	Direct impacts to registered bores GW088454 (nested), GW087531 and GW60045 will be avoided, where possible. The registered bore will be clearly demarcated with a 5x5m exclusion zone during construction and will be identified within the applicable SAPs and/or PESCPs. If the bores are to be removed during construction or unavoidably damaged, then make good provisions will apply in consultation with the registered bore owner should the bore need to be removed or is unavoidably damaged.	Pre-construction and construction	Environmental Manager	RMM SCG7
SW37	A bore condition assessment to identify the integrity of bore GW087531, GW088454 (nested) and GW600452 will be conducted prior to and post construction. Repair or replacement of impacted bore will be undertaken in consultation with the registered owner should the bore need to be removed or is unavoidably damaged.	Pre-construction and construction	Supervisor, Environmental Manager	RMM SCG11

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ID	Measurement / Requirement	When to implement	Responsibility	Source document
High priority groundwater dependent ecosystems				
SW38	<p>A review of additional geotechnical and hydrogeological data, and publicly available mapping of high priority groundwater dependent ecosystems (GDEs) as documented in the latest relevant water sharing plan, will be carried out to confirm the groundwater conditions.</p> <p>Additional mitigation measures will be determined to limit groundwater inflows or impacts to GDEs, and to confirm the impact to groundwater sources as per the minimal impact criteria listed within the Aquifer Interference Policy.</p>	Pre-construction	Design Manager, Environmental Manager	RMM SCG4 Condition D24 c)
Monitoring and inspection				
SW39	<p>Monitoring of weather forecasts (including rainfall radar) to determine when adverse weather conditions are predicted to affect work locations.</p> <p>When significant rainfall is predicted, a pre-rainfall inspection will be carried out to check the condition of existing sediment and erosion controls, and repairs are to be carried out and additional controls installed if necessary.</p>	Pre-construction and construction	Environmental Manager, HSE team	Good practice
SW40	Weekly environmental inspections are to be undertaken, which will include an inspection of erosion and sediment controls present on-site, spill response equipment, stockpiles and the site access point(s).	Construction	Environmental Manager	Good practice
SW41	<p>If groundwater is intercepted during excavation activities, the interception of such groundwater will be monitored by site personnel and geotechnical specialist and reported to NRAR in accordance with Clause 21(6) of the <i>Water Management (General) Regulation 2018</i>.</p> <p>Where there is the potential for water take to exceed the 3ML exemption provision, additional approvals and sufficient entitlement will be obtained.</p>	Construction	Environmental Manager	<i>Water Management (General) Regulation 2018</i>
Rehabilitation and stabilisation				
SW42	Areas disturbed by construction will be stabilised and appropriately rehabilitated to a similar condition prior to construction, where feasible and reasonable following the completion of construction to minimise soil and water impacts.	Construction	Supervisor, Environmental Manager	RMM LP5
SW43	Rehabilitation to ancillary facilities and earthwork material sites will be undertaken progressively where feasible or within 6 months of the completion of the construction phase of the project with the aim to provide a safe, stable and non polluting area.	Construction	Supervisor, Environmental Manager	Condition D54

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6 Compliance management

6.1 Training and awareness

All site personnel will undergo the Elecnor site induction. The induction training addresses elements related to soil, water and contamination management including, but not limited to:

- relevant legislation;
- the environmental management system;
- the CEMP;
- spill response requirements and procedures;
- the *Erosion and Sediment Control Strategy* (45860-HSE-DOC-D-0002);
- the purpose and general content of PESCPs; and
- sensitive area plans.

Targeted training in the form of toolbox talks or specific training will also be delivered to personnel with a key role in soil, water and contamination management. Examples of training topics include:

- specific erosion and sediment controls, including installation methods, maintenance requirements and the requirements of site-specific PESCPs;
- no-go zones;
- UXO within the project area;
- unexpected finds procedure for contamination finds; and
- spill response and dewatering procedures.

Further details regarding the staff induction and training are in Section 6 of the CEMP.

6.2 Roles and responsibilities

Elecnor’s organisational structure and overall roles and responsibilities are outlined in Section 4.9 of the CEMP. Specific responsibilities for the implementation of mitigation measures are detailed in Section 5 of this SWMP.

6.3 Monitoring

The proposed monitoring program for Stage 2 works is identified in Table 6.1.

Table 6.1 - Monitoring program

Item	Scope	Frequency	Equipment	Responsibility
Weather forecasts and observations	Monitoring of weather forecasts (including rainfall radar) to determine when adverse weather conditions are predicted.	Weekly weather forecast; and Daily monitoring when adverse weather is predicted.	Supervisors	BOM website Pre-starts
Water quality discharge	Water that requires discharge (other than wastewater) will be tested (as required) prior to reuse/discharge and managed in accordance with the <i>Dewatering Procedure</i> (45860-HSE-PR-G-1006).	Prior to water discharge	Supervisors Environmental Manager or delegate	<i>Dewatering permit</i> (45860-HSE-FO-G-1006)

Item	Scope	Frequency	Equipment	Responsibility
During dewatering of sediment basin water	Monitor of discharge location to ensure that dewatering does not extend beyond the nominated area, does not exceed soil infiltration rates and does not cause erosion or scouring of the soil.	As required	Supervisors Environmental Manager Environmental Advisor	Visual assessment Record details on Discharge Permit if required
Water quality monitoring program	<p>Monitoring of water quality in the Darling River, Darling Anabranh and Murray River to establish baseline water quality conditions at least six months prior to construction in the vicinity of the transmission line works at the Darling River, Darling Anabranh and Murray River, and then monthly during construction until the surfaces in the vicinity of the waterways that were disturbed during construction are stabilised and no longer pose a significant sedimentation risk to the waterways.</p> <p>Sample locations will occur approximately 50m downstream and upstream of the project alignment.</p> <p>Sample locations will be nominated prior to the commencement of monitoring as site inspections are required to select an appropriate location which considers factors such as safety, ease of access, and avoiding water stagnation locations.</p> <p>The monitoring program will monitor for parameters such as: pH, dissolved oxygen, total dissolved solids, total suspended solids, total nitrogen and total phosphorus.</p>	Monthly	Environmental Manager	Water quality record

6.4 Inspections

The proposed inspections relevant to soil and water management are identified in Table 6.2.

Table 6.2 - Inspection timing

Item	Scope	Frequency	Responsibility	Records/ reporting
Weekly inspections	Inspection of the site erosion and sediment controls, spill response equipment, stockpiles and the site access point(s).	Weekly	Environmental Manager or delegate	<i>Environmental Inspection Checklist</i> (45860-HSE-CHK-G-1008)
Acid sulfate soil	On-site field testing to determine the presence of actual and/or potential acid sulfate soils.	Prior to ground disturbance in areas of known potential acid sulfate soil occurrence	Environmental Advisor	Onsite testing results records in daily diary
Saline soil inspection	Visual inspection of work areas for indicators of saline soil prior to ground disturbances.	Prior to ground disturbances	Supervisors	Report by exception in daily diary

Item	Scope	Frequency	Responsibility	Records/ reporting
Pre rainfall inspection	Inspection of the environmental controls across the site to assess site preparedness for upcoming predicted rainfall event. Inspection to be undertaken on working days, if safe to do so. Issue actions to repair/maintain any damaged controls, or install additional controls if necessary.	Prior to predicted rainfall greater than 15 mm at 80% chance of occurring.	Environmental Manager or delegate Supervisors	<i>Pre rainfall inspection checklist</i> (45860-HSE-CHK-G-1009)
Post rainfall inspection	Post rainfall inspections to evaluate the effectiveness of erosion and sediment controls measures and issue appropriate actions to repair or maintain any controls and/or install additional controls where required. Post rainfall inspections will occur after a rainfall event. For the purpose of this inspection, a rainfall event occurs when more than 5mm of rain has been received and runoff occurs.	Within the next working day, if safe to do.	Environmental Manager or delegate Supervisors	<i>Post rainfall inspection checklist</i> (45860-HSE-CHK-G-1010)

6.5 Auditing

No specific auditing is proposed for soil and water matters as part of Stage 2.

Audits will be undertaken to assess the effectiveness of the management measures and overall compliance, including this plan, and other relevant approvals, licences and guidelines. Audit requirements are detailed in Section 9.3 of the CEMP.

6.6 Reporting

Reporting which will be undertaken in accordance with the SWMP is summarised within Table 6.3.

Table 6.3 - Reporting program

Item	Scope	Frequency	Responsibility	Recipient
Unexpected finds report	Reporting of unexpected contamination finds will be undertaken in accordance with the <i>EnergyConnect (NSW - Western Section) Unexpected Contamination Finds Procedure</i> (45860-HSE-PR-D-0003).	As required	Environmental Manager	Transgrid
Audit reports	Independent audits undertaken in accordance with the Infrastructure Approval will include audits of soil and water management measures (based on the Independent Auditor's program). Audit reports will be prepared. Further detail in relation to auditing is provided within Section 9.3 of the CEMP.	Audits will occur within 12 weeks of the commencement of construction and then at intervals no greater than 26 weeks from the date of the initial Independent Audit or as otherwise agreed by the Secretary.	Environmental Manager / Independent Auditor	Transgrid DPHI
Groundwater intercepted during aquifer	An exemption within the <i>Water Management (General) Regulation 2018</i> allows for 3ML per project per year to be intercepted during aquifer interference	As required	Environmental Manager	Transgrid NRAR

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Item	Scope	Frequency	Responsibility	Recipient
interference activities	<p>activities without the need for a water access licence.</p> <p>If groundwater is intercepted during excavation activities, the interception of such groundwater will be monitored by site personnel and geotechnical specialist and reported to NRAR in accordance with Clause 21(6) of the <i>Water Management (General) Regulation 2018</i>.</p> <p>Where there is the potential for water take to exceed the 3ML provision, additional approvals and sufficient entitlement will be obtained.</p>			

6.7 Emergencies, incidents and non-compliances

Emergency management and planning including emergencies related to soil, water and contamination will be undertaken in accordance with the management system and relevant procedures. Emergencies will be managed in accordance with the relevant Health, Safety, Security and Environment (HSSE) Plan as identified in Section 8.1 of the CEMP - Emergency preparedness and emergency response.

Environmental incidents, including incidents related to soil, water and contamination (e.g. unauthorised/unapproved discharge of water, contamination of water quality, chemical and hazardous material spills) will be managed as described in Section 8.2 of the CEMP - Environmental incidents and the Incident, Notification and Investigation Procedure Flowchart provided in Appendix A4 of the CEMP.

Incident reporting is described in Section 8.3 of the CEMP - Incident notification and reporting.

Where a non-compliance has been identified, including those relevant to soil, water and contamination (e.g. not following the notification or reporting requirements in the *Unexpected Contamination Finds Procedure*), corrective actions will be developed as required and implemented to address the non-conformance that occurred as described in Section 11 of the CEMP - Non-compliance, non-conformance, corrective and preventative action. Reporting of non-compliances will be undertaken as described in Section 10.1 of the CEMP - Reporting non-compliances.

6.8 Contingency plan

Although the project has been assessed through the environmental impact assessment process and potential impacts identified, unpredicted impacts may occur as the project progresses. In the event that unexpected impacts are identified, the action or cause will be categorised and as required will be managed as:

- an emergency or environmental incident in accordance with Section 8 of the CEMP - Incidents and emergencies; and/or
- a non-compliance or non-conformance in accordance with Section 11 of the CEMP - Non-compliance, non-conformance, corrective and preventative action.

Reporting of the unpredicted impacts would be in line with the above processes and as described in Section 10 of the CEMP - Reporting.

Through the identification of corrective and/or preventative actions through the above processes, the following steps will occur as relevant:

- a) determine the relevant impact assessment criterion/criteria, below which the impact should be reduced, consistent with the requirements of this SWMP;

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- b) identify options to reduce the unexpected impacts to below the relevant criterion/criteria and appropriate timeframe for implementation;
- c) implement the selected measure(s) to reduce the unexpected impacts; and
- d) identify and implement an appropriate monitoring program to determine the effectiveness of the selected measure(s) to reduce the unexpected impact.


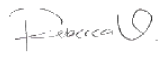
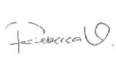


If the above monitoring program identifies that the unexpected impacts have not been reduced to below the nominated criterion/criteria, items b) to d) of the contingency process will be repeated.

This section does not apply to unexpected contaminations finds. These will be managed in accordance with the *Unexpected Contamination Finds Procedure* included in Appendix B of this SWMP.

Appendix A - Erosion and Sediment Control Strategy

Erosion and Sediment Control Strategy EnergyConnect (NSW - Western Section)

45860-HSE-DOC-D-0002

REV	DATE	GENERAL DESCRIPTION	PREPARED	REVIEWED	VERIFIED	VERIFIED	APPROVED
0	12/02/2024	Revised to Elecnor template	 K.Nestmann	 R.Walker-Edwards	 S.Klocke	 G.Crighton	 G.Arrien

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Revision History	
Rev.	Detailed Description
A	Issued for internal review
B	Issued for Transgrid review
C	Updated following receipt of Transgrid comments
D	Updated following receipt of Transgrid comments
0	Revised to update to Elecnor template and Elecnor management system

Key Document Stakeholders
To be communicated with during reviews and revisions of this document

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1 Introduction

This Erosion and Sediment Control Strategy (ESCS or this strategy) is part of the Soil and Water Management Plan (SWMP) EnergyConnect (NSW - Western Section) and forms part of the overall environmental management framework for the project.

1.1 Purpose

The purpose of this ESCS is to outline the overarching principles to be considered and integrated into the development of the progressive erosion and sediment control plans (PESCPs). The PESCPs will be prepared and implemented progressively during construction of EnergyConnect (NSW - Western Section).

This strategy has been prepared to address the relevant requirements of the Infrastructure Approval (SSI 10040), the *EnergyConnect (NSW - Western Section) Environmental Impact Statement* (EIS) and the *EnergyConnect (NSW - Western Section) Amendment Report*.

PESCPs will be developed by Elecnor prior to commencement of soil disturbance activities undertaken in association with the Infrastructure Approval. The PESCPs will provide more detailed and up-to-date information relating to specific areas and control measures. The PESCPs will be implemented concurrently with site relevant activities and regularly updated to reflect the evolution of site conditions as the project progresses.

2 Environmental requirements

The project's approach to erosion and sediment control will be in accordance with the principles identified in:

- *Managing Urban Stormwater - Soils and Construction, Volume 1* (Landcom 2004), and *Volumes 2A and 2C* (NSW Department of Environment, Climate Change and Water 2008), commonly referred to as the 'Blue Book';
- *Best Practice Erosion and Sediment Control* (IECA - 2008);
- Transgrid's HSE Guideline; and
- *Guidelines for Controlled Activities on Waterfront Land* (NRA 2018).

2.1 Hierarchy of erosion and sediment control principles

The guidelines listed above generally describes the hierarchy for erosion and sediment management principles in the following order:

1. integrate erosion and sediment management measures with construction planning;
2. minimise area of disturbance / area of soil exposure to erosion;
3. promptly stabilise / rehabilitate disturbed areas;
4. manage water flow through the site through drainage controls;
5. design and install appropriate erosion control;
6. design and install appropriate sediment control to maximise sediment retention on site; and
7. monitor controls and adjust control measures to maintain the required standard.

3 Existing environment

The existing environmental setting relating to the aspects of soil and water quality within and adjacent to the project is identified in Section 3 of the *Soil and Water Management Plan* (45860-

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HSE-PL-D-0008). Additional information is available in Chapter 15 and 20 of the *EnergyConnect (NSW - Western Section) Environmental Impact Statement*; Technical Paper 6 (Hydrology, flooding and water quality) of the EIS; and Section 6.8 and 6.12 of the *EnergyConnect (NSW - Western Section) Amendment Report*.

3.1 Soils

Published geological mapping data indicates Buronga substation is situated on a surficial layer of aeolian sediments of the Woorinen Formation from the Quaternary period. This material includes alluvial flood plains, dune sands and swamp or lake deposits.

The soils within the Buronga substation are expected to be generally comprised of calcarosols according to Australian Soil Classification (CSIRO, 2016).

Findings from previous investigations were provided in Technical Paper 12 (Phase 1 contamination assessment) of the EIS which indicates that there is a general absence of a distinct topsoil layer along the alignment and that the upper 300mm of soil typically contains some roots or rootlets from the surface vegetation throughout the landscapes. Surface soils have a moderate to high potential for dispersion.

3.2 Watercourses

There are three major river systems in the Lower Murray Darling regions. The Murray River from the Hume Dam, the Darling River and the Great Darling Anabranh. The Darling River and the Great Darling Anabranh supply water to a number of large lakes, some of which are used as water storages, including Lake Victoria and Gol Gol Swamp. The Lower Murray Darling River systems have been modified with a weir system that is highly regulated, making it difficult to return flow to pre-development conditions.

3.3 Rainfall intensity

Climatic data was obtained from Mildura Airport automatic weather station (AWS) (Station ID: 076031), located approximately 21km to the southwest of Buronga substation and 16km to the west of the closest transmission line. Mildura Airport AWS recorded an average annual rainfall of 285mm between 1946 and 2020. The data showed rainfall occurs fairly evenly across the year, with higher peak rainfall values from May to December.

Similarly, data was obtained from Irymple weather station (station number: 076015), located approximately 16km south of Buronga substation. Irymple weather station recorded an average annual rainfall of 271mm between 1908 and 2020. The data showed rainfall occurs fairly evenly across the year, with higher peak rainfall values from November to April.

Due to the low average rainfall values and relatively low gradient of the topography, generally limited surface water run-off is expected to be generated from the catchment.

4 Induction / training

Training and awareness of the principles of erosion and sedimentation will be provided through site inductions, pre-start meetings and toolbox talks.

5 Key management strategies

5.1 Context

It is important to note that the principal objective for managing erosion and sediment on a construction site is to take all reasonable and practicable measures to minimise the short and long-term soil erosion and the adverse effects of sediment transportation.

Generally, the context of the term 'reasonable' means an action based on sound judgement and affordable cost while the contextual meaning of the term 'practicable' is an action capable of being implemented with available means, with reason or with prudence.

It is also important to acknowledge the fact that each construction site demands a unique set of erosion and sediment control measures. Thus, a control measure that is observed to work well in one location does not mean it will work well in another location.

Elecnor is conscious that EnergyConnect is a long linear infrastructure where the environmental setting and climate may vary spatially. Hence, the suitability of erosion and sediment control measures will depend on both the location in which the controls are being applied, and the construction activities which are to occur.

5.2 Elecnor's erosion and sediment control principles

The hierarchy of principles identified in Section 2.1 has provided guidance for the development of erosion and sediment control principles for the project. These eight principles are listed below.

A compliance matrix is also presented in Annexure A, with this compliance matrix detailing how Elecnor's principles address the guidelines listed within Section 2.

Elecnor Principle 1 - Appropriate planning and documentation

Prior to disturbance of the area and soil exposure, erosion and sediment control issues will be considered and integrated into construction planning, programming and site documentation, which will include the following:

- consider the existing landscape environment and identify areas of key risks to erosion and sediment issues;
- consider sensitive areas and features including, but not limited to, location of known heritage features both within and adjacent to the construction area, biodiversity flora and fauna, watercourses and riparian land;
- develop the site layout and construction process to prevent or minimise environmental harm due to erosion and sediment control issues (e.g. material stockpiles to be located away from surface water flow paths);
- construction planning to minimise extent/duration of soil disturbance; and
- prepare effective and flexible PESCPs that are adjusted and adapted to changing site conditions. The initial PESCP will be prepared prior to soil disturbance activities and implemented concurrently with relevant site activities where required.

Elecnor Principle 2 - Minimise the extent and duration of disturbance

To minimise erosion of disturbed areas, aim to complete work and stabilise disturbed areas progressively.

Elecnor Principle 3 - Control stormwater flows onto, through and from the site

To reduce erosion and surface water runoff volumes that will eventually require treatment, and to maximise the efficiency of sediment control measures, aim to:

- separate 'clean' run-on water from 'dirty' water run-off;
- manage areas susceptible to concentrated water flow; and
- break up slope lengths and minimise catchment areas within the work area where possible, to reduce run-off volume and velocities to manageable levels.

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Elecnor Principle 4 - Use erosion control measures to prevent on-site damage

To minimise erosion of disturbed areas and unlined drains, aim to:

- protect the soil surface from raindrop impact;
- protect the soil surface to minimise erosion; and
- convey run-off in a non-erosive manner.

Elecnor Principle 5 - Use sediment control measures to prevent off-site damage

To minimise the off-site transport of eroded sediment, aim to:

- intercept and capture 'dirty' sediment laden run-off water prior to leave the site boundary;
- slow the velocity of 'dirty' water so that soil particles can settle out by gravity;
- chemically treat sediment laden water to remove very fine suspended soil particles (where required); and
- locate control measures as close to the sediment source as possible, while not impeding construction activities.

Elecnor Principle 6 - Minimise impacts on waterfront land

To minimise impacts to waterfront land, aim to:

- protect ground stratum native vegetation within vegetated riparian zones of the Great Darling Anabranche, Darling River and/or Murray River to the greatest extent practicable, with vegetation clearing ideally limited to the tree stratum only, with trunk bases being retained in-situ;
- minimise the extent of vegetation clearing generally within vegetated riparian corridors wherever practicable in constructing the transmission line structures; and
- maintain 40m buffer from Darling River, Murray River and Great Darling Anabranche for construction activities resulting in soil compaction

Elecnor Principle 7 - Stabilise disturbed areas quickly

To minimise erosion of disturbed areas, aim to:

- strip and stockpile site topsoil material for reuse in the restoration / stabilisation phase; and
- stabilise disturbed surfaces progressively following completion of works at each location to minimise erosion.

Elecnor Principle 8 - Inspect and maintain control measures

The effectiveness of erosion and sediment controls is related to both the selection of appropriate techniques and the maintenance of these measures. Elecnor will:

- inspect control measures regularly (e.g. before / after rainfall and during weekly environmental inspections);
- maintain, modify and/or implement new control measures as identified and required by the inspection; and
- remove temporary control measures once an area has been stabilised.

5.3 Sediment basins

Sediment basins are stormwater management devices and are not proposed in all construction areas. Generally, sediment basins will only be required in areas where soil disturbance occurs over an area greater than 2,500m² per sub-catchment. However and more accurately, the requirement of a sediment basin can be determined when there is an annual soil loss greater than 150m³/year calculated in accordance with the Blue Book. As such, key areas such as borrow pits, laydown areas or earthworks activities at substations will be assessed to determine if a sediment basin is required. Generally, sediment basins will be constructed where the soil loss calculations indicate they are required. Sediment basins will be constructed and operated in accordance with the Blue Book.

Annexure A - Compliance matrix

No.	Principle / objective	Elecnor ESC principles								N/A
		1	2	3	4	5	6	7	8	
Principles of Construction Site Erosion and Sediment Control (IECA 2008)										
1	Appropriately integrate the development into the site									□*
2	Integrate erosion and sediment control issues into site and construction planning	□								
3	Develop effective and flexible erosion and sediment control plans based on the anticipated soil, weather and construction conditions	□								
4	Minimise the extent and duration of soil disturbance		□				□			
5	Control water movement through the site			□			□			
6	Minimise soil erosion				□		□			
7	Promptly stabilise disturbed areas							□		
8	Maximise sediment retention on the site					□				
9	Maintain all erosion and sediment control measures in proper working order at all times								□	
10	Monitor the site and adjust erosion and sediment control practices to maintain the required performance standard								□	
Blue Book management principles (Landcom 2004)										
1	Assess the soil and water implications of development at the subdivision or site planning stage, including those relating to ecologically sustainable development. Investigate the salinity and the acid sulfate potentials of the soil where their disturbance is likely to expose and/or exacerbate this problem	□								
2	Plan for erosion and sediment control concurrently with engineering design and before earthworks begin, ensuring proper assessment of site constraints and integration of the various components	□								
3	Minimise the area of soil disturbed and exposed to erosion		□							
4	Conserve topsoil for later site rehabilitation / revegetation							□		
5	Control water flow from the top of, and through the development area			□						
6	Rehabilitate disturbed lands quickly							□		
7	Maintain soil and water management measures appropriately during the construction phase								□	
Transgrid's HSE Guideline										
1	Minimising disturbance		□							
2	Stabilise high traffic areas	□								
3	Slow down or redirect water flow through the site			□						
4	Protect disturbed areas with gravel, mulches, erosion matting or blankets				□					
5	Stabilise disturbed areas ASAP once work is complete							□		
6	Avoid allowing sediment to leave the worksite or enter drainage					□				

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No.	Principle / objective	Elecno ESC principles								
		1	2	3	4	5	6	7	8	N/A
Guidelines for Controlled Activities on Waterfront Land (NRA 2018)										
1	Establish and preserve the integrity of riparian corridors						<input type="checkbox"/>			
2	Seek to minimise disturbance and harm of riparian corridors		<input type="checkbox"/>							
3	Minimise the number of creek crossings of riparian corridors						<input type="checkbox"/>			
4	Treat stormwater run-off before discharging into riparian corridors			<input type="checkbox"/>						
* To be managed through the permanent design process										


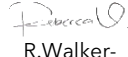



Appendix B - Unexpected Contamination Finds Procedure

INTERNAL



Unexpected Contamination Finds Procedure EnergyConnect (NSW - Western Section)

45860-HSE-PR-D-0003

REV	DATE	GENERAL DESCRIPTION	PREPARED	REVIEWED	VERIFIED	VERIFIED	APPROVED
0	12/02/2024	Revised to Elecnor template	 K.Nestmann	 R.Walker-Edwards	 <small>Sarah Klocke (Pub. 16, 2024 16:52 GMT+11)</small> S.Klocke	 G.Crighton	 G.Arrien

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Revision History	
Rev.	Detailed Description
A	Issued for internal review
B	Issued for TransGrid review
C	Updated following receipt of TransGrid comments
D	Updated following receipt of TransGrid comments
E	Updated and issued for TransGrid review
0	Revised to update to Elecnor template and Elecnor management system

Key Document Stakeholders
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1 Introduction

This Unexpected Contamination Finds Procedure (UCFP) is part of the Soil and Water Management Plan (SWMP) for EnergyConnect (NSW - Western Section) and forms part of the overall environmental management framework for the project.

1.1 Purpose

The purpose of this procedure is to detail the actions to be taken in the event that an unexpected actual or potential contamination find is encountered during project works.

This procedure has been prepared to address the relevant requirements of the *EnergyConnect (NSW - Western Section) Response to DPIE Request for Information - 7 May 2021 and subsequent discussions* and the Infrastructure Approval (SSI 10040) granted by the Minister for Planning and Public Spaces.

2 Induction/Training

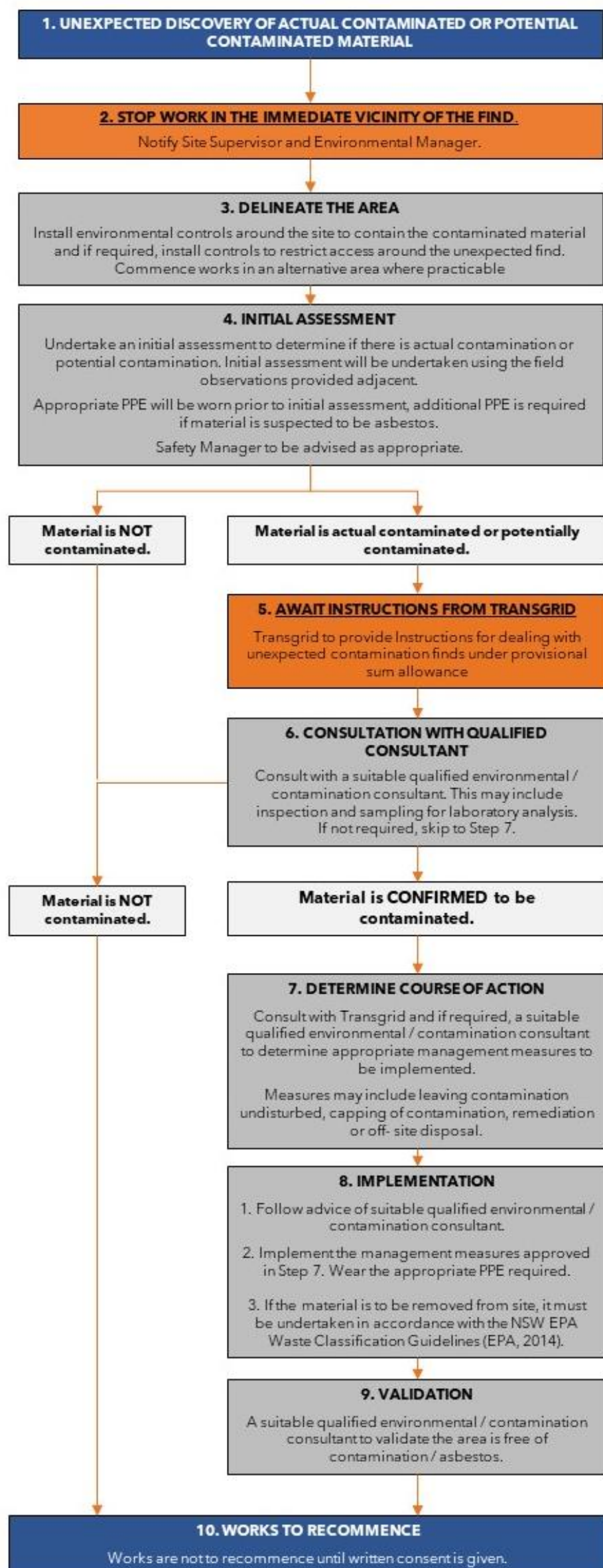
All site personnel (including sub-contractors) will undertake an induction which will include details relating to this procedure. Training may also occur through toolbox talks, pre-starts and targeted training as required.

3 Scope

This procedure is applicable for the following:

- all activities conducted by site personnel (including sub-contractors) for the project that have the potential to uncover / encounter contaminated finds (usually during construction);
- where the project does not have approval to disturb the contaminated material; and
- where safeguards for managing the disturbance (apart from this procedure) are not contained in the environmental impact assessment.

Contaminated Land Procedure Unexpected Contamination Finds Procedure



Purpose

The purpose of this procedure is to detail the actions to be taken in the event that an unexpected actual or potential contaminated material is encountered during construction works associated with Stage 1 and Stage 2 of EnergyConnect (NSW - Western Section).

Definition

Contamination means the presence in, on or under land or any other aspect of the environment of a substance (i.e. gas, chemical, liquid or other matter) whether occurring naturally or otherwise, which is:

- (a) at a concentration above the concentration at which the substance, gas, chemical, liquid or other matter, whether occurring naturally or otherwise, is normally present in, on or under land or any other aspect of the environment in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment; or
- (b) toxic, flammable or otherwise capable of causing harm to humans or damage to the environment including asbestos (man-made or naturally occurring), toluene, polychlorine biphenyls, lead based paints, glues, solvents, cleaning agents, paints, water treatment chemicals and acid producing spoil.

Field observations

Contamination that may not have been detected during previous investigation works may be discovered during the course of the project. Such contamination may be discovered due to the following field observations :

- odour;
- unusual discolouration or staining of soil or rock;
- seepage of unusual liquids from soil or rock;
- unusual colour, odours or sheens on groundwater and/or surface water;
- unusual metal objects;
- presence of oil;
- presence of waste or rubbish above or below ground; and
- actual or potential asbestos or asbestos containing material (ACM).

Actions

If unexpected contamination is discovered, the following procedure will be implemented:

- **STOP ALL WORKS** in the immediate vicinity of the discovery. Do not remove or unnecessarily disturb the area of the find;
- follow the adjacent flowchart;
- notify the Site Supervisor and the Environmental Manager; and
- Do not recommence work until advised to do so in writing.

Personal Protective Equipment (PPE)






The appropriate Personal Protective Equipment (PPE) will be worn prior to any contamination investigation/management. This may include, but not be limited, to:

- eye goggles;
- face mask;
- rubber boots;
- rubber gloves;
- disposal work clothes; and
- full face respirator with vapour cartridge.

Appendix C - Spill Response Procedure

Spill Response Procedure EnergyConnect (NSW - Western Section)

45860-HSE-PR-G-1004

REV	DATE	GENERAL DESCRIPTION	PREPARED	REVIEWED	VERIFIED	VERIFIED	APPROVED
0	12/02/2024	Revised to Elecnor template	 K.Nestmann	 R.Walker-Edwards	 <small>Sarah Klocke (Pub. 01, 2024, 0452, 0411-12)</small> S.Klocke	 G.Crighton	 G.Arrien

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Revision History	
Rev.	Detailed Description
A	Issued for internal review
B	Issued to TransGrid
C	Updated following receipt of Transgrid comments
D	Updated following receipt of Transgrid comments
0	Revised to update to Elecnor template and Elecnor management system

Key Document Stakeholders
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1 Introduction

This Spill Response Procedure (SRP or procedure) forms part of the *Soil and Water Management Plan* (SWMP) (45860-HSE-PL-D-0008) for EnergyConnect (NSW - Western Section).

1.1 Purpose

The purpose of this procedure is to describe the emergency spill response approach that will be employed by Elecpor personnel and subcontractors during construction of the EnergyConnect (NSW - Western Section) project.

2 Induction/training

All site personnel (including sub-contractors) will undertake an induction which will include information in relation to spill response. Training may also occur through toolbox talks, pre-start briefings and targeted training as required.

3 Scope

This procedure is to be applied in the event of a chemical, fuel or oil spill that arises due to the project activities.

4 Control measures

4.1 Preventative spill measures

In order to minimise the potential for environmental impacts to water and soil from spills the following will be undertaken by Elecpor:

- training in use of spill containment materials, their locations and spill response will be undertaken proactively as required particularly for personnel who are working within or near to aquatic environments and are involved in regularly handling and using potentially contaminating substances (e.g. personnel who are carrying out refuelling activities);
- unless avoidable, refuelling, washing and maintenance of vehicles and mechanical plant will occur at least 50m from waterbodies;
- plant and equipment will undergo regular checks and subsequent repair for potential leakages or worn hydraulic hoses;
- all chemicals including fuels and oils will be stored when not in use in bunded areas; and
- all chemicals and hydrocarbons will be stored and handled as per manufacturer's instructions.

Regular inspection of chemical storage areas will be undertaken to assess compliance of the above measures.

4.2 Reactive spill measures

All spills are to be managed in accordance with the steps detailed within Annexure A. This includes the following steps:

1. Assess the situation;
2. Cease work and if safe to do so, control the spill;
3. Report the incident;
4. Clean up the spill;
5. Dispose of contaminated materials; and

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6. Investigation and reporting.

4.3 Spill containment

Spill containment materials such as those listed in Table 4.1 referred to as ‘spill kits’ will be kept and stocked on site at any location where there is significant risk/potential impact of a spill including at refuelling areas, chemical storage and within the vicinity of waterways. Spill kits could be stored in a fixed location or be mobile. Spill kits will be placed in dedicated, visible and accessible locations.

The spill kits will be appropriately sized according to the volume of chemicals and fuels being stored or used and the activities which are being undertaken. All staff would be made aware of the location of the spill kit and trained in its use. Spill kits would be restocked as soon as possible after each use and all used material replaced.

Table 4.1 provides examples of appropriate application of material types. Spill kit inspections are to be undertaken on regular intervals such as during the weekly environmental site inspections detailed within Section 9.1 of the Construction Environmental Management Plan. The inspections would check that spill kits are present at the required locations, are accessible and appropriately stocked.

Table 4.1 - Spill containment materials

Product	Description/Application
Pads, pillows and socks	<ul style="list-style-type: none"> Used to clean-up (absorb) small to medium liquid spills on land rather than containing. Thin absorbent mats placed over spills. Cushion shaped products containing absorbent fibres, used directly under a leak or drip. Absorbent socks placed at the low point of a spill. Consider the need to have a spill kit containing these at the source of the activity and extras in-stock on site. If these materials are not enough to clean-up the spill, consider using absorbent granular materials or equivalent.
Sorbents	<ul style="list-style-type: none"> Used during clean-up, sorbents are materials that soak up the spill such as saw dust, granules or peat mixture. Spread the sorbent over the contaminant after control materials have been applied. Recover the contaminant/sorbent mixture using shovels/excavator bucket or similar. Sorbents can be used from small to large spills.
Drip trays and washout bunds	<ul style="list-style-type: none"> Used to contain incidental leaks during plant and equipment maintenance. Containers should be maintained and liquids/sludge collected. Consider if these containers are not sufficient to contain leaks/washout then construction of permanent bunding may be suitable.
Manual recovery	<ul style="list-style-type: none"> Used to physically remove the contaminant either by excavating the contaminant and adjacent soil on land or pump / vacuum truck removal for contaminant and adjacent liquid/sludge in waterbodies. Control materials should be installed prior to manual recovery to prevent spread during recovery task.

5 Incident management

Incidents will be managed (including notifications and investigations) in accordance with the Section 8 of the Construction Environmental Management Plan. Incident investigations will include a review of events leading up to the incident and a review of what improved practices may be required.

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In accordance with Part 5.7 the *Protection of the Environment Operations Act 1997*, Elecnor will immediately notify EPA in the following circumstances:

- if the actual or potential harm to the health or safety of human beings or ecosystems is not trivial; or
- if actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.

Annexure A

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SPILL RESPONSE PROCEDURE

IN THE EVENT OF A SPILL

1. ASSESS THE SITUATION

- Is it safe to take action?
- What is the source of spill and can it be stopped, controlled or shutdown?
- Consult the Safety Data Sheet - What PPE and emergency equipment is required?
- Are there any other hazards that need to be controlled? E.g. ignition sources?
- Do I need further assistance?



2. CEASE WORK AND IF SAFE TO DO SO, CONTROL THE SPILL

- Stop work that has resulted in the spill
- Stop the flow immediately
- Contain the spill
- Divert the spill away from waterways if needed
- Use bunds, sand etc. to limit the spread of the spill
- If spill enters the drainage system stop the spill at the low point (or it's furthest extent) if possible



3. REPORT THE INCIDENT

- Report the event to the Site Supervisor
- Site Supervisor to evaluate area and make area safe if possible and assess if further assistance needed
- Site Supervisor to notify the environment and safety teams
- Environment team to notify Transgrid
- HSE senior representative on site to call emergency services for large spills beyond the capacity of the work crew to contain or contains hazardous substances, call 000 and request Fire and Rescue HAZMAT



4. CLEAN UP THE SPILL

- Do not hose away spills into the drains or waterways
- If necessary, cover spills during rain events and divert upstream waters through use of a bund to avoid spread and further contamination
- Clean up all contaminated material, soils and water as soon as possible



5. DISPOSE OF CONTAMINATED MATERIALS

- Contaminated materials will be disposed of offsite at licensed waste disposal facility. This includes the absorbent material used for clean up



6. INVESTIGATION AND REPORTING

- Re-stock spill kits as soon as possible after the incident
- The environmental team will investigate and report the spill as required within Section 8 of the CEMP
- Implement lessons learnt to avoid reoccurrence of the incident

Notes

- Ensure the safety of yourself and others whilst implementing this procedure
- Use appropriate personal protective equipment prior to making contact with any spilled material
- Responsible persons includes personnel involved in the cause of the event, witness to the event, supervisors, Elecnor HSE Team, construction personnel and emergency response personnel
- Major incidents should refer to the Elecnor's *Emergency Preparedness and Response Plan* (458060-HSE-PL-G-1015)


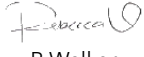



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Appendix D - Dewatering Procedure

INTERNAL

Dewatering Procedure EnergyConnect (NSW - Western Section)

45860-HSE-PR-G-1006

REV	DATE	GENERAL DESCRIPTION	PREPARED	REVIEWED	VERIFIED	VERIFIED	APPROVED
1	6/12/2022	Issued for internal review	R.Walker-Edwards	A.Kriegel	A.Boyd	B.Calligeros	S.Basanta
2	12/02/2024	Revised to Elecnor template	 K.Nestmann	 R.Walker-Edwards	 S.Klocke	 G.Crighton	 G.Arrien

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Revision History	
Rev.	Detailed Description
A	Issued for internal review
B	Issued to Transgrid
C	Updated following receipt of Transgrid comments
D	Updated following receipt of Transgrid comments
E	Issued for Transgrid review and to address draft Infrastructure Approval (Revision 3 dated 12/08/2021)
F	Updated to address Environmental Representative's comments and Transgrid comments
1	Revised to amend dewatering process (not pursued)
2	Revised to update to Elecnor template and Elecnor management system

Key Document Stakeholders
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1 Introduction

This *Dewatering Procedure* (45860-HSE-PR-G-1006) is part of the *Soil and Water Management Plan* (SWMP) for EnergyConnect (NSW - Western Section) and forms part of the overall environmental management framework for the project.

1.1 Purpose

The purpose of this Dewatering Procedure is to describe how Elecnor propose to manage dewatering activities during construction of EnergyConnect (NSW - Western Section).

In particular, this procedure describes the process for the management of water that requires discharging, including water within sediment basins and water captured in other construction areas including trenches, excavations and sumps.

2 Induction/training

All personnel taking part in construction activities shall be informed through site inductions, pre-start meetings, or toolbox talks of the significance of the surrounding environment and potential dewatering impacts.

All staff involved in dewatering activities will undergo site induction and/or specific training relating to this dewatering procedure. This will include (but not be limited to):

- relevant legislation;
- the existence of this procedure;
- sediment basin management; and
- Dewatering Permits.

3 Scope

This procedure is applicable for the following:

- dewatering activities conducted by site personnel (including sub-contractors) for the project from erosion and sediment controls points such as sediment basins, sumps and excavations; and
- dewatering of wheel washes/vehicle washdown areas.

4 Management of sediment basin water and water from other construction areas

It is important to note that dewatering from sediment basins or other construction areas for the project is not to be confused with the dewatering requirements of the wastewater from the turkey's nests that are outlined in the *Accommodation Camp Management Plan (45860-HSE-PL-G-1027)*.

Sediment basins are stormwater management devices to capture sediment laden runoff water. The need for a sediment basin is governed by the volume of soil loss that may occur rather than solely on the location and environmental setting of the project.

Sediment basins are not proposed in all construction areas. Section 6.3.2 of the *Managing Urban Stormwater: Soils and Construction Volume 1 4th Edition* (Landcom, 2004) (also known as the Blue Book) states that sediment basins will generally will only be required in areas where soil disturbance occurs over an area greater than 2,500m² per sub-catchment. However and more accurately, the requirement for a sediment basin can be determined when there is an annual soil loss is greater than 150m³/year calculated in accordance with the Blue Book. Where the calculated soil loss is less than 150m³/year, other erosion and sediment control devices can be installed instead.

Key areas such as borrow pits, laydown areas or the substations during earthworks activities will be assessed to determine if a sediment basin is required or if other suitable erosion and sediment controls could be implemented. Generally, sediment basins will not be required along the transmission alignment due to limited earthworks activities supplemented by the low potential for soil erosion due to the flat topography.

4.1 Sediment basin type design

The EIS describes large proportions of clay and sand within the soil profile of the project area. All sediment basins are likely to be batch-treatment Type F or D sediment basins. Generally, the sediment basins will be designed in accordance with the Blue Book and *Best Practice Erosion and Sediment Control* (IECA, 2008). The advice of a soil conservation specialist will be followed during the design of the sediment basin.

A summary of how Type D sediment basins are generally designed and operated is outlined in Table 4.1 and an example cross-section diagram for the sediment basin is provided in Figure 4.1.

Table 4.1 - Sediment basin type (Source: IECA, 2008)

Parameter	Type D Sediment Basin
Sizing determined by	The ability to catch all runoff from a nominated storm event, in this case the 5-day, 80th percentile rainfall event of up to 17mm (based on <i>Best Practice Erosion and Sediment Control</i> (IECA, 2008) <i>Appendix B - Sediment Basin Design and Operation Version 2</i> and rainfall data taken from BoM for Buronga substation). Note: design parameters to be refined in consultation with soil conservation specialist prior to finalising basin design.
Design features	Single chamber only.
Method of discharge	Passive overflow during rainfall when capacity is overwhelmed. Once treated, detained water is pumped or piped out.
Chemical treatment	Yes. Can use slow-acting coagulants and flocculants such as gypsum if required.
Flocculant delivery method	Flocculant typically applied by hand or via recirculation pumps where required.
Relative effectiveness	Only effective for the water detained in the basin (i.e. an event up to 17mm over a five-day).

Parameter	Type D Sediment Basin
	If rainfall events exceed the design criteria levels, basins will overflow and the water will not receive treatment.
Potential to detain water for construction use	Yes. Detained water available for onsite re-use.

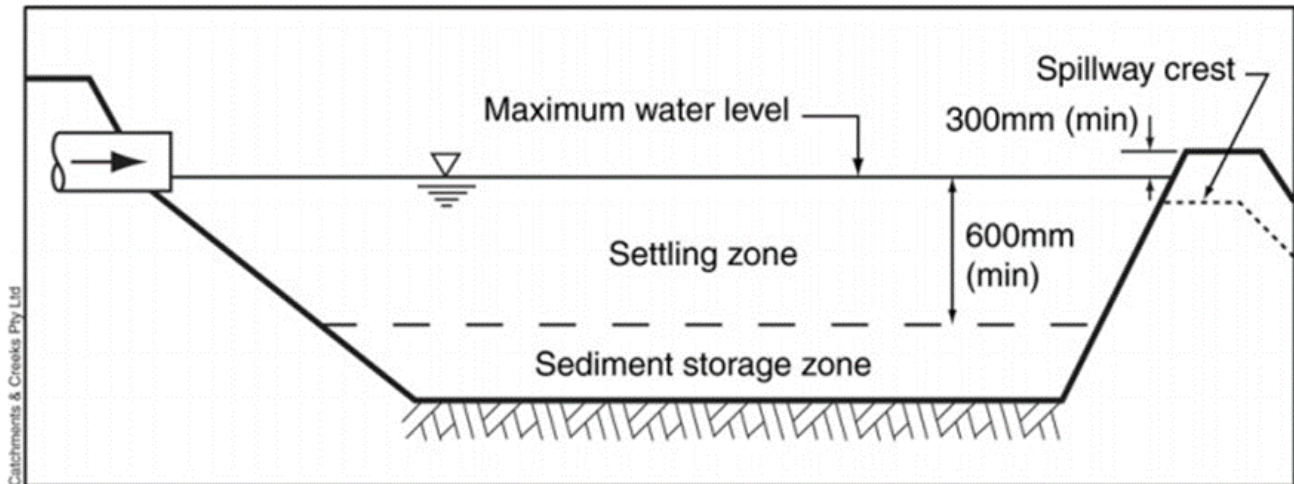


Figure 4.1 - Typical section through Type D sediment basin (Source: IECA, 2008)

4.2 Commissioning

As sediment basins are constructed and commissioned, the construction team will ensure they have followed the Inspection and Test Plan (ITP) and basin design.

4.3 Discharge timing

Sediment basins will not be discharged without a *Dewatering Permit* (45860-HSE-FO-G-1006) in place which has been approved by a member of the Environment Team. Generally, water detained within a sediment basin will be dewatered onsite within five calendar days following the cessation of the rain event, so that the basin and sediment storage capacity is reinstated. If rain occurs again during the five-day period, the five-day requirement resets.

However, any constructed sediment basins will also serve a secondary purpose to capture and store water for beneficial reuse during the project. As the project is located in a region that can experience prolonged periods without significant rainfall, the need to reinstate the basin storage capacity five days after a rainfall event can be diminished.

The Environment Team will monitor the forthcoming weather forecasts and the captured water in the sediment basins, and an assessment will be made on whether dewatering is required based on upcoming forecast weather, local climate, topography and proximity/connection to sensitive environments down gradient. The assessment will include consultation with the Construction Team to determine the upcoming construction activities and the volume of water that may be required.

As such, captured water in the sediment basins might be retained for periods greater than five days to enable beneficial reuse of the water for construction activities and dust suppression purposes.

4.4 Sediment basin treatment

Prior to reusing or discharging the water from the sediment basin and stormwater captured from other construction areas such as sumps, open excavations, trenches, the water will meet the quality criteria provided in Table 4.2.

Table 4.2 - Water quality criteria for sediment basin and other construction areas

Parameter	Units	Water quality criteria
pH	pH units	6.5 to 8.5
Total suspended solids (TSS)	mg/L	50
Oil and grease	Visible	Nil

4.5 Sediment basin maintenance

The following will be carried out in relation to maintenance of sediment basins:

- all sediment basins are to be inspected for capacity (indicated by marker) following the cessation of a rainfall event that results in surface water runoff;
- if possible, water detained in a sediment basin will be reused for construction purposes, such as dust suppression or compaction, or irrigated to native/existing vegetated areas as described in Section 6.2. If water is to be reused for construction purposes or discharged, the water quality provided in Table 4.2 apply;
- once acceptable water quality has been achieved, water will generally be discharged from the sediment basin to ensure adequate storage capacity (indicated by marker) for the next storm event;
- after water is discharged from the sediment basin, a visual inspection will be made to determine if sediment has accumulated above the marked sediment storage zone. If this is the case, de-silting of the basin will be scheduled;
- sediment extracted from the sediment basin will be incorporated into earthworks where suitable;
- where basins are dewatered using pumps, the inlets are to have a float attached to minimise the risk of drawing sediment from the bottom of the basin; and
- all discharges from sediment basins and other ponded water from excavation will be directed in a manner that does not cause scour where it will infiltrate into the soil, or otherwise reuse in accordance with Section 6.1.

4.6 Sediment basin overtopping event

As detailed within Table 5.1, sediment basins will be designed for a 5 day 80th percentile rainfall depth. For the project area, the 5 day 80th percentile rainfall depth is 17mm. Basin design requirements will, however, be confirmed in consultation with a soil conservation specialist prior to basin installation.

If the amount of rainfall exceeds the design capacity, the basin will overflow. As such, design of the sediment basin will include a spillway to direct the water during overtopping. Overtopping events will be recorded in the post rainfall inspections. In the event the overtopping event has caused material harm to the environment, it will be recognised as an environmental incident and the protocols in Section 8 of the CEMP will be followed.

5 Other types of dewatering

5.1 Biosecurity wheel wash management

Wheel wash bays will be installed at designated locations to minimise the transmission of weeds or pathogens to the surrounding environment. As such, the water at the wheel wash bay will need to be managed so it does not impact the surrounding environment which it is meant to protect.

As water from these wheel washes may contain biocides, antifungals or other disinfectants, the management of water from wheel wash bays will be determined on a case-by-case basis. If the wastewater treatment plants (WWTPs) are capable of treating the contaminants present, the water from the wheel wash bays will be collected, transported and treated by the WWTPs for reuse on the project. This will be further discussed with the plant operator where required.

If the WWTPs cannot treat the water from the wheel wash bays to the acceptable quality for reuse, the water will generally be drained to a containment sump that is lined with geofabric or other suitable material if wheel washes contain biocides, antifungals or other disinfectants to avoid percolation. The water will be left to evaporate so that the residue is left behind. Prior to the decommissioning of the washdown bay and containment sump or as required, any residue material will be tested and removed offsite as waste in accordance with the *Waste Management Plan* (45860-HSE-PL-D-0013) for the project.

In the event the water from the washdown bay is at risk of overtopping within the containment sump, the project will dewater the sumps into intermediary bulk containers (IBCs). This water would then be removed offsite as waste in accordance with the *Waste Management Plan* for the project.

5.2 Vehicle washdown in ancillary yards

Vehicle washdown bays will be set up along the construction corridor and/or at the construction compound. Wheel washdown bays proposed at the accommodation camps are detailed within the *Accommodation Camp Management Plan* (45860-HSE-PL-G-1027). These vehicle washdown bays are generally for vehicle and plant maintenance and cleaning, however, the cleaning process could potentially remove weeds and pathogens that remain attached to the vehicles. The general preference is to utilise a pressure washer to minimise the volume of water used and runoff generated, and eco-friendly vehicle wash detergents will be used where necessary.

Washdown bays will be positioned to avoid any low points and stormwater drainage lines and will consider the direction of water runoff. Water from the washdown bays will be diverted to a designated sump which would capture silts, mud and soapy water. If de-silting is required at these washdown bays, the accumulated silts and sediments will be visually inspected for any contamination (including oil, grease, detergents, weeds and seeds), tested (as required for classification purposes) and disposed of in accordance with the *Waste Management Plan*. If the residue is deemed to be uncontaminated and suitable for reuse, it would be mixed into other dry material and reused on the project.

5.3 Chemical bunds and secondary containment

Chemical bunds that are used for secondary containment on the project may occasionally fill with rainwater. If the chemical bund has no visible signs of contamination the water will be collected and re-used or discharged in accordance with this procedure. If the bund has signs of oils/grease or hydrocarbons, the water will be collected and transported to facility authorised to accept the liquid waste as per the *Waste Management Plan*.

6 Water reuse and discharge options

Water is a valuable resource within Western NSW and the project aims to reuse water where possible. During construction, the project will reuse water from a range of sources such as treated wastewater released from the WWTPs into turkey's nests, sediment basins, trenches, piles, sumps and open excavations. Generally, water will be taken via a standpipe arrangement into a watercart vehicle and transported to the intended usage site.

Refer to the *Accommodation Camp Management Plan* (45860-HSE-PL-G-1027) for the reuse and discharge options of water from the WWTPs and turkey's nest.

Water will be reused in various construction activities such as, but not limited to, dust suppression throughout the project corridor (including at transmission tower construction areas, onto and adjacent to access tracks, unsealed roads, and unsealed areas in construction compounds and accommodation camps), soil compaction, wheel wash, vehicle washdown areas and for site restoration, particularly where revegetation activities are required. Where water is not reused on the project, it will be discharged into existing vegetated areas. **Water is not to be reused for irrigation of food crops or to be used near food crop or pastures.**

Refer to Figure 6.1 below for a breakdown of the water reuse sources and the reuse options. Further details of the water reuse options are provided in the sections below.

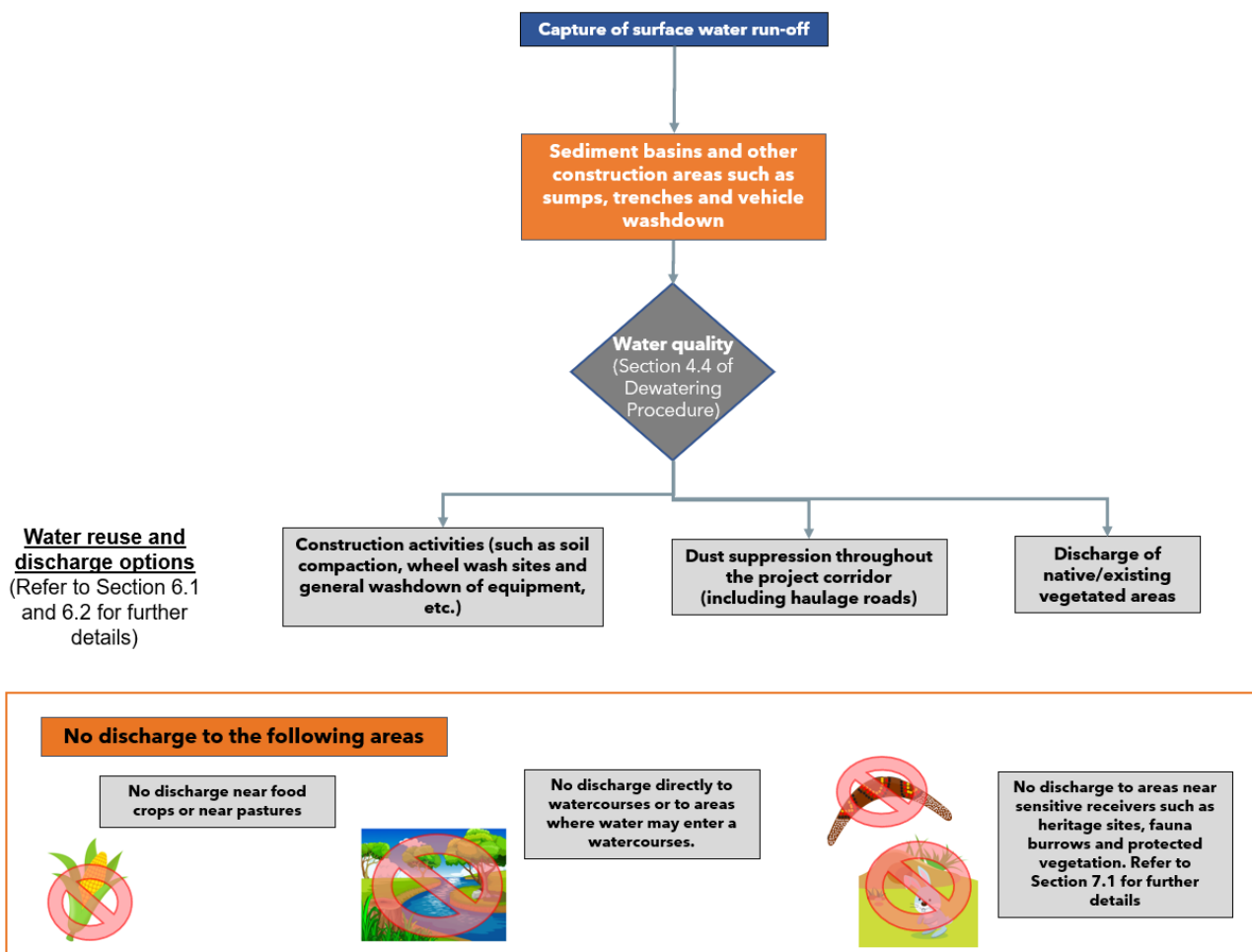


Figure 6.1 - Summary of the water source, reuse and discharge options.

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6.1 Dust suppression and for other construction activities

During construction, the project will reuse water for dust suppression throughout the project corridor (including transmission tower pad areas, onto and adjacent to access tracks, unsealed roads, and unsealed areas within construction compounds and accommodation camps (during establishment)) as well as for other construction activities such as soil compaction, wheel wash and vehicle washdown areas and for site restoration activities. The following will be considered when reusing water for dust suppression and construction activities purposes:

- the respective water quality criteria has been met;
- consideration of the existing soil surface condition (and infiltration potential) when determining the application rate per hour;
- the reuse area is 40m clear of sensitive receiving environments such as waterways and farm dams;
- water is not to be discharged near food crops or food crop pastures;
- the upcoming weather forecast, particularly in relation to rainfall; and
- no use of water in close-proximity to sensitive areas (such as fauna burrows, threatened flora and endangered ecological communities) or areas of contamination. Refer to the text below for further details.

Although generally water is not to be used in close proximity to sensitive areas, there may be some instances where this is unavoidable. For example, the use of water may be required for construction activities (such as the compaction of soils) that are located in areas that are within close proximity to sensitive areas, such as in-situ heritage features.

In the event that water is required to be used in sensitive areas, the Environmental Manager or delegate is to undertake an assessment prior to water use. The assessment will consider the following:

- no application of water to areas where there is potential to impact threatened flora and endangered ecological communities; and
- no application of water to areas outside the construction disturbance areas which has the potential to impact in-situ Aboriginal heritage features.

Where the application of water is essential for construction activities, such as soil compaction within an area that contains or might contain Aboriginal heritage features (i.e. a PAD site, heritage site or heritage item), the management measures of the *Heritage Management Plan* (45860-HSE-PL-D-0009) are to be followed. Indirect impacts to heritage features adjacent to the construction activities should be considered by the Environmental Manager or their delegate (for example for a hearth located adjacent to the work area) with management measures to be applied as required.

6.2 Discharge to native/existing vegetated areas

In the event discharge to native/existing vegetated areas is required, it would be controlled such that it is strictly discharged within and adjacent the project areas and does not cause over saturation, localised erosion or additional uncontrolled runoff. Dewatering to areas of existing vegetation will be undertaken so that it would infiltrate into the ground.

It is important to note that discharge is only permissible for water taken from sediment basins and other construction areas that have captured stormwater, such as open excavations.

The discharge locations will be determined based on visual inspections where the following have been verified:

- the selected areas are well-vegetated or are in sandy areas where soils are relatively undisturbed and the water will be able to infiltrate the ground;
- no discharge of areas which may directly or indirectly impact sensitive receiving environments (heritage features, fauna burrows, threatened flora, endangered ecological communities) or areas of contamination;
- the receiving area is 40m clear of sensitive receptors such as waterways and farm dams; and
- a Dewatering Permit must be approved by Environment Team prior to discharge.

Prior to discharge, the factors that will be considered by the Environment Team in deciding whether to issue a Dewatering Permit include forecast weather conditions (no rainfall imminent), soil surface conditions (infiltration capacity), climatic factors (e.g., drought, prevailing winds direction and wind speed), proximity to sensitive areas and a visual assessment of the proposed discharge area.

The Supervisor (or suitable delegate) undertaking the discharge activity must conduct a visual inspection at one-hour intervals. The visual inspection will include, but not limited to:

- verify that runoff from the discharge area(s) does not extend beyond the allowable area;
- check that spray drift does not extend beyond the allowable area;
- check that discharge does not cause erosion or scouring of localised soils; and
- verify that the soil in the affected area has not become saturated (i.e. no water runoff).

If any of the above-mentioned aspects are observed during monitoring, the pump will be shut off immediately and the discharge point moved to an alternative location before recommencement of dewatering operations. Relevant details will be recorded on the Dewatering Permit.

7 Monitoring

7.1 Pre-rainfall

Sediment basins will be inspected as part of pre-rainfall inspection to determine if adequate design capacity is available for the upcoming predicted rainfall event and if water extraction from the sediment basin is required. The inspection to be undertaken on working days.

7.2 During rainfall

Where access is permitted, and it is safe to do so, sediment basins and secondary containment will be inspected during rainfall events to look for signs of overtopping/spilling.

7.3 Post-rainfall

Sediment basins will be inspected as part of the post-rainfall inspections to assess if there is any evidence of overtopping, including assessing the inlets of the sediment basin for signs of erosion. The inspections will occur within the next working day, if safe to do.

7.4 During dewatering

Prior to dewatering of sediment basins, the water quality will be checked as stipulated in Section 4.4. The Supervisor (or suitable delegate) undertaking the dewatering activity must conduct a visual inspection at one-hour intervals to verify that runoff from the discharge area(s) does not extend beyond the nominated easement/project area, and check that discharge does not cause erosion or localised scouring of the soil.

8 Record keeping

Dewatering activities will generally be recorded in the *Dewatering Permit* (45860-HSE-FO-G-1006).

The Dewatering Permit will include the following information:

- a summary information section which includes the permit ID number, date and location of proposed discharge;
- a checklist of any required control measures;
- the water quality values including the sampling time, date and the name of the person who obtained the sample; and
- quantities of additives, if required, including type of additive, time and date added.

Residue waste from washdown bays and biosecurity washdowns would be reported and tracked in accordance with the project *Waste Management Plan*.

Appendix E - Relevant legislation

Legislation/ Regulations	Aspect	Reference	Requirement	Applicability	Responsibility
<i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i>	All	Section 5.5	A determining authority has the duty to fully consider the environmental impact (including Aboriginal or non-Aboriginal heritage) of an activity and is required to 'take into account the fullest extent possible all matters affecting, or likely to affect the environment' arising from the proposal.	<p>The <i>EnergyConnect (NSW - Western Section) - Environmental Impact Statement</i> was submitted to Department of Planning, Industry and Environment in October 2020 and publicly exhibited between 26 September 2019 and 10 December 2020.</p> <p>On 14 April 2021, the response to submissions was finalised in the <i>EnergyConnect (NSW - Western Section) - Submissions Report</i>.</p> <p>A separate <i>EnergyConnect (NSW - Western Section) - Amendment Report</i>, to document design changes and additional environmental assessment undertaken, was also finalised on 14 April 2021.</p> <p>Transgrid prepared and provided a memorandum titled <i>EnergyConnect (NSW - Western Section) Response to DPIE Request for Information - 7 May 2021 and subsequent discussions to DPIE on the 10 August 2021</i> in response to DPE requested additional information (<i>EnergyConnect (NSW - Western Section)(SSI-10040) Request for Additional Information</i>).</p>	Transgrid
		Section 5.19	<p>Approval of the Minister required to carry out critical State significant infrastructure (CSSI).</p> <p>Comply with the conditions of the Infrastructure Approval and generally in accordance with the revised mitigation measures from the Response to DPIE Request for Information.</p>	<p>The project requires approval from the NSW Minister for Planning and Public Spaces under Division 5.2, Part 5 of the EP&A Act.</p> <p>The project was assessed as above.</p> <p>Approval for <i>EnergyConnect (NSW - Western Section)</i> was granted by the Minister for Planning and Public Spaces.</p>	Transgrid
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	Scheduled Activities	Section 47 Section 48	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA.	<p>Environment protection licences (EPL) are required for the carrying out of scheduled activities as listed under Schedule 1 of the Act. An EPL is likely to be required for the following scheduled activities:</p> <p style="padding-left: 40px;">16 Crushing, grinding or separating</p> <p>An EPL is required if there is a capacity to process more than 150 tonnes of material per day or 30,000 tonnes per year. The need for a crushing or screening plant will not</p>	Elecnor

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Legislation/ Regulations	Aspect	Reference	Requirement	Applicability	Responsibility
				be known until further geotechnical investigation works have occurred. Should a crushing or screening plant be required and the capacity needed is more than 150 tonnes per day or 30,000 tonnes per year, then an EPL will be obtained.	
	Harming the environment	Section 115 Section 116 Section 117	Do not risk harming the environment by wilfully or negligently: <ul style="list-style-type: none"> disposing of waste unlawfully. causing any substance to leak, spill or otherwise escape (whether or not from a container); or causing any controlled substance to be emitted into the atmosphere.	Yes, the relevant management measures are included within the <i>Soil and Water Management Plan</i> , <i>Waste Management Plan</i> and <i>Air Quality Management Plan</i> .	Elecnor
	Water pollution	Section 120	Do not cause or permit water pollution.	Yes, the relevant management measures have been incorporated within the <i>Soil and Water Management Plan</i> .	Elecnor
	Land pollution	Section 142	Do not cause or permit land pollution other than under authority of a licence or regulation (however it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations	Yes, the relevant management measures have been incorporated within the <i>Soil and Water Management Plan</i> .	Elecnor
	Notification of pollution incidents	Section 148	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	Yes, notification requirements are detailed in Section 8 of this CEMP.	Elecnor
	Prepare PIRMP if EPL required	Section 153A-F	Requires the holder of an EPL to prepare a pollution incident response management plan (PIRMP)	A PIRMP will be prepared as part of the EPL, if an EPL is required.	Elecnor
	Control equipment	Section 167	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	Yes, the relevant management measures have been incorporated within the <i>Soil and Water Management Plan</i> .	Elecnor

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Legislation/ Regulations	Aspect	Reference	Requirement	Applicability	Responsibility
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Section 60	Duty to report contamination.	Yes, if project activities have caused land contamination, or a landowner becomes aware of land that is contaminated, there is a legal duty under section 60 of the <i>Contaminated Land Management Act 1997</i> to notify the EPA.	Elecnor
<i>Water Management Act 2000 (WM Act)</i>	Water access licence	Section 60A	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground and includes coastal waters) without an access licence.	<p>Yes, the WM Act applies to areas of New South Wales that have a water sharing plan. The project area is subject to the following water sharing plans:</p> <ul style="list-style-type: none"> • NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011, Lachlan Fold Belt Murray Darling Basin Groundwater Source; • Darling Alluvial Groundwater Sources - including unconfined aquifers with high connectivity to the Darling River; and • NSW Murray Darling Porous Rock Groundwater Sources - including remaining unconfined, semiconfined and confined aquifers. <p>Section 60A of the WM Act requires that a water access licence (WAL) be obtained to extract water from a water source.</p> <p>Section 21 and Schedule 4 of the <i>Water Management (General) Regulation 2018</i> does however provide exemptions for the requirement to obtain water access licences. Relevant exemptions from Part 1 of Schedule 4 are detailed below:</p> <ul style="list-style-type: none"> • clause 7 provides an exemption for water taken in the course of certain aquifer interference activities (in relation to taking up to 3 ML of groundwater from a groundwater source); and • clause 17A provides exemption for the taking of groundwater for excavation works where they are a holder of a water supply work authority in relation to taking of more than 3 ML of groundwater. <p>Any other water required for construction purposes would however require a water access licence. This includes extraction for:</p>	Elecnor

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Legislation/ Regulations	Aspect	Reference	Requirement	Applicability	Responsibility
				<ul style="list-style-type: none"> interception activities (i.e. intercepted groundwater during piling); and potable uses for human consumption associated with the accommodation camp. 	
	<p>Impacts to water supply work and water use</p> <p>Activity approvals</p>	<p>Section 89</p> <p>Section 90</p> <p>Section 91</p>	<p>Under Section 89, a water use approval confers a right on its holder to use water for a particular purpose at a particular location.</p> <p>Under Section 90, approval is required for the authorisation to construct and use a specified water supply work such as pumps, bores, spear points or wells at a specified location, drainage work or flood work.</p> <p>Under Section 91, there are two kinds of activity approvals, controlled activity approvals and aquifer interference approvals.</p> <p>A controlled activity approval is required for carrying out a specified controlled activity at a specified location in, on or under waterfront land.</p> <p>An aquifer interference approval is required for carrying out one or more specified aquifer interference activities at a specified location, or in a specified area.</p>	<p>Section 5.23 of the EP&A Act provides that water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the <i>Water Management Act</i> do not apply to state significant infrastructure.</p> <p>An activity approval is therefore not required, however an aquifer interference licence may be required when an activity involves any of the following:</p> <ol style="list-style-type: none"> the penetration of an aquifer, the interference with water in an aquifer, the obstruction of the flow of water in an aquifer, the taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations, the disposal of water taken from an aquifer as referred to in paragraph (d). <p>However, an aquifer interference licence is not required if an activity ensures that no more than minimal harm will be done.</p> <p>Stated under Section 3.3 of the NSW Aquifer Interference Policy, there are a number of activities that are considered as having a minimal impact on water dependent assets which includes monitoring bores and wells that are required by a development consent under Part 4 or an approval under Part 5.1, of the EP&A Act, or required or undertaken as a result of an environmental assessment under Part 5 of EP&A Act. Since the environmental assessment for the project requires the confirmation of groundwater level. An aquifer interference licence is not required.</p>	<p>Elecnor</p>

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