Transgrid

People. Power. Possibilities.

HumeLink

Enabling Works Management Plan

06 June 2025

Details of Revision Amendments

Revision Details

Rev.	Date	Reviewed by	Details
A	09/05/2024	A. Youssef and M. Moroney	First draft
B	22/05/2024	A. Youssef, M. Moroney and C. Tucker	Second draft
0	26/06/2024	S. Osman and J. McGovern	Rev 0 to DPHI
1	16 Aug 2024	S. Osman and C. Tucker	Rev 1 addressing DPHI, BCS and Heritage comments
2	17 Oct 2024	S. Pathammavong	Rev 2 incorporating additional condition requirements
3	5 Dec 2024	A. Youssef, S. Pathammavong and M. Moroney	Rev 3 addresses comments from DPHI – Energy Assessments and the ER
4	12 Dec 2024	A. Youssef and S Pathammavong	Rev 4 addresses final comments from DPHI
5	18 Feb 2025	A. Youssef, S. Pathammavong and M. Moroney	Revision 5 updates Table 4-1, Section 4.2 and Appendix G
5.1	28 Feb 2025	S. Walton, S. Pathammavong	Rev 5.1 addresses comments from DPHI
5.2	12 Mar 2025	S. Walton, P. Murthy, S. Pathammavong	Rev 5.2 addresses comments from DPHI, the relocation of the Yass accommodation facility and minor corrections
5.3	20 Mar 2025	S. Walton, S. Pathammavong	Rev 5.3 updates Table 5-8 and Appendix G
5.3.1	8 May 2025	P. Murthy, S. Pathammavong	Rev 5.3.1 includes updates in Section 1.1 to address the Enabling Works extension of duration.
5.3.2	06 June 2025	S. Walton, P. Murthy, S. Pathammavong	Rev 5.3.2 includes minor updates to Section 5.3, Section 7.6 and Section 9.4.1, Appendix A, Appendix G and Appendix E

Document Review

Position	Name	Signature	Date
Environment and Sustainability Manager	Sam Pathammavong	*S. Pathammavong*	06 June 2025

Contents

This page is blank.

Conditions of Approval compliance table

No.	Condition of Approval	Where addressed
B64	Prior to commencing Enabling Works, an Enabling Works Management Plan must be prepared which outlines the environmental management practices and procedures to be implemented. The Enabling Works Management Plan must be prepared in consultation with the relevant council(s) and government agencies. The Enabling Works Management Plan must include: (a) a description of activities to be undertaken during Enabling Works (including scheduling and duration of work to be undertaken at the site) focussing on low risk activities; (b) risk assessment for types of activities to be undertaken under the plan; (c) figures illustrating the proposed operational site layout and the location of the closest sensitive land use(s); (d) a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of site establishment work; (e) details of how the activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1; (ii) ensure the accommodation camps comply with conditions B23 and B51; (iii) manage the risks identified in the risk analysis undertaken in subsection (b) of this condition; and (f) a program for monitoring the performance outcomes, including a program for construction noise monitoring.	The EWMP: (a) Section 1.3 (b) Section 6, Appendix N (c) App D (Environmental Control Maps) and Appendix N (Risk Assessments for Enabling Works Activities) (d) Section 8 (e)(i) The requirement to minimise harm (A1) incorporated into the EWMP Objectives Section 2.2) (e)(ii) B23 (Flooding) incorporated into EWMP Section 5.9 and B51 (Bushfire Safety) incorporated into EWMP Section 7.8. (e)(iii) Sections 6, 7, 8 Appendix A (Environmental Management and Mitigation Measures) and Appendix N (Risk Assessments for Enabling Works Activities) (f) Section 8.5 (Monitoring)
B65	Following the Planning Secretary's approval, the Proponent must implement the Enabling Works Management Plan for the duration of the Enabling Works.	Section 8.1
B66	Unless otherwise agreed by the Planning Secretary, the Enabling Works must only be	Section 1.1

No.	Condition of Approval	Where addressed
	undertaken under the Enabling Works Management Plan for a period of 4 months from the commencement of the Enabling Works.	
B67	Unless otherwise agreed by the Planning Secretary, within 4 months of the commencement of the Enabling Works, the Proponent must update the approved management plans for the development to incorporate any relevant aspects of the Enabling Works Management Plan.	Section 1.1
C1	Prior to commencing construction (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B64)), the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must: (a) provide the strategic framework for environmental management of the development; (b) identify the statutory approvals that apply to the development; (c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; (d) set out the procedures that would be implemented to: (i) keep the local community and relevant agencies informed about the operation and environmental performance of the development; (ii) receive, handle, respond to, and record complaints; (iii) resolve any disputes that may arise; (iv) respond to any non-compliance; (v) respond to emergencies; and (e) include: (i) references to any strategies, plans and programs approved under the conditions of this approval; and (ii) a clear plan depicting all the monitoring to be carried out in relation to the development, including a table summarising all the monitoring and	The EWMP: (a) Section 1.4 (b) Sections 2.2, 3.3, 6.1 and Appendix C (Relevant Legislation) (c) Section 8.1 (d)(i) Section 10 (d)(ii) Section 8.3 (d)(iii) Section 8.3 (d)(iv) Section 8.8 (d)(v) Section 9 (e)(i) Section 10.1 (e)(ii) Sections 5.3.1, 6.3 (EWMS Monitoring), 8.5 (Monitoring), 8.7 (Reporting), Appendix A (Environmental Management and Mitigation Measures).

No.	Condition of Approval	Where addressed
	reporting obligations under the conditions of this approval. The Proponent must not commence construction until the Environmental Management Strategy is approved by the Planning Secretary. Following the Planning Secretary's approval, the Proponent must implement the Environmental Management Strategy.	

Glossary / abbreviations

Term	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AECs	Areas of environmental concern
AHIMS	Aboriginal Heritage Information Management System
APZ	Asset Protection Zone
ARI	Average recurrence interval
AS/NZS	Australia/New Zealand Standards
ASSMAC	Acid Sulfate Soils Management Advisory Committee
BDAR	Biodiversity Development Assessment Report
CEMP	Construction Environmental Management Plan
CMS	Complaints Management System
CNVG	Construction Noise and Vibration Guideline
CNVIS	Construction Noise and Vibration Impact Statement
CoA	Condition of approval
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
CSE	Community and Stakeholder Engagement
CSM	Community and Stakeholder Engagement Manager
CSSI	Critical State Significant Infrastructure
DECC	former Department of Environment and Climate Change
DECCW	former NSW Department of Environment, Climate Change and Water
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
ECM	Environmental Control Map
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
Enabling Works	An initial stage (as defined under an approved Enabling Works Management Plan under condition B64 of this approval) of the following activities defined as low risk in the Enabling Works Management Plan: 1. Site establishment and the operation of construction compounds, including excavations, surface preparation, site access points and utility connections; 2. Site establishment of worker accommodation facilities; 3. Minor adjustments to existing access tracks and road improvement; 4. Utility relocations and adjustments; 5. Establishment of new access tracks in the Enabling Works Management Plan.
ENM	Excavated natural material
EPA	NSW Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

Term	Definition
ESCP	Erosion and Sediment Control Plan
EWMP	Enabling Works Management Plan
EWMS	Environmental Work Method Statement
FCNSW	Forestry Corporation of NSW
FRNSW	Fire and Rescue New South Wales
GIS	Geographic information system
GPS	Global positioning system
HLE	HumeLink East: Acciona Construction Australia Pty Ltd and Genus Infrastructure (NSW) Pty Ltd Joint Venture
HLW	HumeLink West: UGL Engineering Pty Ltd and CPB Contractors Pty Ltd Joint Venture
Hold Point	A verification point that prevents work from commencing prior to approval
ICNG	Interim Construction Noise Guideline (DECC 2009)
ISO	International Organization for Standardization
KFH	Key fish habitat
NDD	Non-destruction digging
NEM	National Electricity Market
NEPM	National Environment Protection Measures
NML	Noise management level
NOA	Naturally occurring asbestos
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
OOHW	Out of hours works
PAD	Potential Archaeological Deposit
PBP	*Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers* (NSW RFS, 2019)
PCT	Plant Community Type
POEO Act	*Protection of the Environment Operations Act 1997*
RFS	NSW Rural Fire Service
RRO/RRE	Resource Recovery Order / Resource Recovery Exemption
SMS	Short Message Service
TCWS	Traffic Control at Work Sites – Technical Manual Version 6.1
TDS	Total Dissolved Solids
TEC	Threatened ecological community
TfNSW	Transport for New South Wales
TGS	Traffic guidance scheme
TN	Total Nitrogen

Term	Definition
TOBAN	Total Fire Ban
TP	Total Phosphorus
TSS	Total Suspended Solids
UMM	Updated mitigation measure
VENM	Virgin excavated natural material
VMS	Variable message sign

1. Introduction

1.1. Purpose

This Enabling Works Management Plan (EWMP) has been prepared to describe how the enabling works stage of the HumeLink Project will be delivered. The EWMP has been prepared in consultation with the relevant councils and government agencies and has been reviewed and endorsed by the Environmental Representative as required under Condition A13(a) of the Planning Approval (SSI 36656827). The enabling works are required to be carried out before the start of the main Construction work and broadly involve the preparation of the work sites for construction. A description of the enabling works scope is provided in Section 1.3.

Following the request made under Condition CoA B66 (SSI-36656827-PA-64), the Planning Secretary has agreed to an extension of the duration of the enabling works period to allow the works managed under this EWMP to be undertaken until the commencement of Construction (approved 8 May 2025).

Following approval for the commencement of Construction, any outstanding enabling works would no longer be defined as such and would then be managed within the framework of the Environmental Management Strategy (EMS), Construction Environmental Management Plans (CEMP) and any other applicable management plans.

The enabling works duration extension request (SSI-36656827-PA-64) also requested the Planning Secretary's agreement to a corresponding change under CoA B67 that, prior to the commencement Construction, the management plans for the development will be updated to incorporate any relevant aspects of the Enabling Works Management Plan, to the satisfaction of the Planning Secretary.

1.2. Background and overview of project

The HumeLink project includes the construction and operation of around 365 kilometres of new 500 kilovolt (kV) overhead transmission lines, substations, permanent and temporary access tracks and roads, and ancillary facilities. The project is being staged and will be delivered under two separate Contract Packages being:

- HumeLink East (HLE): Acciona Construction Australia Pty Ltd and Genus Infrastructure (NSW) Pty Ltd Joint Venture
- HumeLink West (HLW): UGL Engineering Pty Ltd and CPB Contractors Pty Ltd Joint Venture.

Figure 1-1 shows the geographical scope of each Contract Package. The interface point between both Contract Packages is approximately 400 metres north of the transmission line crossing of Batlow-Tumut Road at Windowie.

Figure 1-1: Indicative location of the HumeLink East and HumeLink West Contract Packages

The project includes the following key components:

- construction and operation of around 365 kilometres of new double circuit 500 kV transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle
- construction of a new 500/330 kV substation at Gregadoo (Gugaa 500 kV substation) approximately 11 kilometres south-east of the existing Wagga 330/132 kV substation (Wagga 330 kV substation)
- demolition and rebuild of a section of Line 51 (around two kilometres in length) as a double circuit 330 kV transmission line connecting into the Wagga 330 kV substation
- modification of the existing Wagga 330 kV substation and Bannaby 500/330 kV substation (Bannaby 500 kV substation) to accommodate the new transmission line connections
- connection of transmission lines to the future Maragle 500/330 kV substation (Maragle 500 kV substation, approved under the Snowy 2.0 Transmission Connection Project (SSI-9717))
- telecommunications connections to existing substations
- establishment of new and/or upgraded temporary and permanent access tracks
- ancillary works required for construction of the project such as construction compounds, worker accommodation facilities, utility connections and/or relocations, brake and winch sites, and helipad/helicopter support facilities.

1.3. Enabling works scope

As per the Project Approval, enabling works are pre-construction activities assessed as low-risk and approved under an EWMP (this Plan).

The enabling works scope (as outlined in Section 4) is also consistent with the enabling work description provided in Chapter 26 of the HumeLink Environmental Impact Statement (EIS), summarised below:

- site establishment and operation of construction compounds, including excavations, surface preparation, access roads, and utility connections
- site establishment of worker accommodation facilities, including excavations, surface preparation, access roads and utility connections
- establishment of new access tracks
- minor adjustments to existing access tracks and road improvement
- utility relocations and adjustments.

Refer to Section 4 for further detail on the enabling works activities to be undertaken in accordance with this EWMP.

1.4. Environmental management systems overview

The Transgrid Environmental Management Strategy (EMS) for the Project references the relevant construction contractors' environmental management systems and comprises a suite of documentation including this EWMP which is supported by other cascading environmental documentation including procedures and protocols as relevant to the activity or associated environmental risk. The EMS provides a governance framework to support management of the Project environmental requirements and defines how the construction contractors will minimise environmental risk and meet the environmental outcomes through the design and construction of the enabling works for the Project.

The EMS contains site-specific documentation including procedures and other processes that enable the management of the Project and support the core governance framework, including:

- Environmental Work Methods Statements
- Site Specific Environmental Control Map/s
- Progressive Erosion and Sediment Controls Plans
- Hold points.

The construction contractors' Environment and Sustainability Policies are included in Appendix B – Environment and sustainability policies and are consistent with the EIS and Amendment Report project requirements.

The construction contractors delivering the Project also have a certified environmental management system consistent with AS/NZS ISO 14001: Environmental Management Systems.

2. Scope and environmental objectives

2.1. Scope

The scope of this EWMP includes:

- description of the enabling works and activities to be undertaken prior to the commencement of construction
- definition of the objectives and targets for the enabling works
- definition of the enabling works environmental management process.

The scope of the enabling works activities is described in Section 4.

2.2. Environmental objectives

As a means of measuring environmental performance in relation to this EWMP, a series of objectives have been developed. These are provided in Table 2-1. These objectives have been developed with consideration of statutory approvals, contractual requirements, legislative requirements, environmental performance requirements and potential environmental aspects and impacts.

Table 2-1: Objectives and performance outcomes for enabling works

Aspect	Objective
Biodiversity	• minimise impacts on native flora and fauna • retain existing flora and fauna habitat wherever possible • appropriately manage the spread of weeds and plant pathogens.
Heritage	• avoid impacts on known items or places of heritage value as far as practical • maximise worker awareness of Aboriginal and Non-Aboriginal heritage.
Noise and vibration	• minimise noise and vibration impacts on sensitive receivers • keep the community notified of works.
Air quality	• minimise dust and vehicle emissions from enabling works activities as far as practicable.
Traffic and transport	• minimise disruption to traffic operation, road users, pedestrians, cyclists and access to adjoining properties (private and public).
Soil and water quality	• prevent pollution of surface water through appropriate erosion and sediment control • maintain existing water quality of surrounding watercourses • prevent the pollution of groundwater through appropriate controls • minimise the potential for impact on groundwater dependent ecosystems.
Hydrology and flooding	• minimise the potential for enabling works to impact flood behaviours • minimise the potential for flooding to impact enabling works infrastructure.
Land use and property	• minimise impacts to private property during enabling works.
Social and economics	• maintain access to residences and businesses during enabling works • plan enabling works to minimise disturbance.
Landscape character and visual amenity	• provide appropriate screening of structures and compounds where practical

Aspect	Objective
	• design and operate lighting in accordance with *AS 4282 2019 Control of the obtrusive effects of outdoor lighting.*
Hazard and risk	• continue investigations and consultation with utility providers to avoid potential risks to existing utilities and services during construction of the project.
Waste	• use recycled materials • avoid unnecessary resource consumption • recycle and reuse materials onsite • use water efficient construction methods and equipment.

3. Environmental requirements

3.1. Relevant legislation and guidelines

A register of relevant legislation and guidelines is provided in Appendix C – Relevant legislation. The register will be maintained by the construction contractors through reviews at regular intervals and updated as required. Any updates made will be communicated to the wider project team, including subcontractors where required, through toolbox talks, training and other methods outlined in Section 8.2 of this Plan.

3.2. Updated mitigation measures

The updated mitigation measures (UMMs) relevant to this Plan are listed in Appendix A – Environmental management and mitigation measures. The UMMs are based on those presented in the Amendment Report. A cross reference is also included to indicate where the UMM relates to a mitigation measure presented in the Amendment Report.

3.3. Approvals, permits and licences

The following additional licences, approvals or exemptions will be obtained by the construction contractors prior to or during the Enabling Works (where required):

- Road Occupancy Licences (ROLs) under Section 138 of the *Roads Act 1993*
- Aquifer interference approval under the *Water Management Act 2000* if construction requires intersection of a groundwater source
- Exemptions to allow hot works to be undertaken on Total Fire Ban (TOBAN) days as detailed under Section 99 of the *Rural Fires Act 1997.*

4. Enabling Works activities

4.1. Construction compounds and combined accommodation facilities and construction compounds

4.1.1. Site locations and layout

Accommodation camps will be constructed in accordance with the Approvals. Construction compounds and combined accommodation facilities and construction compounds for the Project are detailed in Table 4-1. Detailed layouts are provided in Appendix D – Environmental Control Maps.

The proposed construction compounds have been selected at suitable locations across the Project footprint to support the construction works. The construction compounds have been located away from sensitive land uses and receivers, where possible, and the internal layouts have been configured in a manner that considers noise, dust and light impacts to nearby sensitive receivers.

Further, all utilities at the accommodation camps, including water, wastewater, waste and electricity, will be designed and located in accordance with the relevant Council specifications and relevant standards. Additionally, all accommodation camps will be established in accordance with the relevant requirements of the Building Code of Australia; and where the Building Code of Australia is not applicable, to the relevant Australian Standard. All accommodation facilities will be established in accordance with the Bushfire Safety requirements outlined Section 7.8 and hazard and risk mitigation measures in Appendix A – Environmental management and mitigation measures.

Unless the Planning Secretary agrees otherwise, the accommodation camps will be constructed and operated as described in the EIS/Amendment Report and in Appendix 1 of the conditions of approval (CoA), in accordance with staging set out in CoA B59(e), prior to commencing main construction.

The establishment of the accommodation camps is key activity during Enabling Works, however the accommodation camps will not be occupied until they are built, as they are primarily to facilitate the construction phase. Prior to the occupation of the accommodation camps, the relevant Accommodation Camp Management Plans will be prepared in consultation with the relevant Council and TfNSW, and to the satisfaction of the Planning Secretary (as per the requirements of CoA B59).

Table 4-1: Construction compounds and combined accommodation facilities and construction compounds

EIS / Amendment Report Compound number	Location	Purpose
AC04 – Adjungbilly accommodation facility and compound (HumeLink East)	Adjungbilly Gobarralong Adjungbilly Road Compound	• Plant servicing workshop • Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park • Accommodation
AC05 – Yass Compound (HumeLink East)	Faulder Avenue, Yass	• Plant servicing workshop • Stockpile, laydown and equipment storage • Main offices • Amenities • Car park

EIS / Amendment Report Compound number	Location	Purpose
AC06 – Crookwell accommodation facility and compound (HumeLink East)	Graywood Siding Road, Woodhouselee	• Plant servicing workshop • Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park • Accommodation
C12 – Bannaby 500 kV substation compound (HumeLink East)	Bannaby 500kV substation, Bannaby	• Plant servicing workshop • Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park
C19 – Gadara Road compound (HumeLink East)	Gadara Road, Gadara	• Plant servicing workshop • Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park
Yass Valley Way accommodation facility (HumeLink East)	Yass Industrial Park, 1 Yass Valley Way	• Accommodation • Offices • Amenities • Car park
C01 – Wagga 330 kV substation compound (HumeLink West)	Gregadoo Waste Centre Road, Wagga Wagga	• Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park
C06 – Gregadoo Road compound (HumeLink West)	Livingstone Gully Road, Gregadoo	• Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park • Batch plant • Helipad/helicopter facilities
C14 – Memorial Avenue compound (HumeLink West)	Memorial Avenue, Batlow	• Laydown and equipment storage • Secondary offices (primary office during enabling works) • Amenities • Car park
C17 – Ardrossan Headquarters Road compound (HumeLink West)	Ardrossan Headquarters Road, Lower Bago	• Stockpile, laydown and equipment storage • Secondary offices • Amenities • Car park • Batch plant • Helicopter access

EIS / Amendment Report Compound number	Location	Purpose
C18 – Snubba Road compound (HumeLink West)	Bago Forest Way, Bago State Forest	• Stockpile, laydown and equipment storage • Crib huts and amenities • Car park
C21 – Ellerslie Road compound (HumeLink West)	Ellerslie Road, Ellerslie	• Stockpile, laydown and equipment storage • Car park • Crib huts and amenities • Amenities • Batch plant • Helipad/helicopter facilities
AC03 – Tarcutta accommodation facility and compound (HumeLink West)	Mates Gully Road, Tarcutta	• Plant servicing workshop • Stockpile, laydown and equipment storage • Main offices • Amenities • Car park • Accommodation • Batch plant • Helipad/helicopter facilities
AC07 – Green Hills accommodation facility and compound (HumeLink West)	Green Hills Access Road, Kunama	• Plant servicing workshop • Stockpile, laydown and equipment storage • Main offices • Amenities • Car park • Accommodation • Batch plant • Helipad/helicopter facilities

As contemplated by Section 4.3.2 of the EIS, additional storage and laydown areas would be required throughout the project for the temporary storage of materials, plant and equipment required to support the various elements of work. Prior to establishment of any of these storage and laydown areas during the enabling works phase, these areas would be subject to the Appendix G – Additional Enabling Works Risk Assessment / minor impact checklist (Template) as described in Section 6.2 to ensure they meet the requirements of this EWMP.

4.1.2. Activities required

Activities required to prepare the construction compounds and combined accommodation facilities and construction compounds would include the following:

- installing site environmental management and traffic controls, including drainage and erosion and sediment management controls
- archaeological testing under the Code of Practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010) or archaeological monitoring undertaken as identified in the Revised Aboriginal Cultural Heritage Assessment Report (ACHAR)
- heritage salvage and archival recording

- installing temporary fencing to ensure work areas are clearly delineated
- carrying out property adjustment and demolition work including adjustments to property fencing, barricades, gates and access, and demolition and relocation of existing dwellings and structures as required. All demolition work will be carried out in accordance with *AS 2601-2001: The Demolition of Structures* (Standard Australia, 2011), or its latest version
- relocating, adjusting or protecting utilities, where required
- clearing and relocation of native vegetation as identified in the Revised Biodiversity Development Assessment Report (BDAR)
- carrying out geotechnical and contamination investigations (if required)
- clearing topsoil, where required, including stockpiling for reuse during rehabilitation
- establishment of compound facilities, including:
  - ablutions
  - medical facilities
  - offices
  - car parking
  - internal access and walkways
  - lighting
  - site access and egress points (including local road upgrades or adjustments to accommodate access/egress)
  - laydown and/or storage areas.

Blasting, occupation of accommodation camps, or the use of helicopters would not occur until the construction phase.

In the case of the existing Memorial Avenue construction compound site in Batlow, the following activities will not be carried out:

- crushing or screening
- concrete batching
- any other noise generating activity that would result in noise levels at sensitive receivers or sensitive land uses exceeding the construction 'highly noise affected' noise management level criteria established using the Interim Construction Noise Guideline (DECC, 2009).

4.1.3. Access

Access points for construction compounds and combined accommodation facilities and construction compounds are identified in Appendix D. Consultation with the relevant road authorities for each site has commenced and is ongoing. Any required approvals under Section 138 of the *Roads Act 1993* will be obtained prior to the commencement of access to the site.

4.1.4. Plant and equipment

Plant and equipment expected to be used for the establishment of construction compounds and combined accommodation facilities and construction compounds includes:

- small cranes and lifting equipment
- excavators
- dump trucks
- graders
- front end loaders
- vibratory rollers
- concrete trucks
- drill rig.
- concrete vibrators
- road trucks
- light vehicles
- chainsaws
- elevated work platforms
- mulchers
- fences
- hand tools
- portable sheds and ablutions
- generators
- compactors
- graders
- watercarts
- fuel storage
- waste tanks
- forklifts.

4.2. Access track construction

4.2.1. Site location and layout

Access track works would occur across the Project alignment as enabling works to provide access to pending construction facilities. These will be assessed through the Appendix G – Additional Enabling Works Risk Assessment / minor impact checklist (Template) and will be reviewed and approved by the Environmental Representative.

4.2.2. Activities required

Activities required to construct the access tracks (including access points) would include the following:

- installing site environmental management and traffic controls, including drainage and erosion and sediment management controls
- archaeological testing under the Code of Practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010) or archaeological monitoring undertaken as identified in the EIS
- heritage salvage as determined in Section 3.4 of Appendix K and archival recording
- installing temporary fencing to ensure work areas are clearly delineated
- carrying out property adjustment and demolition work including adjustments to property fencing, barricades, gates and access, and demolition and relocation of existing dwellings and structures as required. All demolition work will be carried out in accordance with *AS 2601-2001: The Demolition of Structures* (Standard Australia, 2011), or its latest version
- relocating, adjusting or protecting utilities, where required
- clearing and relocation of native vegetation as identified in the EIS
- carrying out geotechnical and contamination investigations (if required), including geotechnical investigations to confirm tower pad location
- clearing topsoil, where required, including stockpiling for reuse during rehabilitation
- constructing access tracks as follows:

- adjustments to existing access tracks, including the following activities, strip topsoil, install drainage crossings as required, load, haul, place and compact material. Place and compact granular capping. Replace cattle grids, install gates and fences
- construction of new access tracks, including the following activities, strip topsoil, install drainage crossings as required, load, haul, place and compact material. Place and compact granular capping. Install cattle grids, install gates and fences
- construction of waterway crossings, including the following activities:
    - removing all loose material from the watercourse at the point to be crossed, forming a depression with firm base and sides
    - filling the depression with graded layers of rock, placing the rock layers to produce an interlocked bed of rock, sloped and dished to allow water to drain freely through and flow over the causeway (minimum thickness of around 450 millimetres but not higher than the bed of the waterway).

4.2.3. Plant and equipment

The plant and equipment required for the establishment of access tracks would be consistent with those outlined in Section 4.1.4.

4.3. Utility works

4.3.1. Locations

Utility works would occur across the Project, with some being undertaken as enabling works, particularly where they are associated with establishment of accommodation facilities.

4.3.2. Activities required

Utilities would initially be identified by non-destructive digging. Where required, protection of underground and overhead utilities would be undertaken, and existing services would be relocated or adjusted as needed. Activities to be undertaken would include:

- non-destructive digging
- excavation
- installation of pipes and conduits
- backfilling of excavation
- compaction
- concreting where required.

4.3.3. Plant and equipment

Plant and equipment expected to be used for utility works includes:

- small cranes and lifting equipment
- excavators
- vacuum trucks
- front end loaders

- concrete trucks
- concrete vibrators
- road trucks
- light vehicles
- elevated work platforms
- hand tools
- portable sheds and ablutions
- generators
- compactors
- watercarts.

4.4. Enabling works program

Enabling works would commence immediately following Commonwealth approval and continue until Construction is approved for commencement. Once the Project enters the construction phase, it is considered that the enabling works phase will have concluded. Therefore, any remaining enabling works will be undertaken as part of the construction phase and managed in accordance with the CEMP and EMS.

4.5. Working hours

Where feasible and reasonable, enabling works would be carried out during standard working hours as defined by the Interim Construction Noise Guideline (ICNG) (DECC, 2009a):

- 7am to 6pm Monday to Friday
- 8am to 1pm Saturday
- no work on Sundays or public holidays.

4.5.1. Out of hours works

Enabling works associated with the Project will be undertaken in accordance with the assessment and management approach outlined in the ICNG.

The working hours for the Project are outlined in Section 4.5 of the Updated Project Description in the Amendment Report. Where work is proposed outside of these hours, it must be appropriately justified with consideration to the ICNG and in accordance with UMM EW40.

The ICNG outlines categories of work that might be undertaken out of hours. Generally, the following are considered to justify OOHW:

- to sustain the operational integrity of the wider associated transmission network
- where disruption to essential services and/or considerations of worker safety do not allow work within standard hours
- where works shorten the length of the works and are supported by the affected community
- works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.

- where works are required to be completed continuously (over a longer period than the ICNG standard construction day)
- where works do not result in impacts to noise affected and vibration affected sensitive receivers.

Some works (such as works within road and rail corridors and works associated with utility infrastructure) can only occur with the permission of the relevant asset owner/authority. The asset owner/authority may require these works to occur outside standard construction hours to maintain the operational integrity of the associated infrastructure network. When this occurs, works are considered justified. Consistent with this, any enabling works activities on the public road network would occur during standard construction hours unless otherwise agreed with/instructed by the relevant road authority via the ROL process.

Where out of hours enabling works are required, they would be undertaken in accordance with the OOHW protocol developed in accordance with UMM EW40 and included in Appendix F – Out of hours works protocol.

Out of hours enabling works are not permitted at the Memorial Avenue construction compound site in Batlow.

5. Environmental aspects and impacts

5.1. Traffic and transport

Construction vehicles will access the enabling works locations from multiple origins using a range of roads, including national, state, regional and local road networks. These roads were summarised in Table 4-25 of the EIS and are outlined in Appendix I – Summary of proposed construction access roads.

There is potential for temporary traffic impacts during enabling works. This is due to the presence of Project related traffic on roads across the various works sites. This may be noticeable in some areas due to the low volumes of existing traffic. However, the Revised Traffic and Transport Impact Assessment for the Amendment Report notes that all roads would operate in reasonably free flow conditions even in the peak Construction phase. It should be noted that during this phase of works the workforce is not considered great enough to warrant a shuttle bus service.

During enabling works, the road network is expected to perform similarly to existing conditions despite the introduction of Project related traffic. Consultation will be undertaken as required in accordance with the Delivery Partners Interface Management Plan and/or the Community Communication Strategy (CCS) in relation to minimising potential impacts to rail services, stock movements and school buses. It is anticipated that speed reductions will be applied outside temporary accommodation locations which is expected to be the subject of higher traffic volumes. This information will be determined as part of the road design process.

There are other potential traffic and transport impacts during the enabling works. These would include potential impacts to road condition due to their use by Project related traffic. This would be managed in accordance with UMM EW66, where pre-construction independent dilapidation surveys would be conducted prior to enabling works use of said roads by heavy vehicles. Roads approved for heavy vehicle use are outlined in Appendix I – Summary of proposed construction access roads. Further, road improvement work and new or upgraded access tracks would be required to be constructed during the enabling works to facilitate the enabling works themselves and construction at a later date.

5.2. Noise and vibration

The proposed enabling works may result in potential noise and vibration impacts through the use of machinery, delivery of materials and installation of site sheds, fencing and other activities. Noise generated by enabling works activities will be managed in accordance with the requirements outlined in the *Interim Construction Noise Guideline* (DECC, 2009). Enabling works will occur during standard construction hours where possible, however some works may be required outside standard construction hours.

Standard construction hours are as follows:

- Monday to Friday: 7:00 am to 6:00 pm
- Saturday: 8:00 am to 1:00 pm
- No work on Sundays or public holidays.

Works outside of standard construction hours may be needed due to the requirements of ROLs for activities such as the delivery of oversize items and/or where constraints such as overhead powerlines require specialised access and this is directed by other authorities. Works outside of standard construction hours would be permitted providing they are undertaken as per the Appendix F – Out of hours works protocol.

Construction Noise and Vibration Impact Statements (CNVIS) will be prepared for enabling works to assess the potential noise and vibration impacts. Reasonable and feasible measures will be taken to minimise Enabling Works related noise and vibration at sensitive receivers, through the implementation of mitigation measures listed out in Appendix A (EW41-EW45) and Appendix F – Out of hours works protocol. This includes any associated traffic noise where mitigation measures will be implemented in line with the *NSW Road Noise Policy* (DECCW, 2011). The noise management levels (NML) for the project are derived from noise criteria was established as part of the EIS and is listed out below in Table 5-1 and Table 5-2, which includes the residential and non-residential receiver construction NMLs for both standard hours and OOHW, respectively.

Table 5-1 Residential receiver construction NMLs

Location	Representative background monitoring location	NML ($L_{Aeq15minute}$ – dBA) [5]				Sleep disturbance screening criteria (52 dBA or RBL + 15 dB whichever is higher)
		Standard construction (RBL +10 dB)	Out-of-hours (RBL + 5 dB)			
		Day-time	Day-time[1]	Evening	Night-time	
Batlow	L06	45	40	40	37	52
Yass – south of Yass River	L08	48	43	43	39	52
Yass – north of Yass River[2]	L13	46	41	41	39	52
Tarcutta[3]	L10	49	44	44	44	54
All other receivers[4]	L01, L02, L05, L07	45	40	35	35	52
Note 1: Day-time out-of-hours is 7am to 8am and 1pm to 6pm on Saturday, and 8am to 6pm on Sunday and public holidays.						
Note 2: Background noise monitoring results at north Yass L13 were measured to be marginally lower than nearby location L12. The lower L13 levels have conservatively been applied to determine the NMLs in this area.						
Note 3: Background noise monitoring results at rural Tarcutta location L10 were measured to be lower than nearby location L11 within the town of Tarcutta. Location L11 was influenced by industrial noise from the nearby service station which may not be representative of the ambient noise environment at nearby residential receivers. Therefore, the lower L10 levels have conservatively been applied to determine the NMLs in this area.						
Note 4: The minimum RBLs in the NPfI are listed as 35 dBA in the day-time and 30 dBA in the evening and night-time. These minimum RBLs have been adopted for all rural areas of the amended project. Unattended noise monitoring at several locations confirmed the RBLs to be equal to or less than these levels.						
Note 5: The highly noise affected level for residential receivers is 75 dBA (ICNG, 2009)						

Table 5-2 Non-residential receiver construction NMLs

Sensitive receiver type	NML applicable when in use, LAeq, 15 min
Classrooms at schools and other educational institutions	Internal noise level 45 dB(A)
Childcare centres • sleeping areas • play areas	 Internal noise level 45 dB(A) External noise level 65 dB(A)
Hospital wards and operating theatres	Internal noise level 45 dB(A)
Places of worship	Internal noise level 45 dB(A)
Active recreation areas (characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion)	External noise level 65 dB(A)
Passive recreation areas (characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example, reading, meditation)	External noise level 60 dB(A)
Community centres	Refer to the recommended 'maximum' internal levels in AS2107 for specific uses.

If the noise and vibration impact assessment identifies that a certain receiver is likely to exceed the 'noise-affected' NML, 'highly noise-affected' NML or sleep disturbance criteria, then further noise mitigation measures will be implemented as reasonably practicable in accordance with mitigation measure EW45. However this does not apply if there is an agreement with the relevant owners of these receivers to generate higher noise levels, and DPHI has been advised in writing of the terms of this agreement.

Verification monitoring will be implemented in accordance with mitigation measure EW41.

It should also be noted that sensitive receivers may have individual circumstances, meaning that the standard approach to specific additional mitigation measures may not be suitable. The Construction Contractor may have to amend the approach for specific sensitive receivers, by considering the individual circumstances that may apply, these will be developed as the need arises. Based on the activities and separation distances from sensitive receivers, vibration impacts during enabling works is expected to be negligible.

Exceedance of noise and vibration criteria will be investigated, and corrective actions would be applied as relevant.

Blasting will not be undertaken during enabling works.

The nearest sensitive receiver to each site is outlined in Table 5-3.

Table 5-3: Nearest residential receivers

Location	Nearest sensitive receiver[1]
Adjungbilly accommodation facility and compound (AC04) Adjungbilly Road, Adjungbilly	200m west – residential
Yass compound (AC05) Faulder Avenue, Yass	100m northeast – residential
Crookwell accommodation facility and compound (AC06) Graywood Siding Road, Woodhouselee	1.5km north – residential
Bannaby 500 kV substation compound (C12) Hanworth Road, Bannaby	1.4km northeast – residential
Gadara Road compound (C19) Gadara Road, Gadara	660m west – residential
Yass Valley Way accommodation facility Yass Industrial Park, 1 Yass Valley Way	800m east – residential
Wagga 500 kV substation compound (C01) Gregadoo Waste Centre Road, Wagga Wagga	270m southeast – residential
Gregadoo Road compound (C06) Livingstone Gully Road, Gregadoo	580m north – residential
Memorial Avenue compound (C14) Memorial Avenue, Batlow	50m – residential
Ardrossan Headquarters Road compound (C17) Ardrossan Headquarters Road, Green Hills	1.1km east-southeast – residential
Snubba Road compound (C18) Bago Forest Way, Batlow	+5km
Ellerslie Road compound (C21) Ellerslie Road, Ellerslie	440m south – residential
Tarcutta accommodation facility and compound (AC03) Mates Gully Road, Tarcutta	190m east-northeast – residential
Green Hills accommodation facility and compound (AC07) Green Hills Access Road, Kunama	100m south – residential

5.3. Biodiversity

A number of biodiversity values were identified as being potentially impacted by the Project in the EIS and Amendment Report. This includes the potential direct impacts on native vegetation and threatened species. Areas not subject to previous survey or where further surveyed is required in accordance with the Biodiversity Assessment Method remain as ‘assumed present’.

Consistent with UMM B1, biodiversity constraints mapping developed from the assessment outcomes presented in the Revised BDAR has been used to guide the scope of the enabling works program. The constraints map conservatively allocates assumed presence to be confirmed threatened species habitat

[1] Excludes the landholder on which the compound is located.

until the completion of required surveys. A summary of the constraints and the associated constraint levels is presented in Table 5-4.

Table 5-4: Biodiversity constraint levels summary

Constraint	Constraint level	Criteria
Connectivity corridors	High	Connectivity corridor locations for all threatened Gliders; OR Important riparian corridors for other threatened fauna in degraded landscapes
	Moderate	Connectivity corridor locations for threatened fauna linking two areas of high quality landscapes and habitats
	Low	Connectivity corridor locations for threatened fauna linking two areas of high quality landscapes and habitats
Booroolong frog habitat	Very high	All DPE streams mapped where the occur outside the project footprint. For habitats within the project footprint, please refer to the species polygon layer.
Conservation sites	Very high	All mapped sites
Actively managed conservation areas	No-go	All fenced areas
	Very high	All fenced areas with a 50m buffer
Hollow bearing trees	Low	All Hollow bearing trees with 100m buffer
Native vegetation and TECs	Very high	Very High or High condition of SAII; OR Very High or High condition CEEC; OR Limited extent TECs: (Alpine Sphagnum Bogs and Associated Fens, Coolac-Tumut Serpentinite Shrubby Woodland, Monaro Tableland Cool Temperate Grassy Woodland)
	High	Moderate or Low condition woody CEEC listed TECs; OR Moderate or Low condition woody SAII TECs; OR Very High and High woody condition EEC (V or E)
	Moderate	Any woody TEC in moderate or low condition; OR Woody vegetation in Very high and High condition
	Low	All non-woody TECs and very low condition woody TECs
Species polygons	Very high	SAII species polygons in very high or high condition vegetation; OR CE in very high or high condition vegetation; OR SAII species in known habitat
	High	SAII moderate and low condition vegetation; OR CE in moderate and low condition vegetation; OR Endangered and Vulnerable species in high or very high condition; OR Threatened species (not SAII) in known habitat
	Moderate	Endangered species in moderate or low condition; OR Vulnerable species in moderate or low condition
Streams	Very high	Streams that are Key Fish Habitat AND Threatened aquatic species; OR Rieks Crayfish predicted habitat AND Threatened aquatic species; OR Rieks Crayfish predicted habitat AND Class 1 to 3 KFH; OR Rieks Crayfish predicted habitat AND KFH.
		Stream areas within 10m buffer of confirmed Class 1 KFH
		Stream areas within 100m buffer of likely Class 1 KFH*
	High	Streams that are Rieks Crayfish predicted habitat only
		Stream areas within 10m buffer of confirmed Class 2 KFH
		Stream areas within 100m buffer of likely Class 2 KFH*

Constraint	Constraint level	Criteria
	Moderate	Streams that are Key Fish Habitat only
		Stream areas within 10m buffer of confirmed Class 3 KFH
		Stream areas within 100m buffer of likely Class 3 KFH*
	Low	All other streams (>= Strahler order 2)
Existing tracks	No significant biodiversity constraints	Existing roads and tracks - PCT9996 extracted from vegetation layer

* An assessment is required to confirm class of KFH to reduce buffer to 10m.

Enabling works will be limited to areas classified as 'low' or 'no significant biodiversity' constraints as outlined in Table 5-4. The only exception will be enabling works for access tracks which may occur in stream crossings classified as very high, high or moderate constraint. Mitigation measures including EW8 to EW12 will be implemented for stream crossings to avoid and minimise impacts in these zones. Surveys at Class 1 Key Fish Habitat (KFH) streams identified as supporting potential habitats for threatened species at the site of proposed new tracks or upgraded tracks will be conducted prior to any works occurring at that site. It should be noted that no camps or compounds are within 40 metres of waterfront land.

A checklist will be completed for enabling works associated with access tracks (Appendix G – Additional Enabling Works Risk Assessment / minor impact checklist (Template)) to assess that works are low risk, and the checklist will be reviewed and approved by the Environmental Representative in order for works to proceed.

Information on the extent of Enabling Works proposed in the 'low' or 'no significant biodiversity' constraints categories is presented in Table 5-5 and Table 5-6.

These areas have been included in the clearing limits outlined in Tables 2-1, 2-2 and 2-3 of the Infrastructure Approval. These areas would be subject to direct impacts as a result of the enabling works. It should also be noted that the biodiversity constraints mapping is being periodically refined as a result of ground truthing, investigations and further survey. As this process continues the constraints mapping will be updated. As a result, the quantities provided in Table 5-5 and Table 5-6 are subject to ongoing refinement.

Avoidance of areas of moderate, high, very high or no-go constraints will be managed via the mitigation measures listed in Appendix A – Environmental management and mitigation measures, specifically:

- areas of moderate, high, very high and/or no-go biodiversity constraints must not be impacted during enabling works, other than specific stream crossings
- areas of moderate, high, very high and/or no-go biodiversity constraints will be fenced (when works are occurring in the vicinity) to avoid incursion
- areas of moderate, high, very high and/or no-go biodiversity constraints located inside work areas will be identified in project GIS/GPS systems and on ECMs, prior to works occurring
- training on environmental constraints (including areas of moderate, high, very high and/or no-go biodiversity constraints) will be provided to all project personnel, including relevant subcontractors through inductions, toolboxes and targeted training.

For works in KFH, all activities and required structures for crossing will be constructed in accordance with the Guidelines for Controlled Activities on Waterfront Land (DPE 2022), Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003) and the Policy and Guidelines for Fish Habitat and Conservation and Management (NSW Fisheries, 2013), unless Water Group agrees otherwise.

While impacts to unsurveyed areas described in CoA B28(b)(i) may occur during enabling works, Transgrid would not seek a reduction in credit liability for these areas. As such, enabling works would not require a Supplementary Biodiversity Strategy for the biodiversity values considered in CoA B28(b)(i). Impacts to the items listed in CoA B28(b)(ii) cannot occur during enabling works as they are restricted by their biodiversity constraint level categorisation of high and very high (see Table 5-2). Therefore, enabling works would not require a Supplementary Biodiversity Strategy for the biodiversity values listed in CoA B28(b)(ii) as they would not be impacted.

Similarly, CoA B29 requires the preparation of a Biodiversity Assessment Verification Report prior to any carrying out any development that would impact on the relevant biodiversity values subject to survey in the Supplementary Biodiversity Strategy in CoA B28. As CoA B28 would not be triggered during enabling works, a Biodiversity Assessment Verification Report under CoA B29 would not be required for the enabling works scope.

In summary, the need for a Supplementary Biodiversity Strategy under CoA B28 and a Biodiversity Assessment Verification under CoA B29 is not triggered by the enabling works scope.

Collection and propagation of seed will be further addressed in the BMP and will not be undertaken during Enabling Works, given the relatively limited extent of the enabling works and subsequent rehabilitation; and the low integrity scores for PCTs likely to be disturbed. Instead, seed or plants will be purchased or otherwise procured for the purposes of rehabilitating sites.

Table 5-5: HumeLink East biodiversity constraint levels and indicative areas

Constraint level	Location and area (hectares)							
	AC04 Adjungbilly	AC05 Yass	AC06 Crookwell	C12 Bannaby	C19 Gadara	Yass Valley Way Accommodation Facility	Access tracks	Totals
No-go[2]	0	0	0	0	0	0	0	*0*
Very high[2]	0	0.20	0	0	0	0	19.33	***19.53***
High[2]	0.05	0	0.96	0.43	<0.01	0	67.62	***69.06***
Moderate[2]	1.06	0	3.54	0.43	1.38	0	84.87	***91.28***
Low	32.70	0	20.35	7.02	0	0	175.96	***236.03***
No significant biodiversity constraints[3]	0.34	10.93	0.38	2.51	5.25	7.4	197.38	***224.19***

Table 5-6: HumeLink West biodiversity constraint levels and indicative areas

Constraint level	Location and area (hectares)									
	AC03 Tarcutta	AC07 Green Hills	C01 Wagga	C06 Gregadoo	C14 Memorial	C17 Ardrossan	C18 Snubba	C21 Ellerslie	Access tracks	Totals
No-go[2]	0	0	0	0	0	0	0	0	0	***0***
Very high[2]	0	0	0	0	0	0	0	0	0	***0***
High[2]	0	0.02	0.04	0	0	0	0	1.15	3.05	***4.80***
Moderate[2]	0	0	0.	0	0.14	0	0	0	6.71	***6.85***
Low	12.83	0.06	0	1.81	1.10	0	0	0	13.75	***29.55***
No significant biodiversity constraints[3]	0.64	25.41	1.90	30.31	0.84	7.07	16.25	8.33	134.98	***225.73***

[2] No-go, Very high, High and Moderate biodiversity constraints may be within the vicinity of proposed enabling works (i.e. within the project footprint) but they will not be impacted
[3] Areas that have previously been disturbed and thus have no level of assigned biodiversity constraint

There is the potential for indirect biodiversity impacts during the enabling works, including:

- impacts from sedimentation and erosion on adjacent habitat or vegetation
- impacts to adjacent habitat as a result of noise, dust and/or light
- transport of weeds and pathogens from the work sites to adjacent vegetation
- reduced access to food and loss of shade or shelter from the modified vegetation, which may impact resident fauna species
- loss of breeding habitat such as large old growth trees, hollows, stick nests, drays and fallen timber
- trampling of threatened flora species
- removal and disturbance of rocks, including bush rock, which could impact habitat for small terrestrial fauna
- increase in pest animal populations and predation of native fauna.

There is also potential for aquatic species to be impacted during the enabling works as a result of:

- installation of waterway crossings for access tracks, which has potential to impact key fish habitat or threatened aquatic species
- impacts to riparian vegetation or waterway banks
- sedimentation, erosion and/or accidental spills impacting water quality if inappropriately managed
- construction plant and machinery introducing aquatic pests and disease if inappropriately managed.

Potential biodiversity impacts would be managed in accordance with the management measures listed in Appendix A – Environmental management and mitigation measures. This would include:

- measures specifically to avoid impacts to areas of moderate, high, very high or no-go biodiversity constraints, as per EW4, including:
    - avoiding such areas to greatest extent practicable via the design process
    - areas of moderate, high, very high and/or no-go biodiversity constraints will be fenced to avoid incursion
    - areas of moderate, high, very high and/or no-go biodiversity constraints located inside work areas will be identified in project GIS/GPS systems and on ECMs, prior to works occurring
    - training as per EW1 will include training on areas of moderate, high, very high and/or no-go biodiversity constraints.
- locating infrastructure to avoid or minimise impacts wherever practicable, as per mitigation measure EW5
- seeking to utilise existing access tracks over constructing new access tracks where possible, as per mitigation measure EW7
- prior to clearing, pre-clearing surveys will be carried out by a suitably qualified and experienced ecologist, as per mitigation measure EW13
- biodiversity exclusion zones will be retained and marked by a suitably qualified and experienced ecologist, as per mitigation measure EW14
- suitably qualified and experience ecologist means that the person has the relevant tertiary qualification, and a minimum of 5 years' experience in energy infrastructure projects or other equivalent works.

5.3.1. Biodiversity monitoring, tracking and reporting

During enabling works, biodiversity aspects will be monitored and reported, along with clearing tracked in accordance with Table 5-7 below. Where a particular monitoring is not carried out during enabling works and its frequency exceeds the enabling works duration, that monitoring requirement will be transitioned into the Construction phase.

Copies of the reports and records will be prepared and retained by the Delivery Partners, with summary updates provided to Transgrid, as part of project monthly reporting. The effectiveness of the biodiversity measures will also be publicly reported on as the monitoring program proceeds.

Table 5-7: Biodiversity monitoring program

Item	Scope	Frequency	Responsibility	Records / reporting
Weekly inspections	Inspection of the exclusion zones, waterway crossings and access tracks.	Weekly	Environmental Advisor Supervisors	Weekly Environmental Inspection Checklist
Pre-clearing inspection	Inspecting work areas before clearing.	Approximately 24 hours prior to clearing	Ecologist	Pre-clearing Report Clearing and Land Disturbance Permit
During clearing supervision	Ecological supervision of clearing operations and removal of habitat trees during two-stage clearing.	During clearing	Ecologist	Post-clearing Report
Monitoring vegetation clearing	The extent of clearing of native vegetation will be monitored to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements within the biodiversity offset package which will allow comparison of Table 15-1, 15-8 and 15-9 of the Revised BDAR.	Prior to and during clearing	Environment and Sustainability Manager Transgrid (offsets) Ecologist	Clearing Register
Monitoring areas subject to partial clearance	Areas that are subject to partial clearance (TCZ) will be monitored within three months from work commencement. A verification report will be produced to confirm whether any changes are required to vegetation clearing procedures.	Monitoring within three months of the commencement of construction and provision of a verification report. If partial clearing has not commenced within three months of the commencement of works, the Project will monitor areas of partial clearance within three months of the commencement of partial clearing.	Ecologist	Partial Clearance Verification Report
Class 1 KFH Streams Aquatic Habitat Surveys	Surveys at Class 1 KFH streams identified as supporting potential habitats for threatened species at the site of proposed new tracks or upgraded tracks.	Pre-works	Ecologist	Pre-construction Aquatic Habitat Surveys Report
Monitoring of threatened flora species locations	Monitoring of recorded threatened flora species locations.	Quarterly Pre-clearing, during clearing and post-clearing	Ecologist	Threatened Flora Monitoring Report

Item	Scope	Frequency	Responsibility	Records / reporting
Threatened Frog Monitoring	Presence/absence site-specific monitoring and monitoring of downstream receiving environments that may be subject to potential indirect impacts.	Bi-annually during works (July – Aug and Nov – Dec).	Environment and Sustainability Manager Ecologist	Threatened Frog Monitoring Report
Weed Monitoring	Presence of weeds within property alignment.	Annually by property within the Project alignment	Ecologist	Weed Monitoring Report
Fauna handling and rescue	Handling and rescue of fauna.	As discovered	Ecologist Environmental Advisor	Fauna Handling Record Sheet
Artificial hollow monitoring	Determine the use of artificial hollows during the works.	Annual	Ecologist	Artificial Hollow Installation Report Artificial Hollow Monitoring Report
Unexpected finds	Discovery of unexpected potential threatened flora or fauna species or threatened ecological community, or discovery of unexpected heritage item	As discovered	Ecologist or Archaeologist Environment and Sustainability Manager	Incident Report
Incident reports	As per Section 9.4	As required post incident	Environment and Sustainability Manager	Incident Report

5.4. Biosecurity

Potential biosecurity related impacts are assessed in Section 11.4.2.3 of the EIS. The Amendment Report notes there is no change in impacts compared to the assessment in Chapter 11 (Land use and property) of the EIS for the amended project. There is potential that if not managed appropriately that animal diseases, plant diseases, pests and weeds could be introduced or spread during construction of the project, including during the enabling works phase. Potential for biosecurity impacts would be greatest when ground disturbance activities are carried out, with frequency potentially increasing as vehicles and personnel movements increase. Biosecurity controls will be implemented to minimise the risks in accordance with mitigation measure EW34. This will include the preparation of property specific property management plans which will detail the specific biosecurity protocols for each property. The property management plans will be prepared in consultation with landowners and stakeholders.

5.5. Soil and water

Enabling works activities, including vegetation clearing, excavation and vehicle movements on unsealed access tracks would cause soil disturbance and thereby potential downstream erosion and sedimentation impacts. Erosion and sediment control plans (ESCPs) would be prepared and implemented in consultation with a Certified Professional in Erosion and Sediment Control for activities and areas that are considered to be at higher risk of erosion and sedimentation impacts, as per mitigation measure EW52.

Surface water quality could also potentially be impacted by the mobilisation of soil with elevated levels of contaminants, nutrients or salinity, and/or accidental spills of fuels or chemicals during the enabling works. Enabling works within close proximity (less than 50 metres) of a waterway have the highest potential to cause an impact.

As per CoA B20, HumeLink is required to comply with Section 120 of the *Protection of the Environmental Operations Act 1997* (POEO Act) in that development does not cause any water pollution.

Appropriate water management systems will be designed, constructed and maintained at all substations, concrete batching plants, construction compounds and accommodation camps relevant enabling works to prevent pollution.

5.6. Contaminated land

There is potential that soil disturbance in areas of potential contamination (including naturally occurring asbestos) could expose those contaminants and impact on human health and water quality. The EIS and Amendment Report categorised areas of contamination as Potential Areas of Environmental Concerns (AECs) and areas of naturally occurring asbestos (NOA). A summary of areas of potential contamination is provided in Table 5-8.

Table 5-8: Areas of potential contamination

Location	NOA present?	AECs present?
Adjungbilly accommodation facility and compound (AC04)	No	No
Yass compound (AC05)	No	No
Crookwell accommodation facility and compound (AC06)	No	No
Bannaby 500 kV substation compound (C12)	No	Yes – moderate AECs
Gadara Road compound (C19)	Yes – areas of low and high NOA potential	No
Yass Valley Way accommodation facility	No	No
Wagga 330 kV substation compound (C01)	No	Yes – moderate AECs
Gregadoo Road compound (C06)	No	No
Memorial Avenue compound (C14) Batlow	No	Yes – low AECs
Ardrossan Headquarters Road compound (C17)	No	No
Snubba Road compound (C18)	No	No
Ellerslie Road compound (C21)	No	No
Tarcutta accommodation facility and compound (AC03)	No	No
Green Hills accommodation facility and compound (AC07)	No	No

Disturbance of soil that is potentially contaminated would be managed by conducting additional investigations in areas identified as being at moderate or high risk of contamination in the EIS and Amendment Report, as per mitigation measure EW47. Additionally, enabling works activities in regions with medium or high probability of NOA as well as at locations where other asbestos material may be encountered (such as demolition of older farming buildings and structures), would be guided by a site-specific Asbestos Management Plan, in accordance with mitigation measure EW49.

Any unexpected contamination encountered would be managed in accordance with the unexpected finds flowchart for contamination included in Appendix E – Unexpected finds procedure, as per mitigation measure EW51.

5.7. Cultural heritage

5.7.1. Aboriginal heritage

Field investigations have been undertaken to inform the EIS and Amendment Report. In total, 178 Aboriginal heritage sites and potential archaeological deposits are located within the amended project footprint. This includes 12 potential archaeological deposits and five modified trees. There is potential that these sites may be impacted by works most particularly for pending access track works. However, the extent of such impacts to these sites would be confirmed during detailed design, where opportunities to minimise and avoid impacts where feasible and reasonable would be investigated, as per mitigation measure EW18. Where there is any works in unsurveyed areas an Addendum ACHAR will be completed as required under CoA B31.

A summary of potential impacts at compound locations is provided in Table 5-9.

Table 5-9: Aboriginal heritage constraints

Location	Aboriginal heritage constraints
Adjungbilly accommodation facility and compound (AC04)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high for surface and low only for subsurface.
Yass compound (AC05)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high (for both surface and subsurface).
Crookwell accommodation facility and compound (AC06)	Five previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high (for both surface and subsurface).
Bannaby 500 kV substation compound (C12)	Five previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high (for both surface and subsurface).
Gadara Road compound (C19)	Two previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high (for both surface and subsurface).
Yass Valley Way accommodation facility	No previously recorded artefacts within 300m of the site. The area displays very low to no archaeological potential.
Wagga 330 kV substation compound (C01)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high potential for artefact presence (for both surface and subsurface).
Gregadoo Road compound (C06)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to high potential for artefact presence (for both surface and subsurface).
Memorial Avenue compound (C14)	No previously recorded artefacts within 200m of the site. Sensitivity mapping lists the area as previously disturbed for surface and subsurface potential for artefact presence.
Ardrossan Headquarters Road compound (C17)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from low to high potential for artefact presence (for both surface and subsurface).
Snubba Road compound (C18)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from previously disturbed to low potential for artefact presence (for both surface and subsurface).
Ellerslie Road compound (C21)	No previously recorded artefacts within 200m of the site. Sensitivity mapping ranges from low to high potential for artefact presence (for both surface and subsurface).

Location	Aboriginal heritage constraints
Tarcutta accommodation facility and compound (AC03)	Two artefacts have been recorded on site as part of the EIS/Amendment Report investigations. Sensitivity mapping ranges from moderate to high potential for artefact presence (for both surface and subsurface).
Green Hills accommodation facility and compound (AC07)	No previously recorded artefacts within 200m of the site. Sensitivity mapping is predominantly disturbed with small areas of low and moderate potential for artefact presence (for both surface and subsurface).

Heritage management is discussed in Section 7.6.

5.7.1.1. Engagement with Register Aboriginal Parties

All Aboriginal heritage survey works undertaken to date have included the participation of relevant Registered Aboriginal Parties (RAPs). This has included those undertaken by Transgrid as a component of the EIS and Amendment Report assessments as well as pre-construction surveys that have been completed and upcoming by Delivery Partners including those required for Enabling Works. HumeLink's Delivery Partners have developed working relationships with the LALCs who have been involved with the development and review of methodologies and all heritage assessments so far and will continue to be actively involved during Enabling Works.

The involvement of RAPs will continue during the Enabling Works period.

5.7.2. Non-Aboriginal heritage

The following non-Aboriginal heritage items intersect with the amended Project footprint:

- Ivydale, Wagga Wagga Local Environmental Plan (LEP) 2010 (I72)
- Ivydale Woolshed, Wagga Wagga LEP 2010 (I73)
- Stone Ruin, Wagga Wagga LEP 2010 (I71)
- Elizabeth Nugent grave on College Creek, Wagga Wagga LEP 2010 (I202)
- Coolalie limestone kilns and quarry, Yass Valley LEP 2013 (A297)
- Derringullen Creek Area, listed in the Register of the National Estate (ID 16005)
- Kileys Run, listed in the Register of the National Estate (ID 1078).

It is unlikely that the enabling works would impact these items as whilst their curtilages are within the amended Project footprint, the historic items themselves sit outside the amended Project footprint.

Unexpected finds would be managed in accordance with the unexpected finds flowchart for heritage in Appendix E – Unexpected finds procedure. Details specific to the management of the unexpected finds will be undertaken in accordance with the construction contractor's Environmental Management Systems processes.

5.8. Air quality

There is potential for the enabling works to result in air quality impacts due to:

- dust from ground disturbance (earthworks), vegetation clearing and grubbing, removal and/or stockpiling of topsoil
- dust from importation and placement of aggregates for hardstand
- dust due to storage of materials

- dust due to vehicle access on hardstand
- emissions due to the use of plant, machinery and vehicles
- potential odour associated with demolition and topsoil stripping.

The EIS and Amendment Report concluded that potential impacts on air quality would be low in nature with no mitigation and negligible in nature with mitigation.

5.9. Flood management

Enabling works activities have the potential to influence local flood behaviours, particularly the following activities:

- excavation for access tracks
- stockpiling of materials
- modification of existing surface levels during accommodation facility and compound establishment.

Flooding may also impact enabling work activities, particularly those undertaken in close proximity to existing waterways and in flood prone areas. Flood modelling is currently being undertaken as part of detailed design to determine appropriate design levels for enabling works. Where flood modelling has been completed for an enabling work, it will be undertaken in accordance with the flood design requirements. This design will inform enabling works so as to ensure that any works do not materially alter flood storage capacity, flood flows or characteristics within the site or to areas directly surrounding the site. Where not already captured flood modelling and detailed design will be completed prior to the commencement of the associated enabling work.

Design requirements for the enabling works construction compounds is to ensure that they meet as a minimum 1 in 20 year (5% AEP) event. No Enabling Works will be carried out without the proper implementation of the recommended management measures highlighted in the flood reports which align with the conclusions presented in the technical report for the EIS.

5.10. Waste and resource use

Resource use as a result of enabling works at the site would be limited and would largely be made up of materials (concrete, asphalt, steel, fuel etc.), water and power. Waste generated as a result of the enabling works would largely be made up of material generated from any demolition, vegetation clearance and/or earthworks required. Relevant operational waste management processes and measures will be outlined in the pending Accommodation Camp Management Plans.

Project waste will be managed in accordance with the waste hierarchy which underpins the objectives of the *Waste Avoidance and Resource Recovery Act 2001*. The waste hierarchy is illustrated in Figure 5-1 and is ordered starting with most preferable to least: avoid and reduce; reuse; recycle; recover energy; treat; dispose of waste.

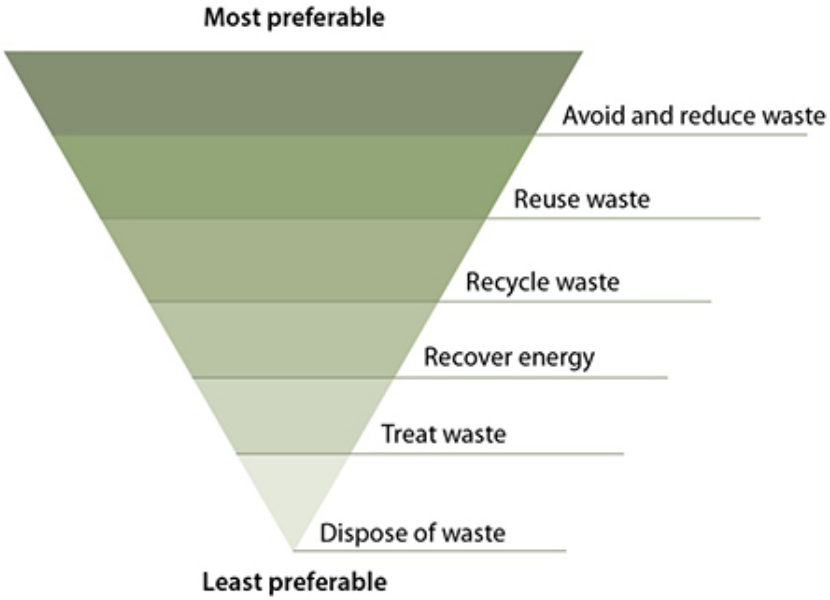


Figure 5-1: Waste hierarchy (EPA, 2001)

Specific resource use and waste minimisation management and mitigation measures are listed in Appendix A – Environmental management and mitigation measures. Table 5-10 identifies potential waste streams related to Enabling Works. All waste will be taken to waste management facilities that are lawfully permitted to accept the waste type and volumes, and an indicative list of accepted waste at each facility is presented in Appendix L (Proposed Waste Facilities). This will be managed by the Project waste contractors.

Table 5-10: Potential waste streams

Activity	Waste Type	Classification	Outcome	HLE Quantity	HLW Quantity
Vegetation clearance	Vegetation, timber, mulch, logs, weeds	GSW (non-putrescible)	Mulch reuse for progressive stabilisation. Logs will be available to local community groups and landowners (in accordance with UMM B29) prior to mulching or offsite reuse as timber. Weeds are removed as per the Biosecurity Management Plan.	Mulch – 10,000m^3	Mulch – 50,000m^3
	Pesticides/chemicals and containers	Hazardous Waste, GSW (non-putrescible)	Resue and recycle where possible. Dispose of hazardous waste as per SDS		
Earthworks	Surplus spoil	VENM, ENM, GSW CT1 (non-putrescible)	Soil will be classified in accordance with the waste classification guidelines prior to removal from site and will be reused at a suitably licensed recycle facility or construction site where practical. The last option will be disposal of spoil to landfill. Cut/fill will be balanced to minimise spoil removal offsite. Excess spoil will used in stormwater bunds and embankments where geotechnically and environmentally suitable.	Bulk earthworks are assumed balance for Cut and fill 77,927m^3 of stripped topsoil will be reused on site	Bulk earthworks are assumed balance for Cut and fill

Activity	Waste Type	Classification	Outcome	HLE Quantity	HLW Quantity
	Contaminated Spoil	GSW (putrescible) GSW – Special Waste (asbestos) friable / non-friable GSW (non-putrescible) Restricted Solid Waste Hazardous Waste	Soil will be classified in accordance with the waste classification guidelines prior to removal from site and will be reused at a suitably licensed recycle facility or construction site where practical. The last option will be disposal of spoil to landfill. Reuse on site, where approved from the landowner in accordance with the waste classification, Detailed Site Investigation (DSI) or Remedial Action Plan (RAP)	TBC on completion of DSI	Not expected as part of Enabling Works
	Asbestos or Naturally Occurring Asbestos	Special waste (Asbestos)	Encapsulation/capping, where approved from the landowner in accordance with a Remedial Action Plan (RAP) / Asbestos Management Plan (AMP). Reuse at a suitably licensed site in accordance with a RAP. Disposal at a landfill as last option.	1,800t	Not expected as part of Enabling Works
General	Gravel	GSW (non-putrescible)	Reuse in tracks / foundations or recycled	25,000t	Reuse on site
	Concrete	GSW (non-putrescible)	Reuse in tracks / foundations or recycled	220m^3	Reuse on site
	Culverts, pipes, conduits	GSW (non-putrescible)	Recycled	8t	8t
	Wiring and electrical	GSW (non-putrescible)	Recycled	2t	2t
	Packaging Materials, including wood pallets, plastic, cardboard and metals	GSW (non-putrescible)	Waste segregation onsite and recycled where possible	10t	10t
	Steel and plastics	GSW (non-putrescible)	Recycled	550t	550t

Clause 92 of the Protection of the Environment Operations (POEO) (Waste) Regulation 2014 enables the NSW Environment Protection Authority (EPA) to grant exemptions to the licensing and payment of levies for the land application or use of waste. The EPA has issued general Resource Recovery Order and Exemptions (RRO/RRE) for a range of commonly recovered, high volume and well characterised waste materials that allow their use as fill or fertiliser at unlicensed, off-site facilities. The general RRO/RRE that may be applicable to HumeLink are defined below. These are general gazette exemptions that do not require approval. A specific exemption may be granted where an application is made to the EPA.

- Effluent Exemption 2014
- Excavated Natural Material Exemption (ENM) 2014
- Excavated Public Road Material Exemption 2014
- Mulch Exemption 2016

- Recovered Aggregate Exemption 2014
- Reclaimed Asphalt Pavement Exemption 2014.

5.11. Visual amenity

Enabling works activities have the potential to have localised and temporary impact on visual amenity due to the presence of plant and equipment. There is also potential for light spill impacts when use of lighting is required. Visual amenity impacts would be managed by:

- minimising vegetation removal as far as practical, in accordance with mitigation measure EW37
- designing lighting at construction compounds and worker accommodation facilities in accordance with *AS 4282 2019 Control of the obtrusive effects of outdoor lighting*, as per mitigation measure EW39
- no advertising signs or logos will be mounted on site, except where this is required for identification or safety purposes
- consider using colours sympathetic to the local environment at camps and compounds.

5.12. Hazard and risk (including bushfire)

Hazard and risk impacts are identified in Chapter 19 of the EIS. Potential hazard and risks related to the enabling works include:

- bushfires: there is potential for enabling works to be impacted by bushfires and for enabling works to start bushfires, for example via hot works accidently igniting vegetation
- utilities: there is potential for conflict with existing utilities during enabling works and therefore utility relocations and/or protections will likely be required. Consultation with utility asset owners will continue throughout the design process to mitigate this risk
- dangerous goods and hazardous materials: there is potential that dangerous goods and hazardous materials results in impacts to worker health and/or environmental contamination if inappropriately stored, handled or transported.

The sites listed in Table 5-11 intersect with areas of mapped bushfire prone land. Refer to the ECMs in Appendix D – Environmental Control Maps for mapping.

Table 5-11: Compounds and combined accommodation facilities and construction compounds that intersect with bushfire prone land

Site	Category
Crookwell accommodation facility and compound (AC06)	Partially within ‘Vegetation buffer’ and ‘Vegetation category 3’
Yass compound (AC05)	Wholly within ‘Vegetation category 3’
Adjungbilly accommodation facility and compound (AC04)	Partially within ‘Vegetation buffer’ and ‘Vegetation category 1’
Gadara Road compound (C19)	Partially within ‘Vegetation buffer’
Yass Valley Way accommodation facility	Wholly within ‘Vegetation category 3’
Wagga 330 kV substation compound (C01)	Wholly within ‘Vegetation category 3’
Gregadoo Road compound (C06)	Wholly within ‘Vegetation category 3’
Ardrossan Headquarters Road compound (C17)	Wholly within ‘Vegetation category 1’

Site	Category
Snubba Road compound (C18)	Wholly within 'Vegetation category 1'
Ellerslie Road compound (C21)	Partially within 'Vegetation buffer' with the majority within 'Vegetation category 3'
Tarcutta accommodation facility and compound (AC03)	Wholly within 'Vegetation category 3'
Green Hills accommodation facility and compound (AC07)	Partially within 'Vegetation buffer' with the majority within 'Vegetation category 3'

The above risks would be managed in accordance with the mitigation measures listed in Appendix A – Environmental management and mitigation measures.

5.13. Land use, property and public infrastructure

Most of the land within the amended project footprint is used for agriculture and primary production, which includes grazing, forestry and cropping.

As identified in the EIS and Amendment Report, potential impacts on agricultural land uses during construction would include:

- temporary removal of land from agricultural production
- temporary movement restrictions and disruption to agricultural activities such as aerial agricultural operations, cultivation, crop establishment and husbandry operations
- biosecurity risks from potential spread of weeds, pests, diseases associated with vehicle and worker movements resulting in impacts to productivity, additional costs for control and lower quality of agricultural outputs
- inadvertent impacts to crops and pastures or farm infrastructure
- disturbance to sheep and cattle caused by noise and vehicle movements.

The enabling works may require the acquisition and/or temporary leasing of land. Any leased and/or licensed land not required for permanent infrastructure elements would be rehabilitated in consultation with the relevant landowners at the conclusion of their use.

Affected landowners will be consulted with to establish necessary property arrangements. Property management plans prepared for each property would include specific measures to minimise disruption to agricultural or operational activities as well as access and biosecurity protocols that are required to be complied with to address landowner concerns.

Public infrastructure damaged as a result of enabling works will be either relocated, repaired or the full repair costs paid to the associated authority, unless an alternative agreement is reached by both parties. This does not apply to the upgrade and maintenance of the road network.

6. Enabling works management

6.1. Environmental management process

The enabling works would be carried out to meet the environmental objectives outlined in Table 2-1. These objectives have been identified to be consistent with environmental performance measures in the EIS and Amendment Report but provide more specific content relevant to the enabling works scope where appropriate.

Providing proposed works meet the definition of enabling works as outlined in Section 4 the works can proceed as enabling works under this plan. The enabling works scope would not fall within the definition of construction and would be undertaken in accordance with this plan. For any works that fall within the definition of construction, a range of additional approvals are required before the works can commence, including approval of the Environment Management Strategy and associated management plans by the Planning Secretary.

Mitigation measures as set out in Appendix A and Appendix N will be implemented as appropriate to the specific enabling works.

6.2. Additional enabling works

Where additional enabling works are required that are not outlined in this EWMP, they will be assessed in accordance with the Additional Enabling Works Risk Assessment / minor impact checklist provided in Appendix G – Additional Enabling Works Risk Assessment / minor impact checklist (Template).

In accordance with CoA A13(c), the ER can approve additional enabling works that:

- Do not increase impacts to nearby sensitive receivers
- Are consistent with the terms of the Planning Approval
- Are within the project boundary.

If the additional enabling works are assessed as ‘low risk’ and meet the requirements of CoA A13(c) then they can proceed in accordance with this EWMP following approval by the Environmental Representative. If the additional enabling works do not meet these requirements, then those additional enabling works cannot proceed until the Construction phase, unless they are approved by DPHI in an update to this plan. The different pathways are summarised in Figure 6-1.

Irrespective of the pathway required to enable commencement, mitigation measures would be identified to meet the environmental objectives and in response to the relevant environmental risk assessments.

Approved additional enabling works will be recorded in a summary register along with relevant details, including document control references or links to file locations.

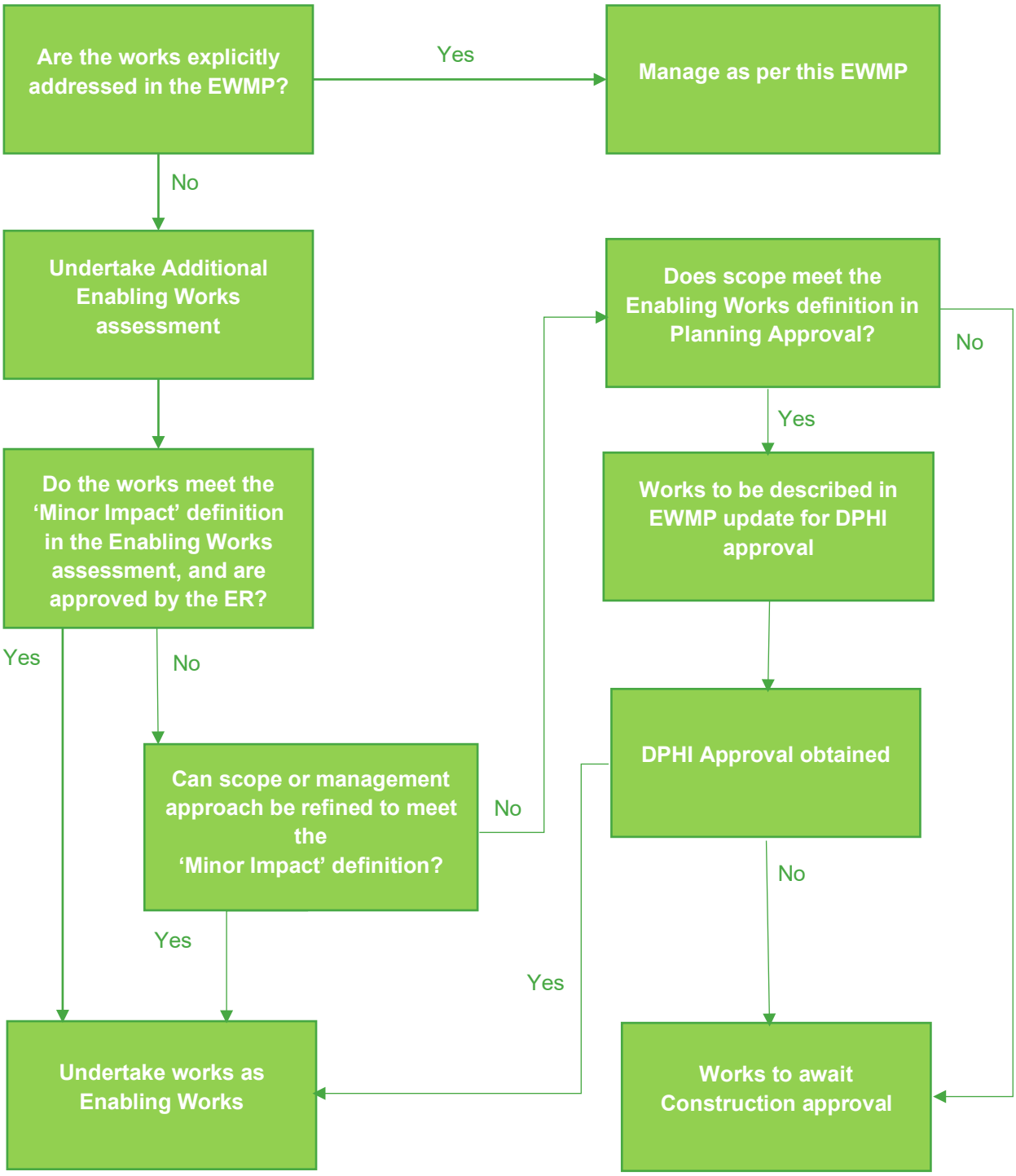


Figure 6-1: Enabling works environmental management process

6.3. Environmental work method statements (EWMS)

The construction contractors will prepare EWMS for enabling works. Each EWMS will comprise an activity-specific risk assessment for the proposed activities.

The EWMS will incorporate relevant mitigation measures and controls, including those from this EWMP and key procedures to be used concurrently with the EWMS. The EWMS will communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and instructions.

EWMS will be prepared progressively throughout the enabling works phase, in consultation with the relevant site management personnel. All construction personnel and subcontractors undertaking a task governed by an EWMS must participate in training on the EWMS and acknowledge that they have read and understood their obligations by signing an attendance record prior to commencing work.

Each EWMS will include at least:

- a breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task
- potential environmental impacts associated with each task
- a risk rating for each of the identified potential impacts
- mitigation measures relevant to each of the work tasks
- responsibility to ensure the implementation of the mitigation measures.

Monitoring, inspections and auditing of compliance with the EWMS will be undertaken regularly by relevant site management personnel and/or environmental coordinators.

An example EWMS in included in Appendix H – Example Environmental Work Method Statement (EWMS).

7. Environmental control processes

7.1. Environmental control maps

To assist with design, site establishment planning and management, identified site constraints will be consolidated on a series of map-based sheets for each work area called Environmental Control Maps (ECMs). Each ECM will delineate site boundaries and identify environmental controls, procedures and relevant environmental requirements to that location or specific activity. Each ECM will:

- illustrate the environmental constraints of the site, including:
  - ecologically sensitive items, including threatened species and threatened ecological communities
  - Aboriginal and non-Aboriginal heritage sites, including items, places, objects and conservation areas
  - local waterways and flood prone areas
  - contamination, including potential or actual acid sulfate soil areas, contaminated sites or areas of NOA
  - sensitive receivers (e.g. residential dwellings, educational institutions)
- indicate which environmental procedures (including EWMS's), environmental approvals, or licences are applicable
- illustrate the site layout, showing significant structures, work areas and boundaries
- illustrate the environmental control measures (including items such as concrete washouts and refuelling areas) and environmentally sensitive receivers
- be endorsed by the construction contractor's Environment and Sustainability Manager or delegate
- be communicated to relevant workers, including sign-off for the appropriate procedures prior to commencing works on the specific site and / or activity.

ECMs will be used in conjunction with EWMS to help identify key risk areas and provide a forum for ongoing communication with construction personnel throughout the delivery of the Project.

ECMs have been prepared and are included in Appendix D – Environmental Control Maps. ECMs will be iterative and updated frequently based on changes to site layouts. As part of the environmental induction, all staff and subcontractors working on site will be provided with an understanding of the risks associated with working in or near environmentally sensitive areas, based on the ECMs.

ECMs will be progressively updated throughout construction areas as works progress to communicate mitigation and management measures to in field staff and operators.

7.2. Traffic management

All access point / intersection upgrades are required to have commenced prior to the use of the relevant access point / intersection. The scope of road/intersection upgrades will be communicated to personnel using a range of tools, including inductions, toolbox talks, work packs, s.138 Works Authorisation Deeds and Road Occupancy Licences. A Transport Strategy for relevant road upgrades in Table 4-1 of Appendix 4 of the Conditions of Approval, will be developed separately to this EWMP and in consultation with relevant Council(s) and TfNSW. All upgrades will be constructed to the relevant standard and timing requirements in Appendix 4 of the Conditions of Approval. It will be mandatory for loaded vehicles entering or leaving any site to have their loads covered or contained.

7.2.1. Traffic guidance schemes

Where traffic management is required during the enabling works, site-specific Traffic Guidance Schemes (TGSs) will be developed by the Traffic Manager (or delegate) in accordance with the Traffic Control at Work Sites – Technical Manual Version 6.1, as per mitigation measure EW65. TGSs will contain detailed descriptions of the enabling work activities and the nature of the works addressed by that TGS.

TGSs will be prepared by a person(s) suitably experienced in the design and implementation of TGSs of equivalent complexity and holding qualifications acceptable to Transport for NSW, including as a minimum, a “Prepare a Work Zone Traffic Management Plan” qualification. TGSs will be submitted to the relevant roads authority with applications for Road Occupancy Licences.

Note, as per Appendix J, TGSs are not permitted as a traffic mitigation measure for the Hume Highway access points and intersections.

7.2.2. State roads mitigation measures

For the purposes of the State road network, traffic management and mitigation measures will be implemented as outlined in Appendix J.

7.2.3. Local climate conditions

The potential for adverse local climate conditions, such as fog, dust wet weather and flooding, will be communicated to drivers via inductions and toolbox talks. Where known adverse climate conditions are identified, vehicle movements will be scheduled to avoid them as far as is practicable. Mitigation measures from flood studies carried out, covering safe access to and from site, will be implemented in the event of flooding.

7.3. Erosion and sediment control plans

ESCPs will be prepared prior to any enabling works that require ground disturbance commencing, in consultation with a Certified Professional in Erosion and Sediment Control. The ESCPs will contain site specific details including identifying locations for material storage and detention basins. The plans will be developed as the project progresses and the sites change.

The ESCPs will incorporate the following aspects:

- layout of the sites including location of access roads, ancillary infrastructure, cleared and protected areas and stockpiling areas
- location of erosion, sedimentation and water quality control measures proposed to treat stormwater before disposal
- enabling works and staging.

Information relevant to the preparation of the ESCPs is contained in Managing Urban Stormwater; Soils and Construction Volume 1 (Landcom 2006) (the Blue Book) and Volume 2D Main Roads Construction (DECCW 2008) as well as site-specific soil data.

7.4. Pre-clearing surveys

Pre-clearing surveys will be undertaken by suitably qualified and experienced ecologists who have relevant tertiary qualifications, and a minimum of 5 years’ experience in energy infrastructure projects or other equivalent works. Pre-clearing surveys of the clearing extent will be undertaken prior to clearing and will include:

- confirmation of the location and extents of any biodiversity exclusion zones
- identification and demarcation of all hollow bearing trees. Identification and demarcation may also occur during earlier surveys. If this is the case, the ecologist will confirm that hollow bearing trees are prominently marked / tagged
- identification of fauna that require relocation
- the identification of nearby habitats for suitable release of fauna
- identification of suitable resources for salvage and beneficial reuse within the approved disturbance area. This may include, for example, logs or tree hollows.

All areas that need to be cleared will be subject to staged or non-staged clearing. Staged clearing would occur in locations where the ecologist identifies habitat and is typically referred to as 'two-stage clearing'.

7.5. Post-clearing surveys

Project Ecologists will prepare post-clearing reports monthly during clearing works and will include:

- information on clearing operations, dates, procedures, and areas
- the type of clearing (i.e. total clearing, partial clearing)
- a breakdown of the spatial extent and type of clearing of each mapped Plant Community Type
- a breakdown of the spatial extent and type of clearing of mapped threatened ecological communities and threatened flora
- live animal sightings, captures, any releases or injured/shocked wildlife
- the location of any fauna release sites off easement
- fauna that may have died as a result of clearing
- photographs of any rescued fauna.

The spatial extent and type of clearing will be recorded in GIS file format and provided to Transgrid to allow the final offset requirements to be calculated based on the recorded clearing. The clearing of native vegetation will be monitored and recorded to inform any final biodiversity offset requirements within the biodiversity offset package.

7.6. Heritage management

Potential Aboriginal heritage impacts during the enabling works would be managed in accordance with the methodology provided in Appendix K – Enabling Works Heritage Methodology. Further heritage mitigation measures are outlined in Appendix A – Environmental management and mitigation measures and are summarised below:

- potential indirect impacts to Aboriginal heritage items adjacent to enabling works would be managed by communicating locations of said items to workers as required, as per mitigation measure EW25
- unexpected finds (Aboriginal and non-Aboriginal) would be managed in accordance with the unexpected finds flowchart for heritage in Appendix E – Unexpected finds procedure. Details specific to the management of the unexpected finds will be undertaken in accordance with the construction contractor's Environmental Management Systems processes

- where any known heritage sites remain within or near a work area, prior to enabling works commencing in that area, these sites will be demarcated using flagging and fencing to clearly delineate the area. Exclusion zones located inside work areas will be identified in project GIS/GPS systems, prior to works occurring.
- prior to starting work in an area, any heritage areas will be clearly identified on the ECM.

7.7. Light spill

As noted in Section 5.11, lighting may be required, especially at night for works that are required to be conducted under a ROL, including the delivery of oversized materials/plant, use of site sheds or potholing investigations. All practical and reasonable steps to mitigate residual temporary night lighting impacts for nearby sensitive receivers will be undertaken as required under mitigation measure EW39. To meet these requirements, enabling works will incorporate the following aspects:

- lighting will comply with Australian/New Zealand Standard *AS/NZS 4282:2019 Control of Obtrusive Effects of Outdoor Lighting*
- lights will be located as far as possible and pointed away from sensitive receivers
- existing features will be used to hide the light source from view e.g. shielding by existing structures or vegetation
- lights will be directed to illuminate the target area. If there is no alternative to up-lighting, additional measures to minimise light spill, such as fit shields and baffles, will be investigated.

7.8. Bushfire safety

Bushfires can be spread through enabling work activities via hot work, which includes grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing activities or from clearing activities including slashing, mulching, operation of steel tracked machines or steel attachments on heavy plant (e.g. grading, boring, excavation & the like), chainsaw operation, chipping, mowing, brush cutting and operation of motor vehicles in a hazardous area. Measures will be implemented to address these activities including weather watch, obeying Bureau of Meteorology issued fire indicator alerts, working with spotters when undertaking hot works and clearing type works and all vehicles and equipment containing firefighting equipment to prevent the spread of wildfires and bush fires. The following hot works activities cannot take place on total fire ban days, unless notice and approval has been granted by the nearest FRNSW fire station, NSW RFS District office, and in accordance with the Total Fire Ban (TOBAN) exemption. These include the following works:

- Welding, Oxy-Acetylene or Plasma cutting
- Grinding/cutting of metal including the use of flexible sanding disks
- Production of heat, flammable fumes / gases during work activities
- Dry concrete metal grinding/cutting.

Additionally, the nearest FRNSW fire station and nearest NSW RFS District office is required to be notified immediately upon ceasing all Hot Works activities on any and all TOBAN days. In the event of a fire on-site or in the vicinity of the site RFS will be immediately notified and briefed.

Bushfires impact structures through direct flame contact, radiant heat and/or embers igniting flammable materials. An Asset Protection Zone (APZ) is a key bushfire protection measure that provides a low-fuel buffer to limit fire spread to buildings as well as providing defendable space around buildings and other assets to enable firefighting personnel to operate in relative safety. An APZ must be established and maintained in accordance with the relevant standards set out in Appendix 4 of *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers* (NSW RFS, 2019) (PBP).

In accordance with PBP requirements, APZs around buildings and assets with potential to exacerbate fire ignition risk should be in place prior to the Bush Fire Danger Period and be maintained continuously throughout the year. All buildings and compounds will be designed to comply with Australian Standard AS3959-2018 *Construction of Buildings in bushfire-prone areas* (or equivalent).

The statutory Bush Fire Danger Period runs from 1 October to 31 March, subject to adjustments (NSW RFS, 2021). In some years the Bush Fire Danger Period will be declared earlier or extend later, which will require maintenance of the APZ for the extended period. APZs consist of two areas (if the hazard is forest), the Inner Protection Area and the Outer Protection Area, which are informed by PBP (NSW RFS, 2019), and outlined in Table 7-1. Allowable Outer Protection Areas are described in PBP Table A1.12.4 (NSW RFS, 2019). Vegetation within the project footprint consists of forest, woodland or grassland. Vegetation thinning will be required to ensure the APZ vegetation management requirements are maintained throughout the duration of enabling works. Any APZ that requires maintenance to ensure compliance will be wholly contained within the footprint and a maintenance schedule will be created throughout the enabling works phase of the project to ensure the adequate maintenance of APZs.

Table 7-1: APZ requirements – Inner Protection Area and Outer Protection Area (NSW RFS, 2019)

Vegetation Component	Inner Protection Area	Outer Protection Area
Trees	• The mature tree canopy cover should be less than 15%. • Trees should not touch or overhang buildings. • The lower limbs of trees should not be less than 2 m in height. • Canopies should be separated by 2 - 5 m.	• Tree canopy cover should be less than 30%. • Tree canopy cover should be separated by 2 – 5 m.
Shrubs	• Shrubs should have large gaps in vegetation. • Shrubs should not be located under trees. • Shrubs should not constitute more the 10% ground cover. • Shrubs should be distanced from windows and doors by a distance at least twice the height of the vegetation.	• Shrubs should not form a continuous canopy. • There should be no more than 20% ground cover.
Grasses	• Grasses should be mown lower than 100 mm in height. • Leaves/ vegetation debris should be removed.	• Grasses should be mown lower than 100 mm height. • Leaves/ vegetation debris should be removed.

Adequate water supply is essential during enabling works to put out any unwanted spot ignitions, and to provide water sources for firefighting agencies within the bushfire prone areas throughout the project.

Water supply is to be maintained in accordance with PBP requirements (NSW RFS, 2019) throughout enabling works. Appropriate water supply for firefighting and appropriate location of utilities are important

mitigation measures of bushfire risk during enabling works. Alternative water supply may also be sourced from permanent water such as dams during fire response.

As per the CoA B50 and mitigation measure EW64, a 20,000L water supply tank fitted with a 65 mm Storz fitting and FRNSW compatible suction will be located at each of the construction compounds and accommodation camps (including all-weather access to the water supply tanks for Category 1 tankers). All efforts will be made to assist the various agencies with dealing with fires on site or in the nearby vicinity, these include RFS, FRNSW, FCNSW and NPWS.

7.9. Hold points

The internal hold points applied to the enabling works are identified in Table 7-2. The internal verification process will require the approval of the construction contractor's relevant functional manager (or delegate) to proceed.

Table 7-2: Indicative hold points

Hold point	When required	Information	Responsibility for release of hold point
Vegetation clearing	Prior to clearing vegetation	Clearing permit	Environment and Sustainability Manager
Ground disturbance	Prior to ground disturbance	Land disturbance permit	Environment and Sustainability Manager
Out of hours works	Prior to undertaking out of hours works	Out of hours works permit	Environment and Sustainability Manager
Discharge or reuse of water	Prior to discharge or reuse of water	Dewatering permit	Environment and Sustainability Manager
Hot works on TOBAN days	Prior to commencement of hot works	Exemption issued from RFS	Environment and Sustainability Manager

8. Compliance management

8.1. Roles and responsibilities

The construction contractor's Project Director, in consultation with functional managers, will ensure that appropriate resources are available to effectively manage the implementation of the EWMP during delivery of the project. All contractor staff, subcontractors and visitors are required to operate in accordance with this EWMP and related environmental management plans during the enabling works. Additionally, any person has the ability to stop work if environmental harm may be caused. The project environmental management structure incorporates the site personnel in Table 8-1.

Table 8-1: Construction contractor roles and responsibilities

Role	Responsibilities
Project Director	• ensure adequate resources for delivery of the EWMP and compliance with the Infrastructure Approval • participate in the regular review of the plan and associated documents • ensure effective systems are in place to manage environmental complaints, and ensure they are investigated, and effective resolution achieved • ensure the project is compliant with all project environmental obligations. • support the implementation of the Project's Environment and Sustainability Policies • stop work when becoming aware of an event which causes potential or actual pollution or environmental non-compliance • support the attainment of an IS Excellent Rating (or higher) and the achievement of sustainability objectives and targets.
Environment and Sustainability Manager	• responsible for implementing and monitoring the Enabling Works to ensure compliance with the obligations, Infrastructure Approval, EWMP, EIS, Amendment Report and other relevant documents, Transgrid requirements and applicable legislation • provide leadership on environmental and sustainability management • accountable for the implementation of the EWMP and associated procedures, ECMs and EWMSs • report on environmental performance to the Project Director and senior leadership team as required • liaise with relevant government agencies as required by legislative requirements • regularly monitoring and ensuring that the environmental management system is implemented on the Project • ensure environmental performance targets and performance specifications are being achieved • interface with key stakeholders on environmental management • coordinate environmental protection measures at all sites in conjunction with Site Supervisors • review the results of all environmental inspections, investigation and audits to ensure that corrective actions are completed within the agreed timeframes • monitor and report on environmental performance targets and the performance specifications • implement continual improvements stemming from internal monitoring and auditing and performance reviews and from independent environmental audit findings • stop work when becoming aware of an event which causes potential or actual pollution or environmental non-compliance • support the attainment of an IS Excellent Rating (or higher) and the achievement of sustainability objectives and targets.

Role	Responsibilities
Environmental Advisor / Coordinator	• undertake site inspections, environmental audits and aspect monitoring as required • provide advisory support to teams in mitigation measures implementation and maintenance • undertake regular task observations to check compliance with the Infrastructure Approval, EWMP, procedures and EWMS • undertake environmental monitoring in accordance with relevant standards • interface with internal teams and external project stakeholders (as required) • advise Environment and Sustainability Manager of any incidents or non-compliances.
Superintendents and supervisors	• enable works delivery in relation to environmental management and compliance in conjunction with the Environment and Sustainability Manger • conduct works to minimise environmental impacts and achieve sustainability objectives • comply with the requirements of the Infrastructure Approval • responsible for checking the site on a regular basis and ensuring that regular maintenance is undertaken to minimise environmental impacts • take preventative action to eliminate or minimise all environmental hazards • implement and monitor onsite environmental management and compliance measures across all sites in conjunction with environmental team • implement or oversee the implementation of corrective actions for non-conformances resulting from investigations, incidents, hazards, injuries and near misses where nominated as the person responsible • comply with any responsibilities assigned in the EWMP and associated procedures • communicate environmental risk management and emergency procedures during site induction and pre-start meetings • raise any environmental impacts, issues or concerns immediately • stop work when becoming aware of an event which causes potential or actual pollution or environmental non-compliance • undertake site inspections, provide input and support to environmental performance reporting.
Project and Site Engineers	• responsible for ensuring that environmental considerations are integral to the decision-making for all Enabling Works activities • comply with the requirements of the Infrastructure Approval • implement and monitor onsite environmental management and compliance measures across all sites in conjunction with environmental coordinators • undertake site inspections, provide input and support to environmental performance reporting.
Community and Stakeholder Engagement Manager	• assist the Environment and Sustainability Manager in consulting with relevant government agencies • comply with the requirements of the Infrastructure Approval • promptly advise the Environmental and Sustainability Manager of any community complaints that relate to environmental aspects and comply with reporting requirements and relevant obligations • communicate sustainability initiatives and potential environmental impacts to the surrounding community • work collaboratively with the Environment and Sustainability Manager to resolve environmental complaints.

Role	Responsibilities
Delivery Director / Construction Manager	• manage Enabling Works in relation to environmental management for their work activity in conjunction with the Environment Team • comply with the requirements of the Infrastructure Approval • ensure compliance with this EWMP and procedures • lead and manage the delivery of the Enabling Works process, in relation to environmental management across all sites in conjunction with the Environment and Sustainability Manager • authority to direct personnel and/or subcontractors to carry out actions to avoid or minimise unintended environmental impacts • ensure adequate resources are allocated to environmental and sustainability management.
Traffic Manager	• development of Traffic and Transport Management Plan (TTMP), TGSs, Vehicle Movement Plans, Traffic Guidance Schemes, approvals and various road occupancy approvals in a timely manner • comply with the requirements of the Infrastructure Approval • manage interface meetings, consultation and dissemination of information and requirements to the project team and stakeholders in relation to traffic matters • ensure all legislated and company procedural inspections and documentation are completed and filed, as well as any quality assurance documentation • ensure works are safe for both workers, pedestrians, cyclists and the travelling public (including temporary traffic arrangements and side-tracks) • regularly review and update management plans and approvals • ensure Road Safety Audits are conducted on all necessary project works, and any audit findings are responded to and closed out in a timely manner.
Commercial Manager	• ensure relevant environment and sustainability requirements are considered in procuring materials and services • comply with the requirements of the Infrastructure Approval • ensure subcontractors are held accountable for complying with environmental and reporting requirements.
Safety Manager	• ensure environmental and planning requirements are addressed in relevant safety documents • comply with the requirements of the Infrastructure Approval • collaborative incident management and reporting in the event of safety incidents with a potential to cause environmental impact.
HR Manager	• include environmental responsibilities in Position Descriptions • assist in sourcing and allocating appropriate resources. • comply with the requirements of the Infrastructure Approval
Other Personnel	• all personnel working on the project including but not limited to staff, construction workers, subcontractors, consultants and personnel involved in preparatory works have responsibility for environmental performance of the project. They must adhere to the project requirements communicated through the induction, toolbox talks and pre-start meetings. • comply with the requirements of the Infrastructure Approval

Role	Responsibilities
Environmental Representative	• represent DPHI on the HumeLink project and be Transgrid's and the Delivery Partners' principal point of advice in relation to the environmental performance of the project (CoA A13) • reviewing management plans and other selected documents identified in the Conditions of Approval, to ensure they are consistent with requirements in or under the approval (CoA A13(a)) • as may be requested by the Planning Secretary, assist DPHI in the resolution of community complaints (CoA A13(b)) • consider any minor amendments to be made to the plans/strategies in Table 1, Schedule 1 of the Conditions of Approval that involve updating or are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure they are consistent with the terms of this approval and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval (CoA A13(c)) • oversee the implementation of all construction environmental management plans and monitoring programs required under this approval, and advise the Proponent upon the achievement of these plans/programs (CoA A13(d)) • consider and advise the Proponent on its compliance obligations against all matters specified in the conditions of this approval, and permits and licences (CoA A13(e)) • have the authority and independence to recommend to the Proponent reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts, and, failing the effectiveness of such steps, to recommend to the Proponent that relevant activities are to be ceased as soon as reasonably practicable if there is a significant risk that an adverse impact on the environment will be likely to occur (CoA A13(f).

8.2. Training and inductions

All personnel (including subcontractors) are required to attend a compulsory site induction that includes an environmental component before commencement on-site. This is undertaken to ensure all personnel involved in the project are made aware of the requirements and instructed to comply with the conditions of the Approval as related to Enabling Works.

Short-term visitors to site undertaking inspections/entering the site (such as government agency representatives) will be required to undertake a visitor's induction and be accompanied by inducted personnel at all times. Temporary visitors to site for purposes such as deliveries are required to be accompanied by inducted personnel at all times.

8.3. Complaints management

Each construction contractor will develop a Complaints Management System (CMS), including reporting requirements. The CMS will include a Complaints Register which will record the details of all complaints relating to the project, including the following as a minimum:

- date and time of the complaint
- method by which the complaint was made
- any personal details of the stakeholder
- number of people affected in relation to a complaint
- nature of the complaint

- action taken in relation to the complaint, means by which the complaint was addressed and any follow up actions
- whether resolution was reached, with or without mediation
- if no action taken, reasons why
- the status of resolution of the complaint.

All complaints will be recorded in the Complaints Register within 24 hours.

If investigation identifies enabling works activities being undertaken as the likely source of the complaint, the relevant construction contractor will initiate an investigation. The complainant will be advised of the results of the investigation of their complaint and any proposed remedial action, as relevant.

8.4. Inspections

Environmental inspections will be undertaken throughout the duration of the enabling works. The type and frequency of environmental inspections will be determined by the environmental risk assessment and reflect the minimum requirements detailed in Table 8-2. The inspections will be a means of measuring and monitoring the effectiveness of the various controls outlined in the EWMP.

Table 8-2: Inspection schedule

Activity	Frequency	Location	Responsibility	Record
Daily work site inspections	Daily	Immediate work area and equipment in work area	Supervisors	Site diary entry Pre-start sign on
Pre-start inspections	Daily	The equipment/ machinery / work area being used	Equipment/machinery operators and Environmental Manager / Representative	Pre-start checklist
Environmental site inspection	Weekly	Site wide	Environmental Advisor/Coordinator or nominated representative	Site inspection checklist
Joint environmental site inspection	As required	Site wide	Transgrid, Delivery Partner Environment and Sustainability Manager or nominated representative	Transgrid inspection report

8.5. Monitoring

Monitoring will be undertaken to validate the impacts predicted for the project, to measure the effectiveness of environmental controls, and to address any relevant approval requirements or in response to specific events. The activity, description, timing and frequency of proposed monitoring is included is summarised in Table 8-3. The monitoring programs range from those involving formal sample collection, analysis and measurement, to those involving a more qualitative assessment.

A comprehensive summary of the monitoring results of the development, which have been reported in accordance with this EWMP will be published on the project website quarterly.

Table 8-3: Enabling works monitoring program

Activity	Description	Timing and frequency
Noise monitoring	Attended OOHW noise monitoring	As required during OOHW
	Attended monitoring in response to a complaint	As required in response to a complaint
	Attended monitoring for new plant or new work location	As required, for new plant or new work location
Air quality monitoring	Weather forecast to be checked to allow for proactive management of potential dust impacts	Daily
	Visual surveillance for dust emissions	Daily
	Investigation in response to complaints	As required in response to a complaint
	Unattended monitoring of substantial earthwork activities	As required
Water quality monitoring	Monitoring in waterways of high sensitivity prior to disturbance in affected catchments. Monitoring locations will include: • At a minimum two monitoring locations (one located upstream and one downstream of the transmission line crossing) for waterways with a Strahler 4th stream order or higher within the Sydney Drinking Water Catchment where construction activities within 200 metres of the waterway will be carried out and could result in impacts • Monitoring for Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorous (TP). • Result will be compared against the relevant ANZECC or other appropriate guidelines to ensure that the relevant criteria are met.	Monthly
Traffic monitoring	Shift inspections to ensure TGS are operating as designed.	As required during implementation of TGS.
	Post-completion inspection to ensure work area has been demobilised as planned and is safe for opening to traffic.	As required on completion of road upgrades.
Heritage monitoring	Shift inspections to be carried out in areas where topsoil stripping works is to occur. Prior to the placement of any fill in stripped or graded areas, a site walkover involving will be completed and any surface artefacts will be recorded and moved off the track as determined by the project archaeologist. Locations will be recorded as sites and entered on the AHIMS database. Recording to include original location, as outlined in EW21. Unexpected finds will be managed in accordance with Appendix E Unexpected Finds Procedure.	Daily

8.6. Auditing

Independent auditing will be undertaken as per the contractual requirements with Transgrid and CSSI Conditions of Approval. Relevant audit reports will be made available to DPHI.

8.7. Reporting

Various reports will be prepared to address the commitments under the Transgrid EMS and other contractual reporting obligations. Table 8-4 sets out the overarching reporting requirements for the enabling works.

Table 8-4: Enabling works reporting requirements

Report	Requirement	Timing
Pre-clearing reports	To be prepared as per management measure 3	Prior to clearing
Monthly reports	Monthly progress reports as per Employer's Requirements	Monthly
Monitoring reports	To be prepared to document monitoring records as per Table 8-3	Post monitoring events
Incident reporting	As per Section 9.4	Post any incidents

8.8. Corrective action management

A non-compliance is the failure to comply with the requirements of this EWMP, associated documents and relevant legislation. In the event of a non-compliance Transgrid and the ER will be notified immediately. DPHI will be notified in writing through the NSW Planning Portal (Major Projects) within seven days of becoming aware of the non-compliance. The notification will include:

- Development application number and name
- Condition of the consent that the development is non-compliant with
- Why it does not comply
- The reason(s) for non-compliance (if known)
- Actions that have or will be undertaken and when, to address the non-compliance.

A non-conformance is the failure to meet the procedural requirements and processes developed for the project such as engineering/construction procedures and EWMSs, or internal permits that forms part of the construction contractors' environmental management system.

Where a non-conformance and/or non-compliance has been identified, corrective actions will be developed as required and implemented to address the non-conformance that occurred, while preventative actions will be developed as required and implemented to minimise the potential for recurrence. In the event of a non-conformance the following will occur:

- the nature of the event will be investigated by the relevant Environment and Sustainability Manager
- the effectiveness or need for new/additional controls will be reviewed
- appropriate preventative and corrective actions will be developed and implemented
- the relevant environmental management practices and procedures implemented for the construction will be reviewed and revised.

Corrective and preventative actions may be generated from a number of sources, including but not limited to incidents, audits and management reviews. The actions will be systematically managed in accordance with the construction contractors' environmental management system.

The completion of the required actions will be recorded. The action records will include details on the source of the action (e.g. audit, inspection or other), the action required, target close out date, actual close out date and the person responsible for the action item.

If the actions require changes to the EWMP, the update will occur as described in Section 11.2.

9. Emergency and incident planning, management and reporting

9.1. Emergency preparedness

Construction contractors will ensure that the following equipment will be available to all site personnel to utilise in the event of an incident:

- protective gloves for certain types of corrosive chemicals
- other personal protective equipment required for the handling of hazardous chemicals and radioactive substances
- spill kits
- stormwater drain guards
- alarms for when there are issues with processes
- firefighting equipment
- up-to-date safety data sheets for any chemicals or fuels used or stored at the premises
- hard hats for designated 'emergency controllers'
- eye-wash stations.

Construction contractors will ensure that all site personnel are aware of where the equipment listed above is located on site and appropriately trained on the use of all equipment. Emergency contact details will be provided on relevant ECMs.

9.1.1. Emergency evacuation

In the event of an evacuation resulting from a fire (including bushfire), flood or other emergency, the following steps will be followed (as per the NSW RFS Development Planning):

- The site manager is to advise the local emergency service that the centre is being evacuated (include how many people and where they are going) and arrange transportation
- Ensure all site buildings have all doors and windows closed prior to leaving site
- Move all persons to the assembly point for evacuation and ensure all workers are accounted for prior to departure and once arriving at the refuge
- The site manager or delegate will advise the local emergency service that all persons have been evacuated and are accounted for and safe at the designated refuge
- After all the occupants are accounted for and safe at the designated refuge nominated staff will commence contacting families affected.
- Emergency services (such as FRNSW, RFS, SES, etc) will be contacted to confirm suitable exit routes.
- Maintain situational awareness through radio, NSW RFS website, 1800 NSW RFS, smart phone applications, local firefighting resources, and the NSW SES.

When the threat has passed, and the area is deemed safe by emergency services:

- No person should re-enter any evacuated building until advised by the emergency service

- The Emergency Warden (or person responsible) to arrange the movement of occupants back to the site and or their separate accommodation
- All occupants are to be accounted for on their return
- Inform the police/emergency service of the return of persons to the premises.

9.2. Incident identification

Environmental incidents may include the following events caused by the enabling works:

- chemical spills and leaks (including hydrocarbons)
- accidental spills or other incidents associated with the wastewater treatment plants
- unauthorised discharge of contaminated waters to the environment
- unauthorised/unapproved impact to heritage items, artefacts or sites
- clearing or damage to vegetation outside of the designated clearing areas
- unauthorised/unapproved damage or interference to threatened species, endangered ecological communities or critical habitat
- any non-compliance with legislation
- inappropriate waste disposal.

All efforts will be undertaken to avoid and reduce impacts of incidents. All site personnel are authorised to suspend a work activity that is likely to cause or actually causing or contributing to an incident. A supervisor/manager may request additional staff be deployed to the site to provide additional capacity or capability to manage the incident.

In the event of an environmental incident, the incident will be managed in accordance with the relevant construction contractor's environmental management system.

9.3. Incident classification

Incidents will be classified in accordance with the construction contractor's environmental management system and align with Transgrid's incident reporting procedures.

9.4. Environmental events and incident notification/investigation

9.4.1. Incident notification

All environmental incidents that occur on the project, regardless of how minor, must be reported to a supervisor by personnel involved or witnesses to the incident immediately after the incident occurs. The relevant Environment and Sustainability Manager will be notified immediately of any environmental incident. The Environment and Sustainability Manager will confirm whether the incident has caused or threatens material environmental harm under the *Protection of the Environment Operations Act 1997* (POEO Act).

Transgrid and the Environmental Representative will be notified of incidents and near misses immediately. Formal, documented reporting of incidents will be completed and will be submitted to Transgrid in accordance with requirements under the Contract. DPHI must be notified via the NSW Planning Portal (Major Projects) immediately after Transgrid becomes aware of an incident. All notifications are to identify

the development (including the development application number); date, time location and nature of the incident; a brief description of what occurred and why it has been classified as an incident, describe the immediate steps taken in response to managing the incident and identify a contact person for further communication regarding the incident. The Environmental Representative will be included on all incident notifications and DPHI will be issued with a follow-up notification in writing via the NSW planning portal (Major Projects) within 7 days of having made the immediate incident notification with details as per Appendix 5 of the Infrastructure Approval.

9.4.2. Incident notification and reporting in accordance with the EPBC Act

The construction contractors will notify Transgrid of any event that impacts or has the potential to impact upon protected matters, as defined under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), immediately on becoming aware of the occurrence. Appropriate details will be provided to assist Transgrid in notifying the Commonwealth DCCEEW in accordance with the requirements of the EPBC Act Approval.

9.4.3. Incident notification and reporting in accordance with the POEO Act

The construction contractors will notify Transgrid and the ER immediately after becoming aware of pollution incidents that causes or threatens material environmental harm.

Following initial verbal notification to Transgrid, the construction contractor will notify the following where relevant:

- appropriate regulatory authorities, as well as:
  - the NSW Environment Protection Authority (EPA) (if they are not the appropriate regulatory authority)
  - the local authority (if the EPA is not the appropriate regulatory authority)
- Ministry of Health
- SafeWork NSW
- Fire and Rescue NSW.

The circumstances where this will take place include:

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

Any incidents that present an immediate threat to human health or property will be reported immediately to 000.

9.4.4. Investigation of incidents

All incidents will be investigated to the level required to address the incident classification and following the processes within the relevant construction contractor's environmental management system.

10. Community and Stakeholder Engagement

10.1. Consultation

Transgrid has continuously engaged throughout the planning stage of HumeLink, including during the development of this EWMP. Engagement for the EWMP has included consultation with relevant local, State and Commonwealth Government authorities, service providers, directly impacted landowners, and the broader community.

Transgrid's community and stakeholder engagement approach for HumeLink has been developed in line with Transgrid's broader Community Engagement Policy and Collaborative Landowner Engagement Approach.

Consultation on the proposed enabling works has involved meetings, briefings and engagement with the following stakeholders:

- Local Councils, including:
  - Wagga Wagga City Council
  - Snowy Valleys Council
  - Upper Lachlan Shire Council
  - Cootamundra–Gundagai Regional Council
  - Yass Valley Council
  - Goulburn–Mulwaree Council
- NSW Department of Planning, Housing and Infrastructure (DPHI)
- NSW DCCEEW – Heritage NSW (also as delegate of Heritage Council of NSW)
- NSW DCCEEW – Biodiversity and Conservation Sciences group (BCS)
- Forestry Corporation of NSW (FCNSW)
- Transport for NSW (TfNSW)
- Rural Fire Service (RFS)
- Fire and Rescue NSW (FRNSW)
- Environmental Protection Authority (EPA)

A summary of the consultation and key topics discussed is outlined in Table 10-1.

Table 10-1: Stakeholder engagement on enabling works

Stakeholder	Consultation date	Feedback and topics raised
DPHI – Crown Lands	Ongoing	• Waterway crossings • Management of crown roads • Access for construction on Crown Lands • Native title check undertaken by Crown Lands to facilitate long-term tenure.

Stakeholder	Consultation date	Feedback and topics raised
NSW DCCEEW – Heritage NSW	16 Apr 24 4 Jun 24 11 Sep 24 16 Sep 24 10 Oct 24 21 Oct 24 14 Nov 24 4 Dec 24 5 Dec 24	• Aboriginal Cultural Heritage sites on the Aboriginal Heritage Information Management System (AHIMS) • Sensitivity modelling for Green Hills Access Accommodation facility and compound and Snubba Road compound • Access tracks – management measures to reduce impact to potential culturally sensitive areas. Including artifacts salvage and management. • Consultation on heritage methodology.
Heritage Council of NSW	4 Jun 24	• Upcoming lodgement of the EWMP to DPHI • State Heritage Register listed items.
NSW DCCEEW – BCS	23 May 24 5 Aug 24 9 Aug 24	• Presented content of EWMP including site selection process, biodiversity constraints criteria, risk assessment and impact management approach. BCS noted comfort with the proposed Enabling Works locations and associated level of biodiversity impact and recognised the need to undertake subsequent reviews via the Minor Impact Checklist for pending Enabling Works. • Agreement to reduce EWMP scope to areas of no significant biodiversity and low biodiversity constraints.
NSW DCCEEW – Water	8 Jul 24 8 Aug 24 13 Aug 24	• Consultation on CEMP and the Construction Soil and Water Management Plan. • Presentation given to DCEE-Water on aquifer interference and GDE Impacts • Recommendations made regarding water take and licensing, water supply and works on waterfront land.
Transport for NSW (TfNSW)	28 Nov 23 17 Jan 24 31 Jul 24 2 Aug 24 6 Aug 24 12 Aug 24 13 Aug 24 22 Aug 24 23 Aug 24	• Proposed worker accommodation facilities and traffic management during establishment • Emergency access points to the classified road network • Temporary traffic mitigation measures and traffic management plan. • Access point design, traffic mitigation measures, timing of road upgrades, temporary mitigation measures and timing of cessation of use of access points / intersection for the project.

Stakeholder	Consultation date	Feedback and topics raised
Registered Aboriginal Parties	17 Oct 24 15 Nov 24 25 Nov 24 26 Nov 24 27 Nov 24 28 Nov 24 2 Dec 24	• Consultation on enabling works and EWMP • Consultation on heritage methodology.
Rural Fire Service (RFS)	23 Sep 23 12 Aug 24 23 Sep 24	• Consultation on the Emergency Plan (part of the Bushfire Emergency Management and Evacuation Plan – BFEMEP) • Suitability of Bushfire Attack Levels for sites and compounds. • Consultation with RFS to characterise the bushfire risk profile of the Yass Valley Way site
Environmental Protection Authority	4 Oct 24	• No comments or recommendations for consideration.
Fire and Rescue NSW (FRNSW)	2 Aug 24	• No comments or recommendations for consideration.
Forestry Corporation of NSW (FCNSW)	25 Jan 24 6 Mar 24 12 Apr 24 2 Aug 24	• Easement acquisition process for FCNSW easements • Proposed management plans (including EWMP, CEMP management plans and Property Management Plans) • Use of roads within Forestry land – agreement between FCNSW and the Delivery Partner • Native forests and management of impacts (particularly related to access tracks in areas of native forest) • Potential impacts on waterways. • Advice on plantation colour codes, prescribing operations specific work restrictions under fire conditions.
Cootamundra-Gundagai Regional Council	23 Nov 23 29 Jan 24 9 Apr 24 1 Oct 24	• Establishment of accommodation facilities and construction compounds within the LGA • Establishment/upgrade of access points and routes into accommodation facilities and construction compounds from the road network • Amended Honeysuckle Road compound (C07) – legacy surveying issues • Water and sewerage access points and connections for proposed Adjungbilly accommodation facility and compound (AC04) • Standpipe/potable water • Access points – S138 process and design requirements (Council specifications) • Access routes and bridge/culvert/cattle grid load limits. • Progression of request for Acquisition of Temporary Access Easement Over Council owned land.

Stakeholder	Consultation date	Feedback and topics raised
Goulburn-Mulwaree Council	20 Nov 23 29 Jan 24 03 Apr 24 1 Oct	• Establishment of accommodation facilities and construction compounds within the LGA • Establishment/upgrade of access points and routes into accommodation facilities and construction compounds from the road network • Repurposing of the existing wind farm infrastructure on the proposed Crookwell worker accommodation facility • Dilapidation report on access road within GMC LGA. • Opportunities for local businesses and workforce. • Protection of the Pejar Dam catchment area. • Waste management including wastewater treatment. • Chemical and fuel storage and associated bunding.
Snowy Valleys Council	21 Nov 23 31 Jan 24 08 Feb 24 10 Apr 24 19 Jun 24	• Establishment of accommodation facilities and construction compounds within the LGA, including process to determine locations for the accommodation facilities. • Establishment/upgrade of access points and routes into accommodation facilities and construction compounds from the road network • Access points – S138 process and design requirements (Council specifications) • Water access point locations • Potential impacts to local roads and Transgrid's engagement with Council regarding the roads • Roads pre- and post-dilapidation surveys/reports and bridge assessment timing • Traffic control/LGA traffic volume and use of local roads • Access tracks – how they are included in Property Management Plans (PMPs) • Biosecurity risks and weed management • Out of Hours Works Protocol and notification process.
Upper Lachlan Shire Council	01 Feb 24 03 Apr 24 10 Apr 24 01 Oct 24	• Establishment of accommodation facilities and construction compounds within the LGA • Establishment/upgrade of access points and routes into accommodation facilities and construction compounds from the road network • Potential impacts to the local road network, particularly road safety from increased heavy vehicle movement • Potential opportunities for community investment and legacy projects in this area.
Wagga Wagga City Council	17 Jan 24 (Airport requirements) 21 Feb 24 02 Apr 24 19 Jun 24 01 Oct 24	• Establishment of accommodation facilities (Tarcutta) and construction compounds within the LGA • Establishment/upgrade of access points and routes into accommodation facilities and construction compounds from the road network • Local employment opportunities • Application and approval processes • Road crossings and maintenance • Traffic controls and night works • Out of Hours Works Protocol • Access points (road augmentation works) • Roads pre- and post-dilapidation surveys/reports • Water access points for potable water at the proposed Tarcutta accommodation facility. • Water treatment plant on site and associated EPA licence. Volumes required for water treat do not require EPA licence

Stakeholder	Consultation date	Feedback and topics raised
		• Construction and dust suppression -water requirements • Conditions of Approval and next steps in the planning and environmental approvals and were does the EWMP sits in this process.
Yass Valley Council	16 Nov 23 31 Jan 24 9 Apr 24 1 Oct 24 29 Jan 25 05 Feb 25 26 Feb 25 5 Mar 25 7 Mar 25 11 Mar 25 13 Mar 25	• Establishment of accommodation facilities and construction compounds within the LGA including process to determine locations for the accommodation facilities • Establishment/upgrade of access points and routes into accommodation facilities and construction compounds from the road network • Access points – S138 process and design requirements • Service and utility connections for worker accommodation facilities (sewer plant option, mains, waste location etc) • Potential flooding risk around the Yass compound location • Advice on odour within area of the proposed accommodation facility • Local road upgrades prior to construction start • Bridge/road limits and road crossings • Traffic management plan for the proposed accommodation facilities • Water access points – potable/non-potable. • Accommodation facility and compounds for Yass. • Relocation of accommodation facility to the Yass Industrial Park.

The project would not encroach or require access through National Parks and Wildlife Service (NPWS) land for either construction or operational activities. Potential indirect impacts on adjacent national parks and nature reserves are expected to be minimal and managed in accordance with mitigation measures proposed for the project and it is noted that NPWS did not provide a submission during the public exhibition of the HumeLink EIS.

Since enabling works are generally limited to areas of no significant or low biodiversity constraints, they will not occur in proximity of any NPWS land as adjoining project land is of higher biodiversity constraints, and as such NPWS has not been consulted for the EWMP.

Transgrid has engaged with local councils throughout the planning approvals stage of the project, including on the proposed enabling works and the EWMP.

Transgrid will continue to engage with Council representatives ahead of the start of the enabling works, including issuing the following management plans for Council review ahead of the commencement of main construction work:

- Traffic and Transport Management Plan (TTMP)
- Soil and Water Management Plan (SWMP)
- Noise and Vibration Management Plan (NVMP)
- Waste Management Plan (WMP)
- Accommodation Camp Management Plan (ACMP)
- Social Impact Management Plan (SIMP)

- Local Business and Employment Strategy (LBES).

Transgrid and the construction contractors will also continue to engage with relevant Councils, stakeholders, directly impacted landowners and the community throughout the delivery of the enabling works.

10.2. Liaison with government authorities and other relevant stakeholders

Transgrid will notify DPHI in writing of the dates of commencement of enabling works prior to commencement.

The construction contractors are responsible for reporting on the ongoing environmental performance of the project to Transgrid and the Environmental Representative. The construction contractors will report regularly to Transgrid on progress and any key environmental matters.

Relevant government authorities will be consulted throughout the enabling works through their involvement in regular meetings. These meetings will discuss environmental performance, upcoming work, high risk activities and will include inspections of the work sites as required.

10.3. Community liaison and/or notification

Directly and indirectly impacted landowners, the community, and businesses will be notified of enabling works across the project footprint using a variety of platforms in line with their preferred communication mode.

Additionally, directly impacted landowners will be offered one-on-one meetings to ensure they have a full understanding of the upcoming work that will be taking place on their property and to allow the project team to listen to any concerns they may raise.

10.4. Digital notifications

It is anticipated that the main notification method will be via email. The email will include a hyperlink to the Transgrid website which will detail all enabling works related activities across all sites.

Regular emails directing stakeholders to the website will provide timely, relevant and specific information to the community. Emails can be sent to all residents or targeted to area specific residents depending on where the work is located. Each email will provide the date of the work, the area of work and an outline of the work as well as a map outlining the work area.

Information on the Transgrid website will detail the work as well as visually reflect the following:

- location of the activity in relation to sensitive receivers (including residences) and businesses
- the potential impact work may have (such as noise, dust, access, traffic changes and other work activity)
- the type and frequency of the activity being carried out (this will include any impulsive noise activities)
- the time of day or night the activity is being carried out (this will include any OOHW proposed)
- the duration of the activity
- the type of equipment that is being used

- the direct or indirect impact that is predicted or level of interest in a particular activity, such as utility works on local streets or traffic delays to the wider network.

10.5. Letterbox paper notifications

Letterbox paper notifications will continue to be distributed to any stakeholder who prefers this form of notification. The specific stakeholder notification area is variable from activity to activity and will be determined by a number of factors including:

- location of the activity in relation to residences, sensitive receivers, and businesses
- the potential impact work may have (such as noise, dust, access, and traffic changes)
- the type and frequency of the activity being carried out (this will include any impulsive noise activities)
- the time of day or night the activity is being carried out (this will include any out of hours works proposed)
- the duration of the activity
- the type of equipment that is being used
- the direct or indirect impact that is predicted or level of interest in a particular activity.

In addition, the stakeholder notification area is also dependent on the results of specific noise modelling (where required). As a minimum, specific stakeholder notification areas will encompass community, businesses, and stakeholders within 250 metres from work in advance of work and traffic changes.

Table 10-2: Communication tools and activities

Tool	Description	Frequency / Timing	Detail
Information line 24-hour toll-free 1800 number	A 1800 number will be staffed 24 hours a day and will be the main point of contact between the community and the project team	Ongoing	The Project 1800 number (1800 317 367) to be included on all Project communication material
Advertisements	Print and radio advertisements to advise of major impacts from Enabling Work, traffic changes and Project opening will include but not be limited to: • commencement of works and operation • construction activity • traffic changes.	Prior to the commencement of enabling works and prior to the commencement of operation	Media may include: • Goulburn Post • Regional News Pty Ltd • Yass Tribune • Yass Valley Times • The Yass Phoenix • Tumut and Adelong Times • Tumbarrumba Times • relevant local language newspapers
Community contacts database	Salesforce is the approved community contact database	Ongoing for duration of the Project	• all known stakeholders close to the Project, key stakeholders and any member of the community that requests to be provided with information will be included on the database • the database will be regularly updated.

Tool	Description	Frequency / Timing	Detail
Community forums	Contractor will seek to engage with the community in a range of forums as appropriate throughout the Project.	As required	Key issues will be discussed, and options explored with community representatives who live/work/operate a business or have a direct interest in the Project
Community updates	• Community updates will be prepared in the form of newsletters and or community notifications to keep the community up to date with construction milestones • Stakeholders will be able to register to be included on a distribution list via the website, mail out or feedback form.	At least every three months, but as required, but for each major construction milestone at a minimum including but not limited to: • commencement of enabling works • major traffic changes.	The updates (newsletters) may include but will not be limited to: • Status of the Project, construction progress, environmental management initiatives and community involvement achievements associated with HLE & HLW work, the Project Works and any Temporary Works.
Site hoarding	The project name, 1800 telephone number, postal and email address will be printed on the hoardings (where required) of each work site.	Throughout the project footprint	Basic project identification details to be available and visible to those walking or driving past the project sites
Doorknocks	When deemed necessary, the project team may doorknock directly affected property owners and residences	As required	• Doorknocks and feedback will be recorded in the Salesforce database • Doorknocks may also be required in the event of emergency works.
Email	• A dedicated email address will provide the community with a channel to provide complaints or make enquiries • Email or SMS notifications will be used to inform those directly affected by any changes that may impact on individual properties, residents and businesses, such as traffic disruptions, and work required outside normal working hours.	Ongoing for the duration of the project	All email enquiries will be responded to within one (1) business day and email complaints received during working hours acknowledged within four (4) hours, or if received out of hours, on the next business day
Letterbox notifications	Letterbox notifications will be used to inform those directly affected and the wider community of any changes that may impact on individual properties, residents, and businesses	As required but will occur five (5) days prior to the proposed activity described in the leaflets	With detail about what is happening and/or changes, in plain English, supported by map, drawings, construction schedules/programmes as required
Media release	A media release containing information about relevant milestones including start of Enabling Works	• At commencement of enabling works • At major milestones	The contractors in conjunction with Transgrid will identify other opportunities for media events, including the achievement of other project milestones.

Tool	Description	Frequency / Timing	Detail
Out of hours works	The contractor will implement an OOHW protocol and appropriate levels of consultation will be carried out for all OOHW activities	Throughout the project works, as needed	Details of works required outside standard construction hours will include but not be limited to: • justification of why the activities are required outside standard construction hours • measures that will be implemented to manage potential impacts associated with works outside standard construction hours • location and activity specific noise and vibration impact assessment process(es) that will be followed to identify potentially affected receivers, clarify potential impacts and select appropriate management measures.
Stakeholder and resident meetings	One-on-one meetings with nearby property owners, landholders and interested stakeholders that are either requested by the stakeholder or the project team.	As required	• meetings with residents (street corner if appropriate), businesses and other stakeholders will be held from time to time to discuss current issues or discuss and provide an overview of upcoming project works
Stakeholder briefings	Key stakeholders, including local councils and sensitive receivers, will be given the opportunity to receive briefings on the project and its potential impacts.	• Commencement of enabling works • Key milestones • As programmed (councils, regulatory authorities).	Regular meetings will be scheduled with Transgrid and key stakeholders including councils and government agencies to report on current community and stakeholder issues, provide an overview of the project works including traffic changes, construction schedules/programmes and draft documentation for comment with: • agendas, meeting minutes and records of meeting attendees will be managed by the contractors.
Variable Message Signs (VMS)	VMS will be used as a static communication tool to keep the community informed about Enabling Works activities including changes to traffic and construction activities	As required	VMS wording to be agreed to by Transgrid where required.
Website	A project online portal	Ongoing	Contractors will provide updated material for the Transgrid website

11. Review and improvement

11.1. Continuous improvement

Continuous improvement of this EWMP will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continuous improvement process will be designed to:

- identify areas of opportunity for improvement of environmental management and performance
- determine the cause or causes of non-conformances and deficiencies
- develop and implement a plan of corrective and preventative action to address any nonconformances and deficiencies
- verify the effectiveness of the corrective and preventative actions
- document any changes in procedures resulting from process improvement
- make comparisons with objectives and targets
- review contractual and legislative requirements.

11.2. EWMP amendment and assurance

Reviews of this document may be undertaken periodically and following any major incident, non-conformance or non-compliance, until such time as the site becomes operational under the CEMP/EMS. This EWMP will be revised to the satisfaction of the Planning Secretary within 3 months following:

- An incident report under CoA (C10)
- Submission of an Independent Audit under CoA (C14)
- A modification of the planning approval
- The issue of a direction from the Planning Secretary, under CoA (A3), which requires a review.

The purpose of any review is to ensure that the systems implemented within this Plan are meeting the requirements of the standards, policies and objectives and, if not, to amend the EWMP to ensure compliance.

Minor changes to the EWMP or other approved documents required under the Infrastructure Approval may be required during delivery of the project. The Environmental Representative will consider and approve minor changes to the EWMP or other approved documents. Minor changes involve updating the approved environmental documents that:

- are administrative in nature (e.g. staff and agency/authority name changes)
- do not increase impacts to nearby sensitive receivers
- are consistent with the terms the Infrastructure Approval and the other documents approved by the Planning Secretary
- are in response to audit findings relating to procedures and processes of the environmental management system

- in response to changes in the applicable legislation such that the project complies with the amended legislative requirements
- any other changes or updates that considered minor by the Environmental Representative.

The construction contractors will provide the documentation requested by the Environmental Representative to allow the Environmental Representative to perform their function. Changes to the EWMP that are not considered as minor will be discussed with DPHI to confirm the need for further review and approval. Where required, the updated EWMP will be submitted to the Environmental Representative for endorsement prior to being submitted to DPHI for review and approval.

Appendices

Appendix A – Environmental management and mitigation measures

Roles – EM – Environment and Sustainability Manager, EA – Environmental Advisor/coordinator, PE – Project/site Engineers, CM – Construction Manager, SI – Supervisor/superintendent, DM – Design Manager, TR – Traffic Manager, CSM – Community and Stakeholder Engagement Manager, SM – Safety Manager

Table A-1: Enabling works Updated Mitigation Measures

Reference	Mitigation measure	Timing	Location	Responsibility	Source
General					
EW1	Training on potential sensitive receivers and environmental constraints will be provided to all project personnel, including relevant subcontractors on EWMP requirements through inductions, toolboxes and targeted training.	Prior to enabling works	All	EM / EA	Employer's Requirements
EW2	Directly and indirectly impacted landowners, the community, and businesses will be notified of enabling works across the alignment.	All times	All	CSM	Amendment Report UMM[4] TT8
EW3	Helicopter activities are not permitted during enabling works.	During enabling works	All	All	-
Biodiversity					
EW4	Areas of moderate, high, very high or no-go biodiversity constraints will be managed via: • areas of moderate, high, very high and/or no-go biodiversity constraints must not be impacted during enabling works • areas of moderate, high, very high and/or no-go biodiversity constraints will be fenced to avoid incursion • areas of moderate, high, very high and/or no-go biodiversity constraints located inside work areas will be identified in project GIS/GPS systems and on ECMs, prior to works occurring • training as per EW1 will include training on areas of moderate, high, very high and/or no-go biodiversity constraints.	All times	All	All	Good practice
EW5	Impacts to biodiversity will be avoided to the greatest extent practical. Micro-siting of areas of disturbance will be undertaken with the aim to avoid or minimise impacts. Biodiversity constraints mapping will be used to guide prioritisation of areas of high biodiversity conservation significance (particularly serious and irreversible impacts (SAIIs) and critically endangered ecological communities (CEECs)) Opportunities for intact and/ or higher condition remnants should also be prioritised for avoidance	Prior to and during enabling works	All	EM / DM / CM	Good practice UMM B1 UMM B6 UMM B17 UMM B28

[4] UMM = Amendment Report Updated Mitigation Measures with corresponding reference number

Reference	Mitigation measure	Timing	Location	Responsibility	Source
EW6	The detailed design will consider opportunities to avoid and minimise impacts to Golden Sun Moth and Key's Matchstick Grasshopper within transmission line easements to be implemented during construction and operation.	Detailed design and during enabling works	Transmission line easements	EM / DM	UMM B9
EW7	Access tracks will be used as necessary for the construction work and as far as is practicable, track construction will be carried out to cause minimum disturbance to soil and vegetation both on and adjacent to the track. Tracks will be routed to follow the natural contour of the land as far as practicable to minimise the amount of cut and fill and soil disturbance. In addition, other erosion control mechanisms will be put in place during the initial track construction work to contain any sediment that may erode from the disturbed surfaces.	Prior to and during enabling works	Access tracks	DM / CM	UMM B29
EW8	Where threatened frog habitats have been identified the following avoidance measures will be implemented, where practicable: • avoid installing waterway crossings • avoid disturbance within 50 m of the top of bank of the waterway (including riparian vegetation). Where avoidance is not possible: • Waterway crossing designs should avoid instream structures to minimise the potential for hydrological change, erosion and sedimentation impacts of downstream environments. • Location of waterway crossings will be determined in consultation with a suitably qualified and experienced ecologist to avoid or minimise impacts to potential habitats or ecological features. • Develop site specific erosion and sedimentation control plans to ensure the potential for erosion and sedimentation impacts are minimized as far as practicable, including monitoring the success of erosion and sediment control measures. • Develop and implement site-specific hygiene protocols (e.g. cleaning of plant machinery), to minimise the spread of pathogens and exotic weeds during and post-construction (in line with Hygiene protocols for the control of diseases in Australian frogs [DCCEEW, 2011]). A suitably qualified and experienced ecologist will be engaged to undertake site-specific monitoring surveys for the species at the proposed creek crossing sites within and adjacent to the species habitat as well as downstream receiving environments that may be subject to potential indirect impacts.	Prior to and during enabling works	Waterway crossings within mapped Booroolong Frog Sloane's Froglet and/or Yellow-spotted Tree Frog habitat Threatened frog habitats within 250 m downstream of the project footprint. Potential construction monitoring site locations have been identified including at Tarlo River, Wollondilly River, Adjungbilly Creek, Brungle	EM	UMM B8

Reference	Mitigation measure	Timing	Location	Responsibility	Source
			Creek, Yaven Creek and Adelong Creek (Figure 13-2 of Revised BDAR)		
EW9	The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings will be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), will be avoided or minimised. • The crossing design and construction work sites will minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings will be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings should be located in straight stream sections with well-defined channel geometries and shallow stream gradients, in stable dry reaches. • Micro-siting will avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (ie snags, coarse woody debris, instream macrophytes, boulders). • Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing.	Detailed design	Waterway crossings	EM / DM	UMM B30
EW10	Crossing structures will be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible with consideration of the *Guidelines for Controlled Activities on Waterfront Land* (DPE 2022), *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (NSW Fisheries 2003) and the *Policy and Guidelines for Fish Habitat and Conservation and Management* (NSW Fisheries, 2013). This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b).	Detailed design	Waterway crossings	EM / DM	UMM B31 and CoA B22

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	• Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish).				
EW11	Class 1 KFH streams require additional consideration: • The need for and location of waterway crossings at identified Class 1 locations to be confirmed during detailed. • Crossing design should preference a single span bridge structure where practicable (aligning with the recommended crossing types identified by NSW DPI Fisheries for Class 1 streams) to avoid instream impacts, particularly within threatened species potential distributions as identified in Table 13-29 of the Revised BDAR. • Consultation should be undertaken with NSW DPI Fisheries as to crossing designs and the potential occurrence of threatened aquatic species to inform detailed design and survey. Pre-construction survey should be completed at those Class 1 streams identified as supporting potential habitats for threatened species at the site of proposed new tracks or upgraded tracks (Table 13-29 of the Revised BDAR) to determine: • The presence/absence or likelihood of threated aquatic species occurring. • Completion of an updated 7-part test or SIA assessment, as relevant. • Determine any additional mitigation measures. • Recommendations as to micro-siting and design in order to minimise potential impacts to threatened aquatic species.	Detailed design and enabling works	Class 1 KFH	DM / EM	UMM B33
EW12	In the event that any further or alternative waterway crossings are required in areas mapped as Key Fish Habitat (KFH) or indicative threatened species distribution mapping (DPI 2023), an aquatic ecological assessment will be undertaken at the proposed crossing location. The assessment approach will be consistent with that used for the EIS and will address any potential impacts to threatened aquatic species or KFH. This assessment may be desktop based if suitable levels of information are available but may also recommend a field inspection if threatened aquatic species or sensitive aquatic habitat features are considered to have a moderate or higher likelihood of occurring, in order to guide	Detailed design	Waterway crossings	EM / DM	UMM B34

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	micro-siting and design/mitigation measures to minimise impacts to aquatic environments. If a waterway crossing at Oolong Creek is required, the waterway crossing will incorporate a fish passage barrier to prevent the upstream incursion of European Carp and Redfin Perch, otherwise further engagement will be undertaken with DPI Fisheries to confirm alternate measures for implementation.				
EW13	Pre-clearing surveys will be completed prior to clearing at each location by a suitability qualified and experienced ecologist. The proposed clearing extents will be marked out on site prior to the pre-clearing surveys. During the surveys, the ecologist will: • survey the proposed clearing extent • identify any fauna habitat and fauna that will require relocation prior to clearing; document location of any fauna release sites off easement • confirm the location and mark out the extents of any biodiversity exclusion zones including locations of unexpected finds (threatened species or threatened species habitat) • confirm presence of karst roosting habitat for bats within areas identified as high potential karst habitats and develop adaptive safeguards to mitigate indirect impacts to roosting individuals • confirm that hollow-bearing trees to be retained within and adjacent to the clearing extents are prominently marked/tagged • confirm that nest boxes are in place (where required) in suitable locations. • survey and confirm the presence of raptor nests within and adjacent to the clearing extents.	Prior to clearing	All	EM / EA / PE	UMM B20
EW14	Biodiversity exclusion zones for retained vegetation and threatened species habitats will be confirmed by a suitably qualified and experienced ecologist and identified as 'No disturbance' zones prior to the commencement of clearing or any site activity that could damage the vegetation within the exclusion zone. Biodiversity exclusion zones will be physically marked and demarcated, and included on ECMs. Exclusion zones located inside work areas will be identified in project GIS/GPS systems, prior to works occurring.	Prior to clearing	All	EM / EA / PE	UMM B13
EW15	Biodiversity management training will be delivered to all workers involved in vegetation clearing.	Prior to enabling works	All	EM / EA	UMM B14
EW16	During enabling works, Biosecurity will be managed in accordance with the Transgrid Biosecurity Corporate-wide Procedure.	During enabling works	All	EM / EA	Good practice

Reference	Mitigation measure	Timing	Location	Responsibility	Source
EW17	Material resources from the area will be salvaged and stockpiled for beneficial reuse where practical. This could include soil and vegetative resources such as hollows and mulch.	During enabling works	All	EM / EA	CoA B30(d)(ix)
Aboriginal heritage					
EW18	Enabling works will avoid and minimise harm to Aboriginal heritage items and sites where practical and feasible. Where any known heritage sites remain within or near a work area, prior to enabling works commencing in that area, these sites will be demarcated using flagging and fencing to clearly delineate the area. Exclusion zones located inside work areas will be identified in project GIS/GPS systems, prior to works occurring.	Prior to and during enabling works	All	EM / DM / CM	UMM AH2 UMM AH4
EW19	Where enabling works involving ground disturbance are required in areas that have not previously been surveyed, additional assessment will occur in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (2010). Where required, additional surveys will be undertaken with the Registered Aboriginal Parties (RAPs). If no Aboriginal objects are found or if Aboriginal objects are found and would not be impacted, a letter report will be prepared an archaeologist that documents the findings and gives clearance to proceed. Where Aboriginal objects, scarred trees or areas of potential archaeological deposits (PADs) are located in unassessed areas and would be directly impacted, report/s will be prepared. The report/s will: • detail findings of the survey activities • detail where test excavation is required • outline any additional mitigation strategies beyond those required • provide detail on the outcomes of management activities including archival recording and analysis of stone artefact assemblages and other information relevant to addressing research questions, where relevant • be presented to the RAPs for comment. The final report/s will be provided to the RAPs and Heritage NSW for information prior to commencing ground disturbing activities in these areas.	Prior to and during enabling works	All	EM	UMM AH3

Reference	Mitigation measure	Timing	Location	Responsibility	Source
EW20	Where detailed design confirms there would be direct impacts from the construction of new waterway crossings, new access tracks, worker accommodation facilities and compounds in areas with high and moderate archaeological sensitivity that have not been previously subject to test excavations, prior to impact a desktop assessment and site inspection will be completed to determine the level of previous impact from past ground disturbing activities and to determine if the area contains a PAD. If it is determined that the area contains a PAD and has undergone low previous impact then an archaeological subsurface test excavation program will be carried out in the area of direct impact.	Prior to and during enabling works	Areas of high and moderate sensitivity not already tested where enabling works would have direct impact	EM	UMM AH5
EW21	Following any stripping and grading works and prior to placement of any fill or road base material for construction of the access track, a site walkover will be completed and any surface artefacts will be recorded and moved off of the track. The artefact locations will be recorded as sites and then entered on the AHIMS database. The recording will include a record of their original location. Artefacts may be grouped into sites and the date provided to AHIMS accordingly.	During enabling works	Access tracks in areas of high and moderate sensitivity not already tested where enabling works would have direct impact	EM	UMM AH6
EW22	Following the root ball removal in areas assessed as having high and moderate sensitivity, the area will be inspected and any surface artefacts will be recorded and moved away from the area of impact. The artefact locations will be recorded as sites and then entered on the AHIMS database.	During enabling works	Areas of high and moderate sensitivity not already tested where tree root ball removal would be undertaken	EM	UMM AH7
EW23	Harm to modified trees and trees of cultural significance will be avoided where possible through design development and construction planning. Modified trees will only be removed to directly facilitate construction of permanent infrastructure and/or to meet Vegetation Clearance Requirements for the transmission line. If the removal of a scarred tree (a type of modified tree), or a tree of cultural significance, that has been assessed to be an Aboriginal object cannot be avoided, the tree will be subject to 3D scanning. Prior to any impacts to modified	Prior to impact to a modified/scarred tree	All	EM	UMM AH8

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	or scarred trees, or a tree of cultural significance, consultation will be undertaken with the RAPs on salvaging the scarred tree trunk.				
EW24	All portions of artefact scatters and isolated finds of moderate or high archaeological significance that will be directly impacted by enabling works will require surface collection and/or movement prior to commencement of enabling works in those areas. Where test excavations identify archaeological deposits of moderate or high archaeological significance which cannot be avoided, salvage excavations will initially occur. RAPs will be included in this process.	Prior to enabling works that directly impact artefact scatters, isolated finds and potential archaeological deposits (PADs) (moderate or high archaeological significance)	All	EM	UMM AH9
EW25	Cultural heritage training will be delivered to all workers involved in enabling works. The training will cover sites of heritage significance within and adjacent to project work sites and protocols that must be complied with to minimise and manage potential impacts to those sites.	Prior to enabling works	All	EM / EA	UMM AH10 UMM AH11
EW26	If at any time during enabling works, unanticipated Aboriginal objects (which are inconsistent with approved heritage impacts in Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report), or human remains are discovered, they will be managed in accordance with the unexpected finds flowchart for heritage in Appendix F.	During enabling works	All	EM / EA	UMM AH12
EW27	The long-term management of salvaged archaeological materials will be determined in consultation with the RAPs.	During and post enabling works	All	Transgrid	UMM AH13
EW28	If impact to the Derringullen Creek Women's site is unavoidable, further consultation will be undertaken with the relevant RAP to seek guidance around minimising and managing the extent of impacts.	Prior to potential impact to the Derringullen Creek Women's site	Derringullen Creek Women's site	EM	UMM AH4 UMM AH15 CoA Table 3-2 (AHIMS ID 51-4-0495)
EW29	Management activities specified in Table 3-2 of Appendix 3 of the Infrastructure Approval will be implemented during and post enabling works as relevant.	During and post enabling works	Locations in Infrastructure Approval	EM / CM	CoA – App 3 (Table 3-2)

Reference	Mitigation measure	Timing	Location	Responsibility	Source
EW30	Items specified in Table 3-1 and Table 3-3 of Appendix 3 of the Infrastructure Approval will be avoided. The implementation of the methodology in Appendix K, will not harm the heritage objects listed in Appendix 3, Tables 3-1 and 3-3.	During and post enabling works	Locations in Infrastructure Approval	EM / CM	CoA – App 3 (Tables 3-1 and 3-3)
Non-Aboriginal heritage					
EW31	If at any time during enabling works, any items of potential historic heritage archaeological significance, or human remains are discovered, they will be managed in accordance with the unexpected finds protocol.	During enabling works	All	EM / EA	UMM NAH1
EW32	Where enabling works involving ground disturbance are required in areas that have not previously been surveyed, additional surveys will be undertaken. If no historic items are found or if historic items are found and they would not be impacted, then a letter report will be prepared by a heritage specialist that documents the findings and gives clearance to proceed. Where historic items are located and would be impacted, a report will be prepared for the survey areas. The report(s) will: • detail findings of the survey activities • detail where test excavation is required • outline any additional mitigation strategies beyond those required in Appendix B (Updated mitigation measures) of the Amendment Report. Final reports will be provided to Heritage NSW for their information prior to the commencement of ground disturbing activities in these locations.	During enabling works	All	EM	UMM NAH2
Land use and property					
EW33	Access to all properties will be maintained during enabling works, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier.	During enabling works	All	EM / EA / CM / PE	Good practice
EW34	A property management plan will be developed for directly impacted properties in consultation with landowners and stakeholders. The property management plans will outline the protocols that will be implemented to address landowner concerns during enabling works. This may include: • the process for rectification of any damage to property infrastructure caused by works • the process for restoration or rehabilitation and stabilisation of disturbed areas following the completion of works	Prior to enabling works occurring at impacted properties	All	CSM	UMM LP2

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	• measures to minimise disruption to agricultural practices during works • any fencing and gate requirements • specific biosecurity protocols.				
EW35	The location of all services and utilities within the construction area will be confirmed during detailed design, and any required protection or relocation will be designed in consultation with utility providers.	Detailed design	All	DM	UMM LP9
Social					
EW36	Emergency services will be regularly updated on work plans and access routes in the event of an emergency.	During enabling works	All	CSM	UMM SO3
Landscape character and visual impact					
EW37	During enabling works visual impacts will be minimised as far as practical. Where possible, existing vegetation and trees of high conservation significance will be retained and protected to minimise visual and landscape character impacts.	During enabling works	All	DM / CM	UMM LV1 UMM LV2
EW38	The Tree Protection Zone of retained trees within or immediately adjacent to the disturbance area will be managed in accordance with *AS 4970-2009 Protection of Trees on Development Sites* where practicable to minimise the impact of the works on the long-term health of these trees.	Detailed design	All	DM / CM	UMM LV4
EW39	Lighting at construction compounds and worker accommodation facility would be designed and operated in accordance with *AS 4282 2019 Control of the obtrusive effects of outdoor lighting*. Artificial lighting required during construction will be directed towards the work site and minimise light spill, to the extent practicable.	During enabling works	All	DM / CM	UMM LV3 UMM B24
Noise and vibration					
EW40	Any out-of-hours works will be undertaken in accordance with an out-of-hours works protocol.	During enabling works	All	EM / EA	UMM NV2
EW41	All reasonable and feasible steps to minimise noise impacts (including traffic noise) to sensitive receivers from enabling works. Where enabling works are likely to result in exceedances of noise management levels (NMLs) at sensitive receivers, mitigation and management measures will be implemented where practicable and appropriate. This will include (but is not limited to) the following measures:	During enabling works	All	EM / EA / PE	UMM NV4 and CoA B6

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	• select quieter plant and equipment and use alternative construction methods to minimise noise levels • plan and schedule concurrent noisy activities to minimise the number of items of noisy plant operating at one time and cumulative noise levels • install screens or use barriers to mitigate noise from stationary noise sources • maximise the offset distance between noisy plant and sensitive receivers • orient noisy plant and equipment away from sensitive receivers • use noise source controls, such as residential class mufflers, to reduce noise from all regularly used plant including cranes, excavators and trucks • use non-tonal reversing alarms in place of traditional beeper reversing alarms during out-of-hours where noise impacts are predicted • turn off machinery when not in use • confirm equipment is maintained in accordance with manufacture's requirements to minimise generation of excessive noise • operate machinery in a manner which reduces occurrence of maximum noise level events, such as excavator bucket impacts, material drop heights, steel on steel impacts and dragging materials across hard surfaces • provide awareness training regarding noise mitigation measures to be implemented as part of regular toolbox meetings • notify and consult with potentially noise affected receivers about upcoming noisy activities • confirm that noise affected receivers outside standard construction hours and highly noise affected sensitive receivers are managed with consideration to the Construction Noise and Vibration Guideline (Transport for NSW, 2023) (CNVG) additional mitigation measures such as notifications, verification, and respite where appropriate • implementation of at property treatments will be considered for long term impacts where required.				
EW42	All construction vehicle movements will adhere to the following measures: • out-of-hours vehicle movements will be minimised where possible • construction delivery vehicles will be fitted with straps rather than chains for unloading, wherever possible • use of engine compression brakes will be avoided at night and in residential areas • site access points and roads/flight paths will be located as far as possible away from sensitive receivers	During enabling works	All	EA / PE	UMM NV6 and CoA B6

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	• traffic flow, parking and loading/unloading areas will be planned to minimise reversing movements • construction inductions will include driver behaviour requirements to minimise vehicle noise emissions.				
EW43	Where required, mitigation measures will be implemented with the aim of achieving the road traffic noise assessment criteria for land uses from *NSW Road Noise Policy* (DECCW, 2011).	During enabling works	Public roads	EM / TM	CoA B7
EW44	If vibration intensive work is required during enabling works and is within the recommended minimum working distances and is considered likely to exceed the cosmetic damage criteria: • different construction methods with lower source vibration levels will be investigated and implemented, where feasible • vibration monitoring will be undertaken at the start of work to determine actual vibration levels at the receiver • work will be ceased if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria.	During enabling works	All	PE / EA	UMM NV7 and CoA B8
EW45	If noise and vibration monitoring indicates exceedances, then additional mitigation and control measures will be identified and implemented where practical and reasonable.	As required	All	EM / EA	CoA B16(h), B8 and B10
Soils, geology and contamination					
EW46	Prior to ground disturbance in areas of moderate or high risk saline soils, an inspection would be undertaken to determine the presence of saline soils. If salinity is confirmed, excavated soils will be managed in accordance with *Book 4 Dryland Salinity: Productive use of Saline Land and Water* (NSW DECC, 2008c) and the *Salinity Training Manual* (DPI, 2014) to manage salinity impacts.	Prior to ground disturbance in areas of moderate or high salinity potential	All	EM / EA	UMM SC1
EW47	Disturbance to Areas of Environmental Concern of moderate risk or greater will be avoided or minimised where possible. Where impact cannot be avoided, assessment of the area will be undertaken in accordance with the assessment of site contamination NEPM 2013.	Prior to ground disturbance in Areas of Environmental Concern	All	DM / CM / EM	UMM SC2
EW48	Prior to ground disturbance in areas of potential acid sulfate soil or rock occurrence, testing will be carried out to determine the presence of actual and/or potential acid sulfate soils or rocks. If acid sulfate soils or rocks are encountered,	Prior to ground disturbance in areas of potential acid sulfate soil	All	EM / EA	UMM SC3

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	they will be managed in accordance with the *Acid Sulfate Soil Manual* (ASSMAC, 1998).				
EW49	Detailed design will consider the risk of encountering naturally occurring asbestos (NOA) within the enabling works footprint. Naturally occurring asbestos will be managed in accordance with an Asbestos Management Plan, prepared in accordance with the NSW Government Code of Practice *How to Manage and Control Asbestos in the Workplace* (SafeWork, 2020).	Prior to ground disturbance in areas of naturally occurring asbestos	All	SM	UMM SC5
EW50	The relevant contractor will undertake compliance monitoring, keep a record of waste volumes and waste types and keep a stockpiles register where excavations and stripping of surface soil contamination occurs. Contractors will keep all records during enabling works for waste disposal and for the importation of materials such as engineering fill and excavated natural materials (ENM) or virgin excavated natural materials (VENM) soils. Engineering fill materials for use on site will be validated to confirm they meet the classification of VENM or ENM prior to being transported to site."	During enabling works	All	EM / EA	UMM SC6
EW51	The discovery of any unexpected contamination during construction will be managed in accordance with the Unexpected Contaminants Finds Protocol.	During enabling works	All	EM / EA	UMM SC7
Surface water and groundwater					
EW52	Erosion and sediment control plans will be prepared in consultation with a Certified Professional in Erosion and Sediment Control for activities involving land disturbance. The plans must be prepared in accordance with the Blue Book – *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004), and Volumes 2A (DECC, 2008b) and 2C (DECC, 2008a).	Prior to and during enabling works	All	EM	UMM SW1 UMM B18 UMM B26 CoA B19(b)
EW53	In addition to standard erosion and sediment control measures, the following procedures and considerations will be incorporated into construction methodologies for waterway crossings, where appropriate and practicable: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the indicative disturbance area. This may include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream work sites will be temporarily stockpiled during construction and then returned to the watercourse, at locations where scour risk can be avoided and risk of dislodgment and downstream damage.	Prior to and during enabling works	All	EM	UMM B35 CoA B19(a) CoA B20 CoA B21

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	• Waterway crossing work will be constructed during no or low flow conditions and under calm weather conditions. Work will also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account potentially flood prone areas will be employed to manage water quality impacts and indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoid riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only excavated natural materials (ENM) or virgin excavated natural materials (VENM) will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Chemicals will be stored in adequate bunding (in accordance with Australia Standard 1940 – The storage and handling of flammable and combustible liquids) as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made available, and a spill response plan developed.				

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	• Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures (such as diversion bunds/cut off drains upslope and drip trays and spill kits) will be implemented when refuelling.				
Hydrology and flooding					
EW54	Equipment and material will not be stored in flood prone areas.	During enabling works	All	PE / EA	Good practice
EW55	Monitor Bureau of Meteorology forecast for heavy rainfall events (25mm or more in 24 hours) in order to allow sufficient time to vacate and prepare the site prior to the commencement of heavy rainfall and flood events.	During enabling works	All	EA	Good practice
EW56	Post-significant rainfall inspections will be carried out, where safe to do so, to assess the effectiveness of environmental controls.	During enabling works	All	EA	Good practice
EW57	Except for the Gugaa Substation, the enabling works must not materially alter the flood storage capacity, flood flows or characteristics in the enabling works areas or off-site.	During enabling works	All, except Gugaa substation	DM / EM	CoA B23
Hazards and risks					
EW58	All chemicals, fuels and other hazardous substances will be stored in accordance with the suppliers' instructions and the relevant legislation, Australian standards and applicable guidelines, including the EPA's Storing and Handling of Liquids: Environmental Protection – Participants Manual. See risk registers Appendix N on the storage of hazardous materials or chemicals.	During enabling works	All	EA / SM	UMM HR9 UMM SC4
EW59	All chemicals, fuels and other hazardous substances will be stored in bunded areas, with the capacity being at least 130% that of the largest volume contained within the bunded area, in accordance with Australia Standard 1940 – The storage and handling of flammable and combustible liquids.	During enabling works	All	EA / SM	CoA B49
EW60	Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the *Dangerous Goods (Road and Rail Transport) Act 2008*, Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998, the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (National Transport Commission, 2018), AS1940 The storage and handling of flammable and combustible liquids and AS/NZS 1596:2014 The storage and handling of LP Gas, the Dangerous Goods Code, and the EPA's Storing and Handling of Liquids: Environmental Protection – Participants Manual.	During enabling works	All	EA / SM	UMM HR10 CoA B49

Reference	Mitigation measure	Timing	Location	Responsibility	Source
EW61	Emergency spill kits will be kept on-site at all times. Staff will be made aware of the location of the spill kits.	During enabling works	All	EA	Good practice
EW62	Asset Protection Zones will be managed in accordance with *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers requirements* (NSW RFS 2019) (PBP), and associated criteria. Where hotworks or fire risk activities are scheduled, measures will be implemented to address these activities, including: • Weather watch, obeying Bureau of Meteorology issued fire indicator alerts • Working with spotters when undertaking hot works and clearing type works • All vehicles and equipment to contain firefighting equipment to prevent the spread of wildfires and bush fires.	During enabling works	Substations and project buildings within construction compounds and the temporary accommodation facilities	CM	UMM HR1
EW63	Access to substations and project buildings within the bushfire survey area will be established in accordance with: • Planning for Bushfire Protection 2019 requirements (NSW RFS 2019) criteria • Access requirements will be in accordance with NSW Fire Trail Standards (NSW RFS 2016) and Fire Trail Construction and Design Maintenance Manual (Soil Conservation Science 2017).	During enabling works	Access tracks	CM	UMM HR4
EW64	A minimum of 20,000 litre static water supply for firefighting purpose will be provided for each construction compound and worker accommodation facility (fitted with a 65 mm Storz fitting and a FRNSW compatible suction connection) where no reticulated water is available in accordance with Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers (NSW RFS, 2019).	Prior to use of compounds and temporary accommodation facilities	Compounds and temporary accommodation facilities	CM / DM	UMM HR15 CoA B51(b)(ii)
Traffic, transport and access					
EW65	Traffic controls will be aligned with Traffic Control at Work Sites – Technical Manual Version 6.1 (Transport for NSW (TfNSW), 2022). Traffic controls will be confirmed in consultation with the relevant road authority.	Prior to and during enabling works	Access roads	TM	UMM TT3
EW66	Prior to HV use of local roads for the purpose of enabling works, independent road condition assessments will be carried out in consultation with the relevant roads authority, to assess the current condition of the road surface and will be documented in a road condition report, with a copy being provided to the relevant road authority. Road condition assessments will be undertaken during and following use for enabling works (and subsequently construction) to assess the damage to roads	At least one week prior to use of local road for enabling works	Local access roads	TM	UMM TT4

Reference	Mitigation measure	Timing	Location	Responsibility	Source
	accessed by project-related traffic. This will be addressed in the Construction Traffic and Transport Management Plan.				
EW67	Any road or lane closures would be undertaken in accordance with the approval of the relevant road authority and in accordance with a road occupancy licence. Road and/or lane closures would be undertaken outside of peak periods where reasonable and feasible.	Prior to and during enabling works	Local access roads	TM	UMM TT6
EW68	The driver's Code of Conduct will form part of the Project induction/s.	During enabling works	All	TM	CoA B39(f)(i)
EW69	Where practical, parking will be provided onsite so as to not impact on parking availability on the public road network.	During enabling works	All	CM / TM	CoA B39(d)(iii)
EW70	All roads on site will be maintained in a safe and serviceable condition.	During enabling works	All	CM / TM	CoA B39(d)(iv)
EW71	All vehicles must enter and exit site in a forward direction, unless under traffic control.	During enabling works	All	CM / TM	CoA B39(d)(i) (b.p. 17)
EW72	Where an issue is reported on a road in use by the project and subsequently confirmed to be as a result of use of the road by the project, a roadwork construction crew will be arranged to attend the site of the issue as a priority. Repairs will be made as required, within 7 days of being identified, if it has the potential to endanger road safety, or within 2 months of the completion of the survey, unless the relevant road authority agrees otherwise.	During enabling works	All	CM / TM	CoA B39(d)(i) (b.p. 19)
EW73	Any access required by emergency services during enabling works will take priority.	During enabling works	Access points	CM / TM	CoA B39(d)(i) (b.p.21)
EW74	Carpooling and other shared transport initiatives for workers will be encouraged throughout enabling works.	During enabling works	All	CM / TM	CoA B39(d)(i) (b.p.14)
EW75	Drivers are to avoid forming convoys where other road users are limited in vehicle movements by no-break in heavy vehicles. The impact of heavy vehicles from convoys and congestion are to be mitigated through the following measures: • all heavy vehicles associated with the project will travel to and from site via the routes Appendix I, unless otherwise approved by the Planning Secretary • minimise traffic movements by ensuring full loads • drivers will communicate via radio and aim to maintain distance between each heavy vehicle.	During enabling works	All	CM / TM	CoA B39(d)(i) (b.p.15)

Reference	Mitigation measure	Timing	Location	Responsibility	Source
Air quality					
EW76	Dust emissions will be minimised as far as practical by employing the following: • use water sprays or surfactants as required for dust suppression • provide adequate water supply on site for dust suppression • locate dust generating activities away from receptors • protect stockpiled materials from wind erosion to minimise dust generation and position stockpiles as far as practicable away from any nearby receptors • implement measures to minimise the tracking of dust generating material onto paved roads • all loaded vehicles are to have their loads covered or contained upon leaving site • cover the loads of potential dust producing materials • minimise the extent of ground disturbance as far as practicable • stabilise disturbed areas as soon as practicable • plan and schedule vegetation clearance and grubbing activities to minimise areas of open and exposed soil. The effectiveness of the installed controls will be monitored, and additional controls implemented as required to address any performance issues identified.	During enabling works	All	EM / EA	UMM AQ1 CoA B17
EW77	All vehicles and machinery will be maintained in accordance with manufacturer's specifications.	During enabling works	All	EM / EA	UMM AQ2
EW78	Training will be provided to relevant enabling works personnel, including relevant subcontractors on sound air quality control practices and the requirements from this plan through inductions, toolboxes and targeted training.	Prior to enabling works	All	EM / EA	Good practice
EW79	Potential dust generation from access tracks in close proximity to sensitive receivers will be visually monitored. If sensitive receivers are being impacted or could potentially be impacted, mitigation measures will be implemented as reasonable and feasible.	During enabling works	Access tracks	EA	UMM AQ3
EW80	To minimise the impact of emissions from the use of diesel generators on sensitive receptors, the following measures (as a minimum) will be considered and implemented where practicable and appropriate: • locate the equipment so it is away from the prevailing wind direction and maximise the distance to the nearest sensitive receiver	During enabling works	All	CM / EA	UMM AQ6

Reference	Mitigation measure	Timing	Location	Responsibility	Source

	• connect to existing electricity network rather than using diesel generators where possible.
	• if connection to existing electricity network is not possible, where practical and appropriate implement the following recommended separation distances:
	  ○ greater than 10 MW in aggregate: 1,000 metres from sensitive receptor locations
	  ○ greater than or equal to 100 kW but less than 10 MW in aggregate: 500 metres from sensitive receptor locations
	Where recommended separation distances cannot be achieved, alternative controls to minimise potential impacts will be investigated and implemented.				

Waste					
EW81	The principle of avoid, reduce, reuse, or recycle with disposal as the last resort will be applied to enabling works.	During enabling works	All	EM / EA / CM / PE	UMM W1 CoA B53
EW82	Stockpiled wastes, where required, will be: • appropriately segregated to avoid mixing and contamination • appropriately signposted • appropriately stored in accordance with Managing Urban Stormwater – Soils and Construction (Landcom, 2004) • less than three metres in height with an appropriate height to length batter ratio • located as far away as reasonably practicable from sensitive receivers, ecological areas and waterways.	During enabling works	All	EA / PE	UMM W2
EW83	All waste will be assessed, classified, managed, and disposed of in accordance with the Waste Classification Guidelines (NSW EPA 2014b). Waste will be appropriately transported, stored and handled according to their waste classification and in a manner that prevents pollution of the surrounding environment. All waste related documentation such as waste classifications, transfer and disposal documentary evidence will be held by the proponent for a minimum of seven years from the date the waste is generated.	During enabling works	All	EM / EA	UMM W3 CoA B56
EW84	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	During enabling works	All	EM / EA	CoA B55

Reference	Mitigation measure	Timing	Location	Responsibility	Source
EW85	The reuse of spoil and soils sourced from construction will be considered under an NSW EPA approved resource recovery order where the materials are sourced from within the project footprint and suitable from both a contamination and geotechnical perspective. Where a NSW EPA Resource Recovery Order exists for waste generated by the project, the opportunity to reuse that waste will be considered prior to disposal. The orders will need to be reviewed during construction and operation for validity and applicability.	During enabling works	All	EM / EA	UMM W4
EW86	Hazardous waste will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the *Environmentally Hazardous Chemicals Act 1985* and the EPA waste disposal guidelines.	During enabling works	All	EM / EA	UMM W5
EW87	The importation of waste and storage, treatment, processing, reprocessing or disposal of such waste must comply with the Protection of the Environment Operations Act 1997, the Protection of the Environment Operations (Waste) Regulation 2014, and orders or exemptions under the regulation.	During enabling works	All	EM / EA	CoA B54
Cumulative impacts					
EW88	Where relevant, coordination and engagement with proponents and/or construction contractors of other projects will occur to confirm potential cumulative impacts and ensure they are managed accordingly.	Prior to and during enabling works	All	EM	UMM CI1

Appendix B – Environment and sustainability policies

HumeLink East

acciona | GENUS

Environment & Sustainability Policy Statement

This policy statement applies to the HumeLink East Project.

AGJV's commitment to Environment & Sustainability focuses on our shared purpose to invest in, develop and operate infrastructure assets that make our planet more sustainable.

AGJV will develop and deliver regenerative infrastructure and assets that respond to global challenges and trends that affect our business, guided by principles established in our Sustainability Master Plan.

AGJV will continually improve the design, delivery and operation of our Projects with an intent of achieving net positive impacts within the construction footprint, the adjoining environment and the wider community.

AGJV is committed to:

- Taking a preventive approach to reduce the extent of our operations, through minimising pollution and impacts to local biodiversity and heritage.
- Mitigating the adverse effects of climate change through design and operation of our assets
- Improving efficiency across our activities to meet AGJV's goal of absolute net zero by 2050 through reducing energy and material consumption.
- Contributing to the Circular economy through reuse of materials, recycling and recovery of waste
- Reducing our reliance and overall consumption of potable water through water efficiency measures and use of alternative water sources
- Complying with legislative and client requirements that relate to business activities.
- Working with our supply chain to achieve sustainability outcomes in our workforce, for local businesses and in the products and services we procure.
- Facilitate economic prosperity through developing local workforce for the future renewable energy industry sector.
- Working with our clients, the local community, and stakeholders to develop regenerative solutions, sustainable practices and implement innovative outcomes.
- Include sustainable principles in the procurement process, by including social, environmental, and economic requirements in procurement documentation.
- Fostering a genuine commitment to environmental protection and a culture of best practice in all employees
- Regular monitoring and auditing of processes and activities in line with our AGJV Integrated Management System and objectives to identify preventive actions to enhance performance.

We are committed to maintaining, reviewing, and continually improving our environmental management systems to meet the requirement of the current standards related to the development, design, construction, maintenance, operation and asset management of all our activities.

Carel Nagel
Project Director (PD) Acciona Genus Joint Venture.

Date of Issue: 6th May 2024

UGL

Environment Policy

UGL management systems and processes underpin our commitment to achieving our One HSE Culture based on Risk Management, Standards, Communication and Involvement.

We prioritise environmental risk management by

- Taking steps to prevent pollution, conserve natural resources, protect cultural heritage, minimise waste and drive energy efficiency.
- Ensuring our operations, products and services comply with applicable legal and other requirements.
- Regular reviews of performance, identifying and implementing corrective and preventive actions that contribute to continually improving the environmental performance of our operations, products and services.

We set and reinforce high standards by

- Setting objectives and targets to reduce environmental risk and improve sustainability.
- Making continual improvements in environmental performance and protecting the environment.
- Implementing environmental systems and processes in accordance with ISO 14001to minimise environmental impacts, comply with legal and other obligations and improve environmental outcomes.
- Monitoring and evaluating performance to ensure environmental compliance and obligations are achieved.

We promote open communication by

- Communicating with our employees, clients, suppliers, contractors and community on our environmental performance.

We foster involvement by

- Providing appropriate environmental training to assist in meeting our objectives and reducing any adverse impacts on the environment.
- Promoting sustainable practices within our supply chain and reduce our broader environmental impacts.
- Requiring suppliers and subcontractors to operate in an environmentally responsible manner and adhere to relevant environmental requirements.

Managing Director UGL: _____ **Date:** 27/01/2021

(Doug Moss)

one HSE CULTURE

integrity accountability innovation delivery | SAFETY

A MEMBER OF THE CIMIC GROUP CIMIC

HumeLink West Sustainability Policy

Purpose

This Policy outlines our sustainability management commitments for minimising environmental impacts, optimising social outcomes, fostering economic resilience, and continually improving our practices to contribute positively to the well-being of both current and future generations.

Application

This Policy is applicable to all employees and third parties under the management control of the HumeLink Joint Venture (HLJV), including alliances. It extends across all divisions of the organisation involved in the HumeLink West Project.

To achieve our sustainability management objectives, we will:

- **Integrate Sustainability:** We will establish project systems and processes, underpinned by strong project leadership, to ensure a shared responsibility for enhancing sustainability outcomes.
- **Achieve Certification:** We will seek certification for the HumeLink West project under the Infrastructure Sustainability Council's (ISC) IS Rating tool for Design and As Built.
- **Minimise our Environmental Footprint:** We are committed to minimising the environmental footprint during construction and operations by reducing energy, water, and resource consumption, minimising waste to landfill, and exploring renewable energy options.
- **Preserve Heritage and Environmental Values:** Our approach includes safeguarding and, whenever feasible, enhancing heritage and environmental values through appropriate design, planning, and management controls.
- **Build Expertise:** We will enhance the knowledge, awareness, and skills of our employees, contractors, and impactful suppliers by providing relevant training, information, and resources.
- **Ensure Climate Resilience:** Our commitment extends to delivering infrastructure that is resilient and adaptable to future challenges by assessing and responding to climate change.
- **Engage with the Community:** We will engage regularly and genuinely with communities and stakeholders to minimise project impacts while generating positive community outcomes.
- **Collaborate with Local and Indigenous Suppliers:** We will collaborate with local, regional, and Indigenous suppliers to foster innovative solutions, encourage sustainable practices, and promote the use of sustainable materials.
- **Create Economic Growth:** Our efforts will enhance local and regional economic growth through procurement practices, partnerships, and workforce development initiatives that leave a positive and lasting legacy for our communities and stakeholders.
- **Integrate sustainability in Procurement :** We are committed to integrating social, environmental, and economic aspects into the procurement process.

The HLJV is dedicated to leading, providing strong systems, and allocating resources to achieve outstanding sustainability results for the HumeLink West Project. We will collaborate closely with TransGrid and the HumeLink East delivery partners to optimise sustainability outcomes.

Our Project Director and the Sustainability Manager will ensure the integration of sustainability into the HumeLink West Project. The policy's objectives will be implemented by JV staff, subcontractors, and suppliers.

Policy Information

Document Number	HLW-HLJV-PRW-SU-POL-000001
Revision	A
Owner:	HLJV Sustainability Manager
Approved By:	HLJV Project Director
Effective date	5 December 2023

.....

Jim Maniord/ Project Director

Date: 05/12/23

Appendix C – Relevant legislation

Legislation	Relevant activity / aspect	Requirements	Reference	Responsibility
General				
***Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Commonwealth)**	Environmental protection	A person must not take an action that has, will have or is likely to have a significant impact on any of the matters of national environmental significance without approval.	S28	Transgrid and construction contractors
***Environmental Planning and Assessment Act 1979* (EP&A Act)**	All enabling works	The Project has been declared critical State Significant Infrastructure (CSSI) by virtue of Schedule 5, clause 9 of State Environmental Planning Policy (Planning Systems) 2021. Comply with the terms of the Minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	5.14 5.25	Transgrid
State Environmental Planning Policy (Planning Systems) 2021	All enabling works	Declaration of critical State Significant Infrastructure.	Part 3, Clause 13	Transgrid
***Protection of the Environment Operations Act 1997* (POEO Act)**	All enabling works	Do not risk harming the environment by willfully or negligently: • Disposing of waste unlawfully • Causing any substance to leak, spill or otherwise escape (whether or not from a container) or • Emitting an ozone depleting substance	S115 S116 S117	Construction contractors
	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Construction contractors
	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Construction contractors
Biodiversity				
***Biodiversity Conservation Act 2016* (BC Act)**	Fauna	Do not harm any animal that is; of a threatened species, which is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Construction contractors
	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g. planning approval).	S2.4 S2.8	Construction contractors

Legislation	Relevant activity / aspect	Requirements	Reference	Responsibility
	Biodiversity values	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g. planning approval).	S2.3 S2.8	Construction contractors
	Flora	Do not pick a plant that is; of a threatened species, which is part of a threatened ecological community or is a protected plant, unless authorised under other legislation (e.g. planning approval).	S2.2 S2.8	Construction contractors
Fisheries Management Act 1994	Fish passage	Do not block fish passage without a permit.	S219	Under the EP&A Act the Project is exempt from this requirement
Biosecurity Act 2015	Weeds and Pest Management	The duty to prevent, eliminate and minimize biosecurity risks posed by biosecurity matters as defined by the Act.	S22	Construction contractors
Local Land Services Act 2013	Clearing of native vegetation in regulated rural areas	Approval and authorization required for clearing native vegetation in a regulated rural area.	Part 5A	The project would be exempt on approval via Section 60(O)(ii) of the Act.
EPBC Act	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Construction contractors
Heritage				
National Parks and Wildlife Act 1974 **(NP&W Act)**	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	Under the EP&A Act the Project is exempt from this requirement
		Notify the NPWS within reasonable time of becoming aware to the location or discovery of certain Aboriginal objects.	S89A	Construction contractors
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 **(Commonwealth)**	Protection of Aboriginal areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Construction contractors
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Construction contractors
Heritage Act 1977	Non-Aboriginal heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56 S57	Under the EP&A Act the Project is exempt from this requirement
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or do not disturb or excavate land on	S139	Under the EP&A Act the Project is exempt from this requirement

Legislation	Relevant activity / aspect	Requirements	Reference	Responsibility
		where a relic has been discovered or exposed.		
		Notify the heritage Council on discovery of a relic.	S146	Construction contractors
Water				
Water Management Act 2000* and *Water 1912	Water access and use	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 license. Do not use water on land (unless supplied by a water utility, irrigation corporation etc. or in accordance with basic landholder right) without a water use approval.	S56 S60A S89 S91A	Construction contractors
	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	Under the EP&A Act the Project is exempt from this requirement
	Waterfront land	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	Under the EP&A Act the Project is exempt from this requirement
	Activity approvals	An aquifer interference approval/licence may be required under Section 91(3) if construction requires intersection of a groundwater source.	S91	Construction contractors
POEO Act	Pollution of waters	Unless otherwise authorised by an EPL, the development must not cause water pollution.	S120	Construction contractors
Noise				
POEO Act	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Construction contractors
	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Construction contractors
Contaminated material				
POEO Act	Land pollution	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.)	S142A-S142E	Construction contractors

Legislation	Relevant activity / aspect	Requirements	Reference	Responsibility
Contaminated Land Management Act 1997	Reporting contamination	Notify the EPA if. • Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. • Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. • Contamination meets other criteria that may be prescribed by the regulations.	S60	Construction contractors
Waste				
POEO Act	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Part 5.6A	Construction contractors
	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: • Is VENM. • Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. • Is covered by a “general exemption”. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land.	Part 3.2 Schedule 1	Construction contractors

Legislation	Relevant activity / aspect	Requirements	Reference	Responsibility
		• A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.		
		Only transport waste to a facility that can lawfully accept the waste.	S143	Construction contractors
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Construction contractors
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Clause 49	Construction contractors
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Part 3	Construction contractors
Waste Avoidance and Resource Recovery Act 2001	Waste management	Establish the waste hierarchy. Promotes waste avoidance and resources recovery by developing waste avoidance and resource recovery strategies.	-	Construction contractors
Traffic				
Roads Act 1993	Road work	Requires the consent of the appropriate road authority for carrying out work on, or disturbing, the surface of a public road. Where the proponent is a public authority, the roads authority must consult with the applicant before making a decision.	S138	Construction contractors
Hazard and risk				
Environmentally Hazardous Chemicals Act 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes	S28	Construction contractors
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Construction contractors
Pesticides Act 1999	Hazards and risks	Do not use an unregistered pesticide without a permit. Use pesticides in an environmentally sensitive manner. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless	S12 S13 S14 S15 S17	Construction contractors

Legislation	Relevant activity / aspect	Requirements	Reference	Responsibility
		authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.		
Rural Fires Act 1997	Bushfire	The Act provides for the prevention, mitigation and suppression of bush and other fires in local government areas. Exemptions can be sought to allow hot works to be undertaken on Total Fire Ban days.	Division 6 S99	Construction contractors

Appendix D – Environmental Control Maps

HumeLink East	**Environmental Control Map (ECM)** **Project:** HumeLink East **Work Package /Location:** Camps and Compounds	**Revision**: 1 **Date**: XX **Page:** 1 of

Document Control and Approval:	XXX	**Prepared by**:	XXX
Revision Number:	1	**Reviewed by:**	XXX
Revision Date:	XXX	**Reason for update:**	XXX

Location and Scope of works covered by this ECM includes:
Enabling works including stockpiling; earthworks; drainage works.

General ECM Notes:

1. This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental control measures and controls listed here apply to all subsequent maps.
2. Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. Fencing is to be in accordance with the Sensitive Area Fencing Protocol. No work is to commence within delineated sensitive areas until clearance has been confirmed and the AGJV Environmental Manager has confirmed that fencing can be removed.
3. Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4. No entry into a fenced off area without Approval by the Environmental Manager, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5. This ECM is to be used in conjunction with relevant environmental documents ie(Environmental Work Method Statements (EWMS) and Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans (PESCPS).
6. This plan is to be revised progressively as site conditions or construction methods are determined.
7. Controls (including environmental monitors, etc) shown on plans are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the project boundaries. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure.
9. Site access – biosecurity measures to be implemented at site access as required.
10. Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Min or temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place.
11. This site is likely to contain snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted – contact the Environment Manager below.
12. Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists (East Cost Ecology). This will require a two-stage clearing process for habitat trees.
13. Spill kits are located at basins, compounds and within AGJV vehicles. Locations are indicative on the plan. Contain and report all spills immediately.
14. Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Check with the area supervisor for approved out of hours works. Unnecessary noise onsite to be kept to a minimum.
15. Unexpected heritage finds protocol is in place. Stop work in the area and contact the AGJV Environment Manager (who will contact TG Environment Manager and Project Archaeologist) if any suspected aboriginal heritage items are found.
16. Additional requirements outlined in PMP to be implemented.
17. All layouts shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.
18. All site offices, accommodation facilities and any combustible or flammable storage and materials must be located outside the site APZ.
19. Moderate and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
20. Refer to Table 5-3 of the EWMP for the definitions of the ecology constraint layers.
21. During enabling works, any relocation of utilities/services required to enable establishment and operation of the construction facility will be reviewed and approved by the HLE Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

General notes relating to Erosion and Sediment Control:

1. All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
2. Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. PESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
3. Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
4. The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
5. Areas that are not disturbed or used (>20 days) are to be stabilised to managed dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
6. Dust controls to be regularly conducted with water carts and soil stockpiles stabilised with temporary cover if required. High dust generating activities to be monitored and ceased during periods of high winds.
7. Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have the potential to increase off-site dust generation.
8. Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
9. 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
10. 'Dirty water' flow must be diverted to local temporary control measures.
11. Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan (SWMP) and relevant Environmental Work Method Statements (EWMS).
12. 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkey nests or sumps).
13. Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
14. Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Key contacts:	
Superintendent:	XXXX XXX XXX
Supervisor:	XXXX XXX XXX
Environmental Manager:	XXXX XXX XXX
Construction Manager:	XXXX XXX XXX
Community Line:	XXXX XXX XXX

Project Footprint (as per Infrastructure Approval Development Layout)

Enabling Works Footprint

Receiver Points

Strahler order 2 and above

Waterway

Waterbody

Heritage

Historic Site Locations

ACHAR Trees

ACHAR Sites

AHIMS and ACHAR Site Locations

Additional RAP Identified Trees

Historic Site Areas

Historic Sites 1 & 2

Womens site (Derringullen Creek)

PAD Sites

Site Controls

Environmental Monitoring

Spill Kit

Chemical Storage (Indicative)

Access Point (Indicative)

Archaeological Sensitivity - Subsurface Model

High

Moderate

Contamination - Potential Areas of Concern

Risk Rating

Moderate

Asbestos Potential

Low

Medium

High

Consolidated Ecology Constraint Level

Very high

High

Moderate

Low

HumeLink East Project

Bannaby Substation Compound (C12)

Legend

- Project Footprint (as per Infrastructure Approval Development Layout)
- Enabling Works Footprint
- Strahler order 2 and above

Heritage

- AHIMS and ACHAR Site Locations

Archaeological Sensitivity - Subsurface Model

- High
- Moderate

Contamination - Potential Areas of Concern

Risk Rating

- Moderate

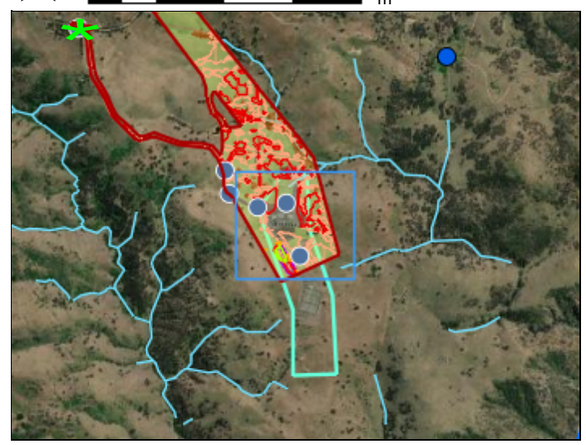
Consolidated Ecology Constraint Level

- High
- Low

Site Controls

- Environmental Monitoring
- Spill Kit
- Chemical Storage (Indicative)
- Access point (Indicative) - refer to inset

0 50 100 m

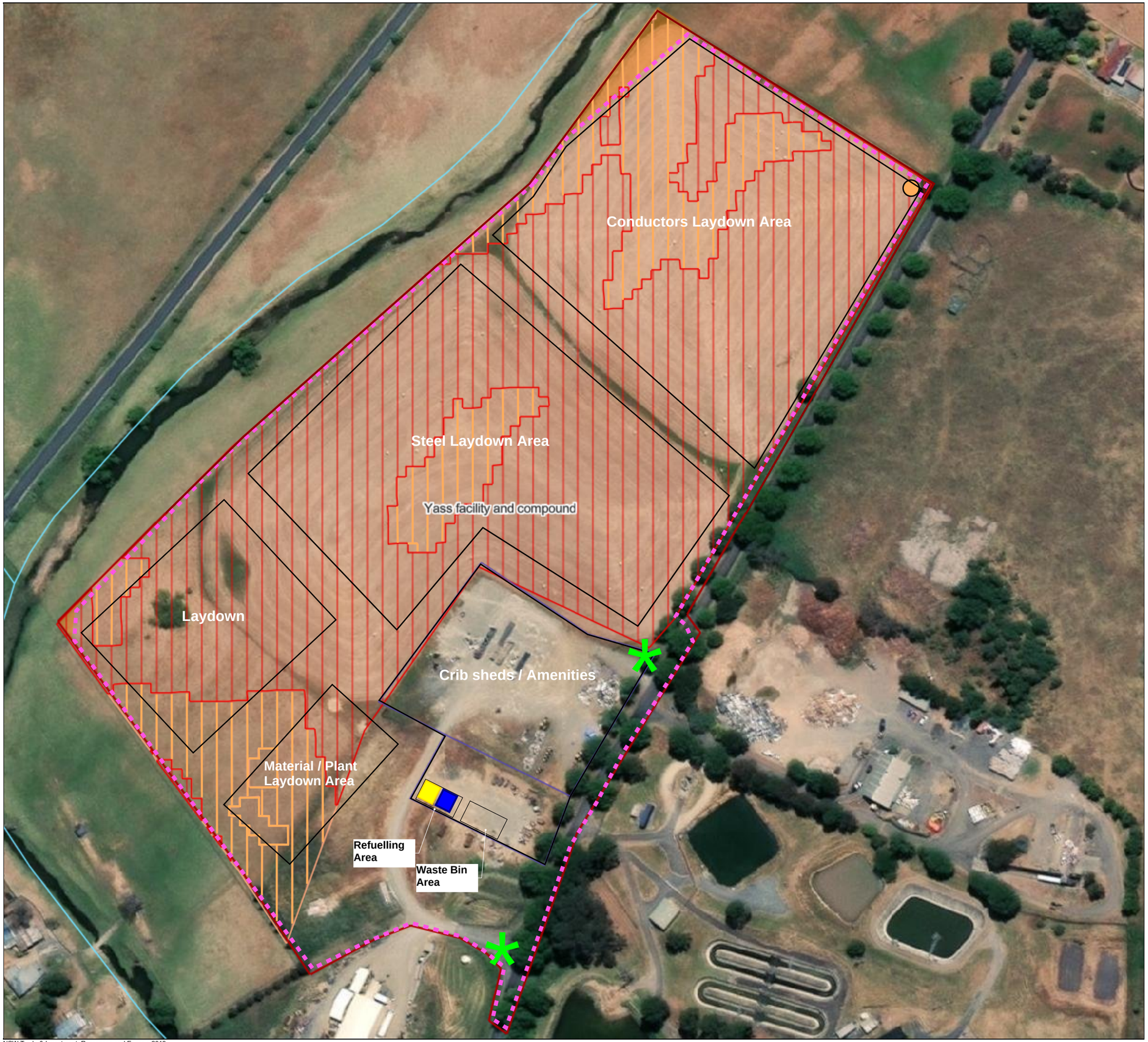


This map is shown for reference purposes only. Acciona provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, Acciona will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

HumeLink East

acciona | GENUS

NSW Trade & Investment, Resources and Energy, 2013



NSW Trade & Investment, Resources and Energy, 2013

HumeLink East Project

Yass Compound (AC05) Legend

- Project Footprint (as per Infrastructure Approval Development Layout)
- Enabling Works Footprint
- Strahler order 2 and above

Archaeological Sensitivity - Subsurface Model

- High
- Moderate

Consolidated Ecology Constraint Level

- High

Site Controls

- Environmental Monitoring
- Spill Kit
- Chemical Storage (Indicative)
- Access Point (Indicative)

0 50 100 m

This map is shown for reference purposes only. Acciona provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, Acciona will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

HumeLink East

acciona | GENUS

HumeLink

Yass Industrial Park - ECM

Legend

Indicative Site Layout

- Boundary
- APZ
- PCT 0: Non-native (Exotic Grassland)
- PCT 3376: Southern Tableland Grassy Box Woodland
- Bare Earth
- Accommodation Facility
- Office
- Parking
- Worker Dining/Amenities
- No-Go Zone
- Site Ingress/Egress
- Waste Management/Segregation Facilities
- Spill Kits

0 50 100 m

This map is shown for reference purposes only. Acciona provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, Acciona will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

HumeLink East

acciona | GENUS

none

HumeLink East Project

Gadara Road compound (C19)

Legend

Project Footprint (as per Infrastructure Approval Development Layout)

Enabling Works Footprint

Heritage

AHIMS and ACHAR Site Locations

Archaeological Sensitivity - Subsurface Model

High

Moderate

Diversion Channel

Asbestos Potential

Low

High

Consolidated Ecology Constraint Level

High

Moderate

Site Controls

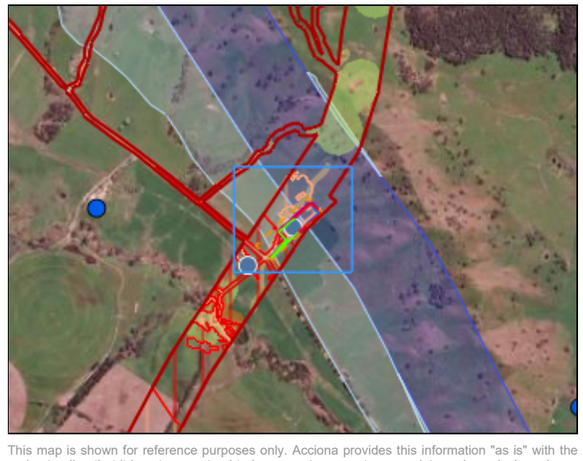
Environmental Monitoring

Spill Kit

Chemical Storage (Indicative)

Access Point (Indicative)

0 50 100 m



This map is shown for reference purposes only. Acciona provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, Acciona will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

HumeLink East

acciona | GENUS

Plant Parking

Laydown Area

Laydown Area

Refuelling Area

Waste Bin Area

NSW Trade & Investment, Resources and Energy, 2013

HumeLink East Project

Adjungbilly Accommodation Camp (AC04)

Legend

- Project Footprint (as per Infrastructure Approval Development Layout)
- Enabling Works Footprint

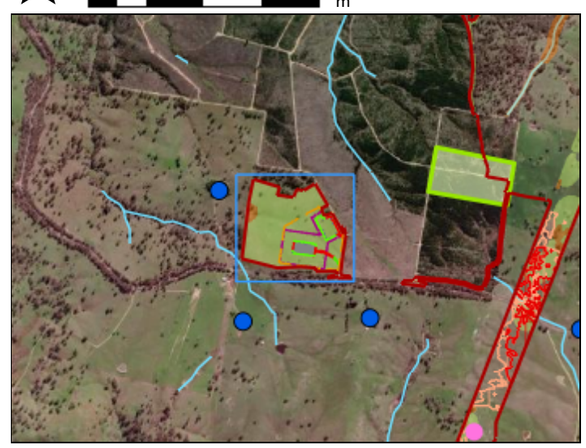
Consolidated Ecology Constraint Level

- High
- Low

Site Controls

- Environmental Monitoring
- Spill Kit
- Chemical Storage (Indicative)
- Access Point (Indicative)

0 50 100 m



This map is shown for reference purposes only. Acciona provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, Acciona will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

HumeLink East

acciona | GENUS

NSW Trade & Investment, Resources and Energy, 2013

HumeLink East Project

Crookwell Accommodation Camp (AC06)

Legend

Project Footprint (as per Infrastructure Approval Development Layout)

Enabling Works Footprint

Heritage

AHIMS and ACHAR Site Locations

Archaeological Sensitivity - Subsurface Model

High

Moderate

Consolidated Ecology Constraint Level

High

Moderate

Low

Site Controls

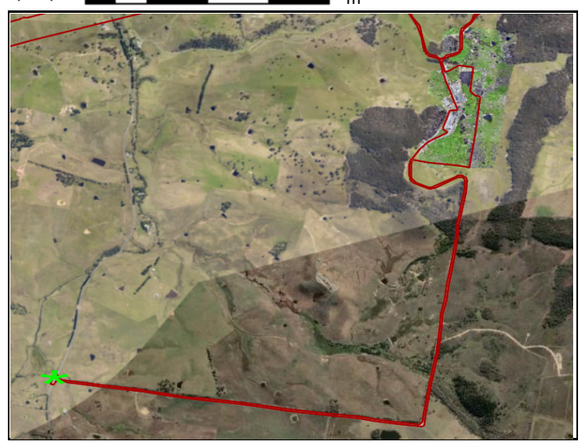
Environmental Monitoring

Spill Kit

Chemical Storage (Indicative)

Access point (Indicative) - refer to inset

0 50 100 m



This map is shown for reference purposes only. Acciona provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, Acciona will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

HumeLink East

acciona | GENUS

Accommodation

Tree removed by wind farm project

Parking

Office

Laydown Area

Waste Bin Area

Refueling Area

NSW Trade & Investment, Resources and Energy, 2013

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plan and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan (RAP). Unexpected finds must be managed in accordance with the Unexpected Finds Procedure and RAP.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

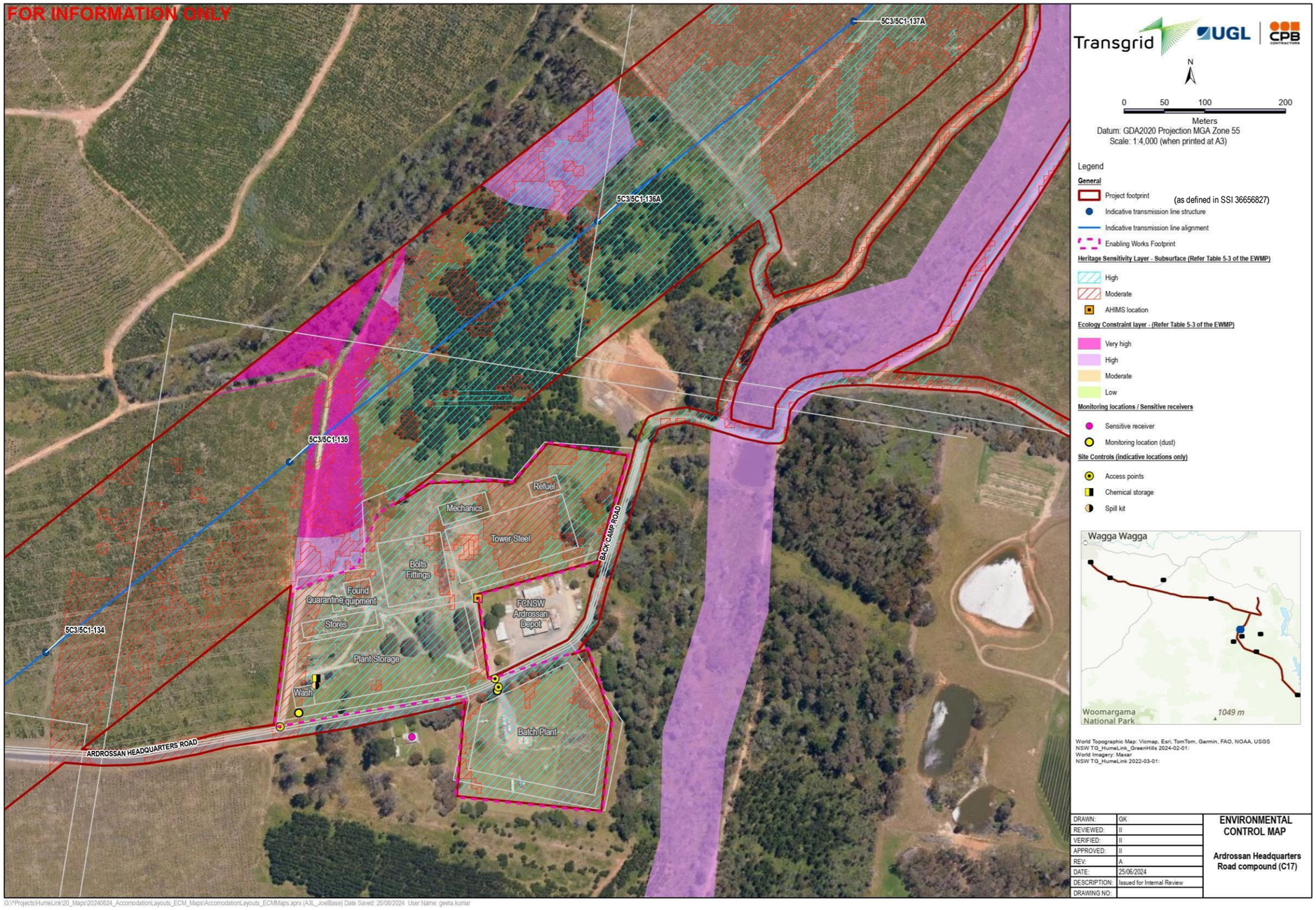
General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. PESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys' nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Scope of works covered by this ECM includes: Compound establishment and usage.

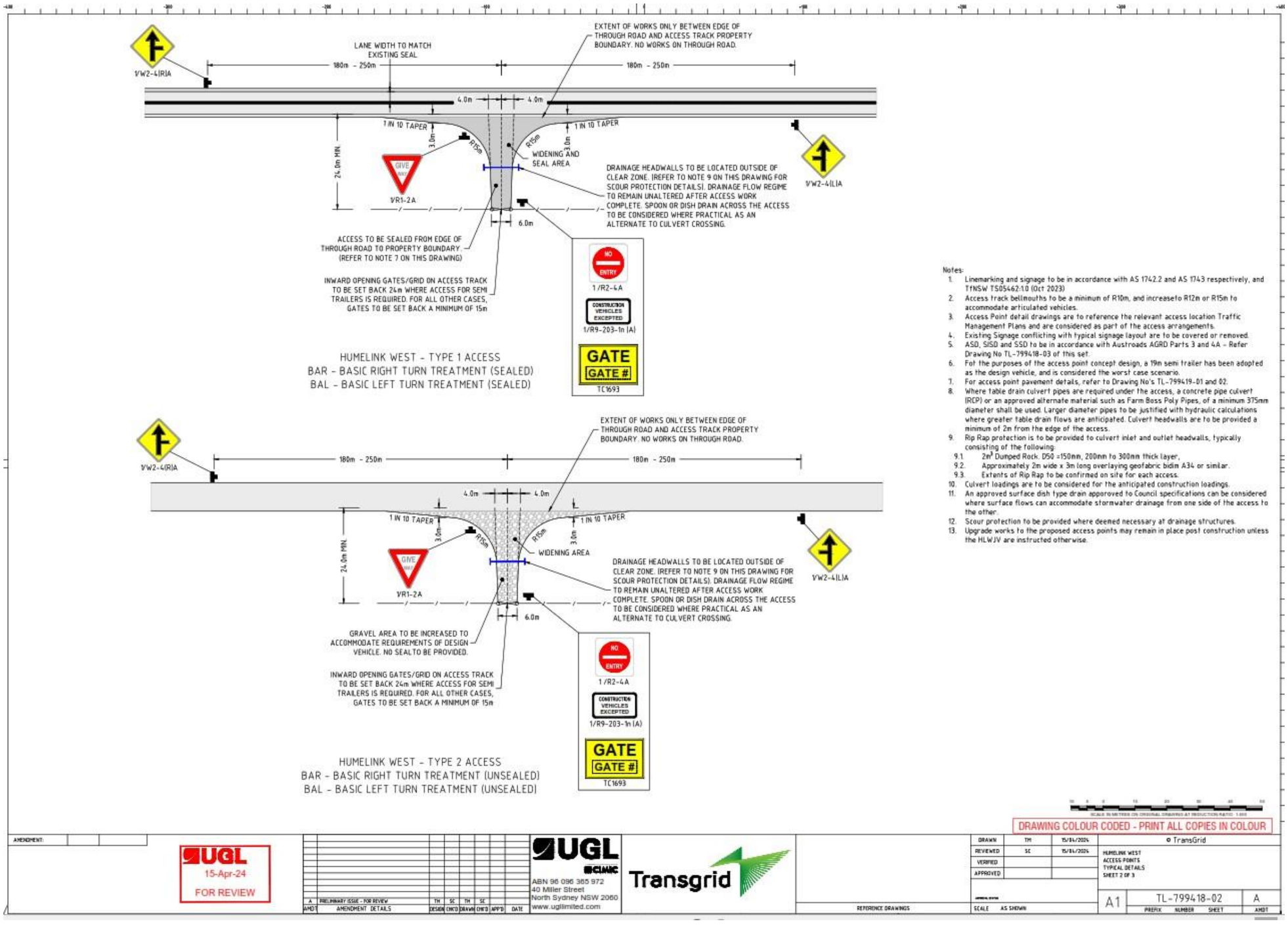
Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

Environmental Control Map: Ardrossan Construction Compound



G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Access Point Initial Erosion and Sediment Control (based on 20% design)



Notes:
1. Linemarking and signage to be in accordance with AS 1742.2 and AS 1743 respectively, and TfNSW TS05462:1.0 (Oct 2023)
2. Access track bellmouths to be a minimum of R10m, and increase to R12m or R15m to accommodate articulated vehicles.
3. Access Point detail drawings are to reference the relevant access location Traffic Management Plans and are considered as part of the access arrangements.
4. Existing Signage conflicting with typical signage layout are to be covered or removed.
5. ASD, SISD and SSD to be in accordance with Austroads AGRD Parts 3 and 4A - Refer Drawing No TL-799418-03 of this set.
6. For the purposes of the access point concept design, a 19m semi trailer has been adopted as the design vehicle, and is considered the worst case scenario.
7. For access point pavement details, refer to Drawing No's TL-799419-01 and 02.
8. Where table drain culvert pipes are required under the access, a concrete pipe culvert (RCP) or an approved alternate material such as Farm Boss Poly Pipes, of a minimum 375mm diameter shall be used. Larger diameter pipes to be justified with hydraulic calculations where greater table drain flows are anticipated. Culvert headwalls are to be provided a minimum of 2m from the edge of the access.
9. Rip Rap protection is to be provided to culvert inlet and outlet headwalls, typically consisting of the following:
   - 9.1. 2m³ Dumped Rock. D50 =150mm, 200mm to 300mm thick layer,
   - 9.2. Approximately 2m wide x 3m long overlaying geofabric bidim A34 or similar.
   - 9.3. Extents of Rip Rap to be confirmed on site for each access.
10. Culvert loadings are to be considered for the anticipated construction loadings.
11. An approved surface dish type drain approved to Council specifications can be considered where surface flows can accommodate stormwater drainage from one side of the access to the other.
12. Scour protection to be provided where deemed necessary at drainage structures.
13. Upgrade works to the proposed access points may remain in place post construction unless the HLWJV are instructed otherwise.

SCALE IN METRES ON ORIGINAL DRAWING AT INDUSTRY RATIO: 1:500

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

AMENDMENT:

UGL 15-Apr-24 FOR REVIEW

AMDT	AMENDMENT DETAILS	TH DESIGN	SC CHK'D	TH DRAWN	SE CHK'D	APP'D	DATE
A	PRELIMINARY ISSUE - FOR REVIEW						

UGL LIMITED
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.ugllimited.com

Transgrid

DRAWN	TH	15/04/2024
REVIEWED	SC	15/04/2024
VERIFIED		
APPROVED		

REFERENCE DRAWINGS

SCALE AS SHOWN

© TransGrid

HUMELINK WEST
ACCESS POINTS
TYPICAL DETAILS
SHEET 2 OF 3

A1 | TL-799418-02 | A
PREFIX NUMBER SHEET AMDT

Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

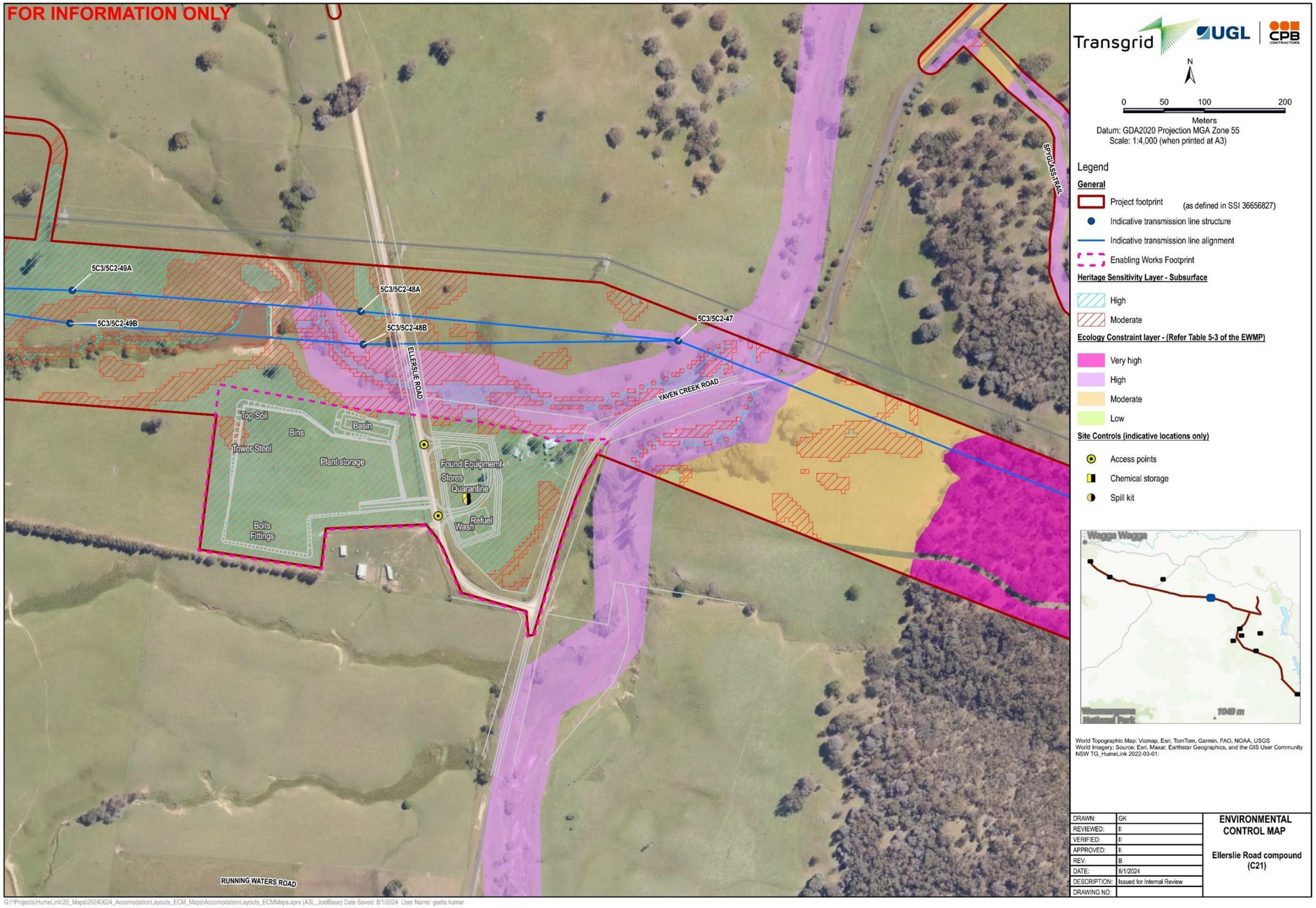
General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. Progressive ESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys' nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Scope of works covered by this ECM includes: Compound establishment and usage.

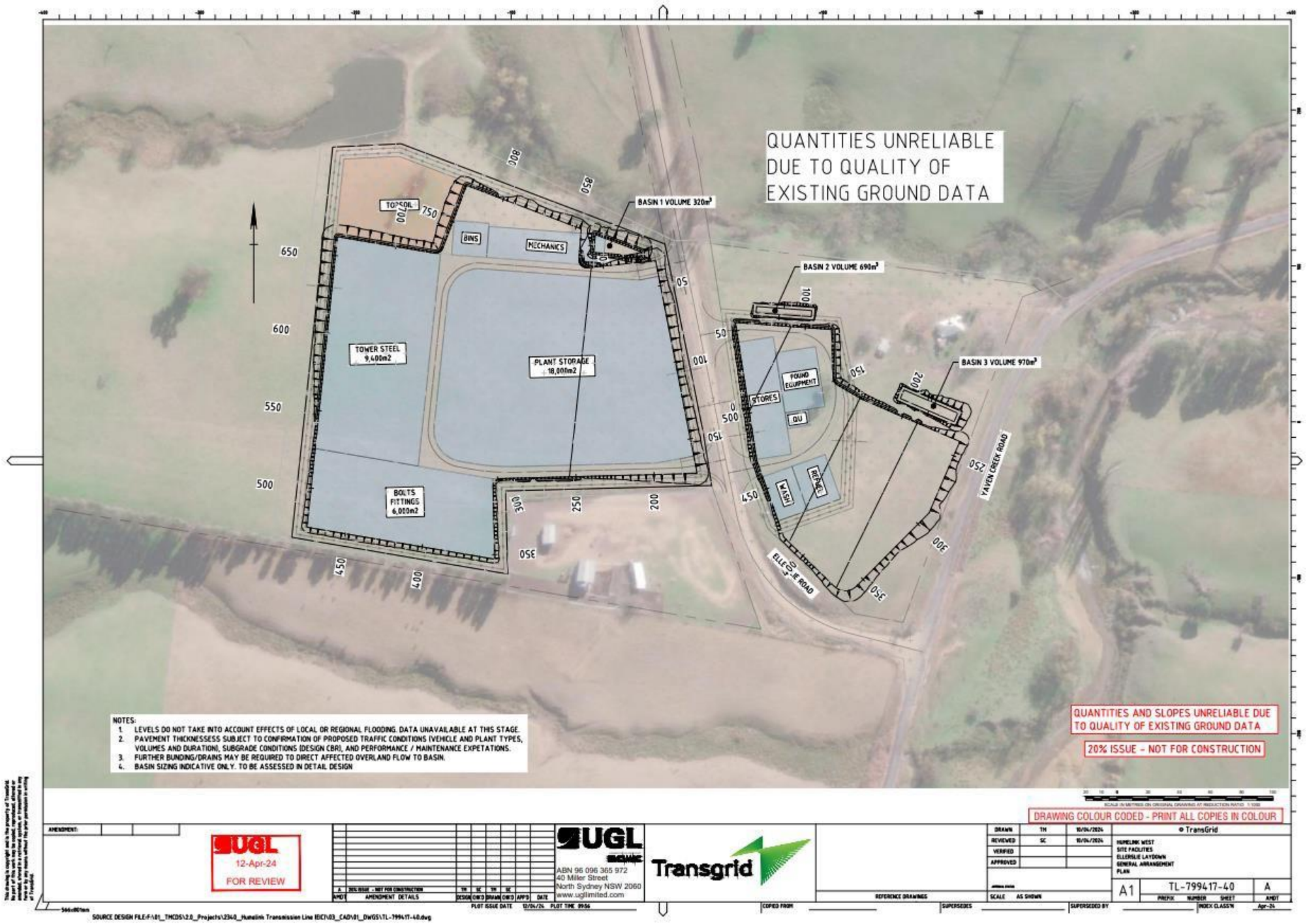
Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

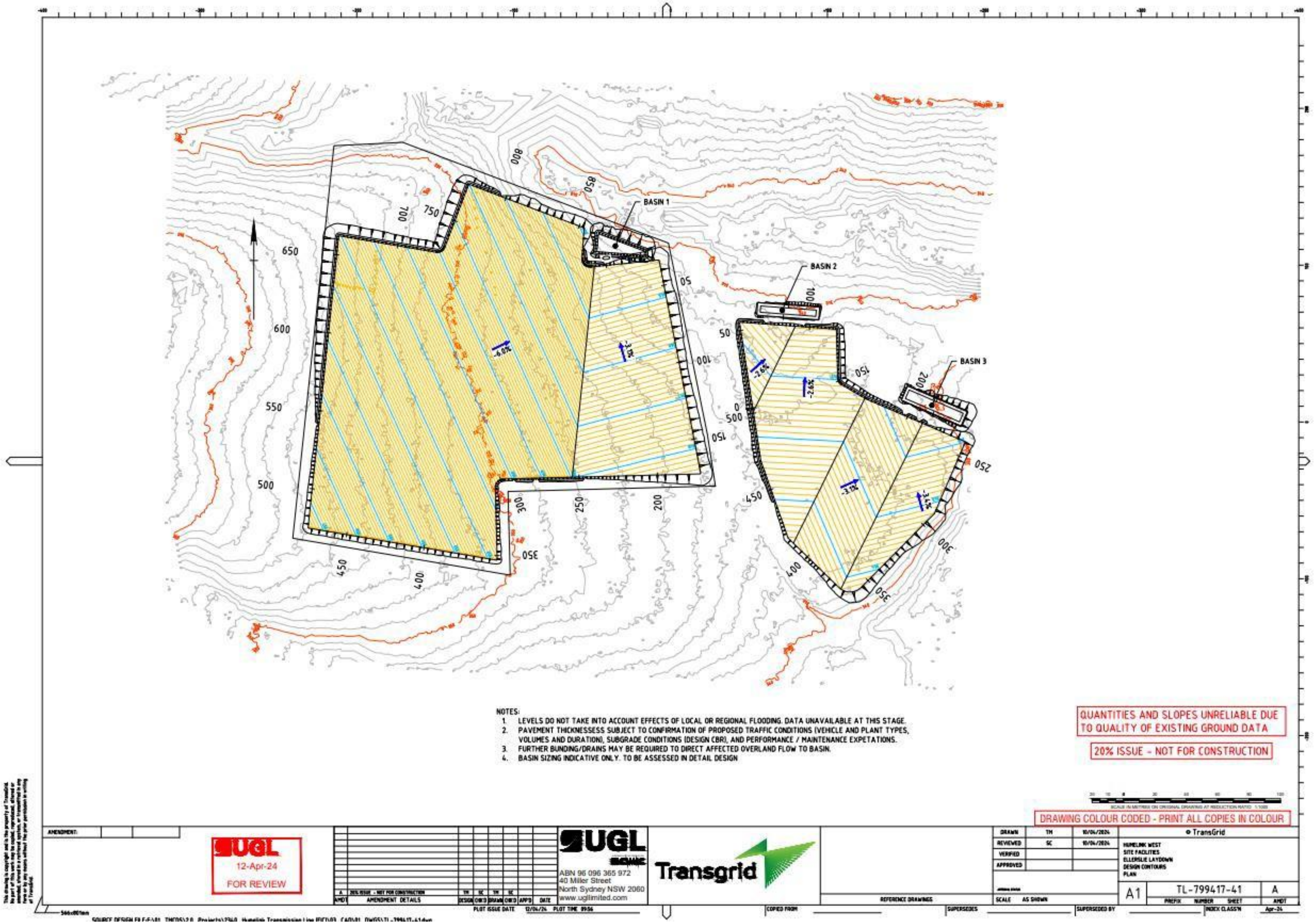
Environmental Control Map: Ellerslie Road Construction Facility



G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 8/1/2024 User Name: geeta.kumar

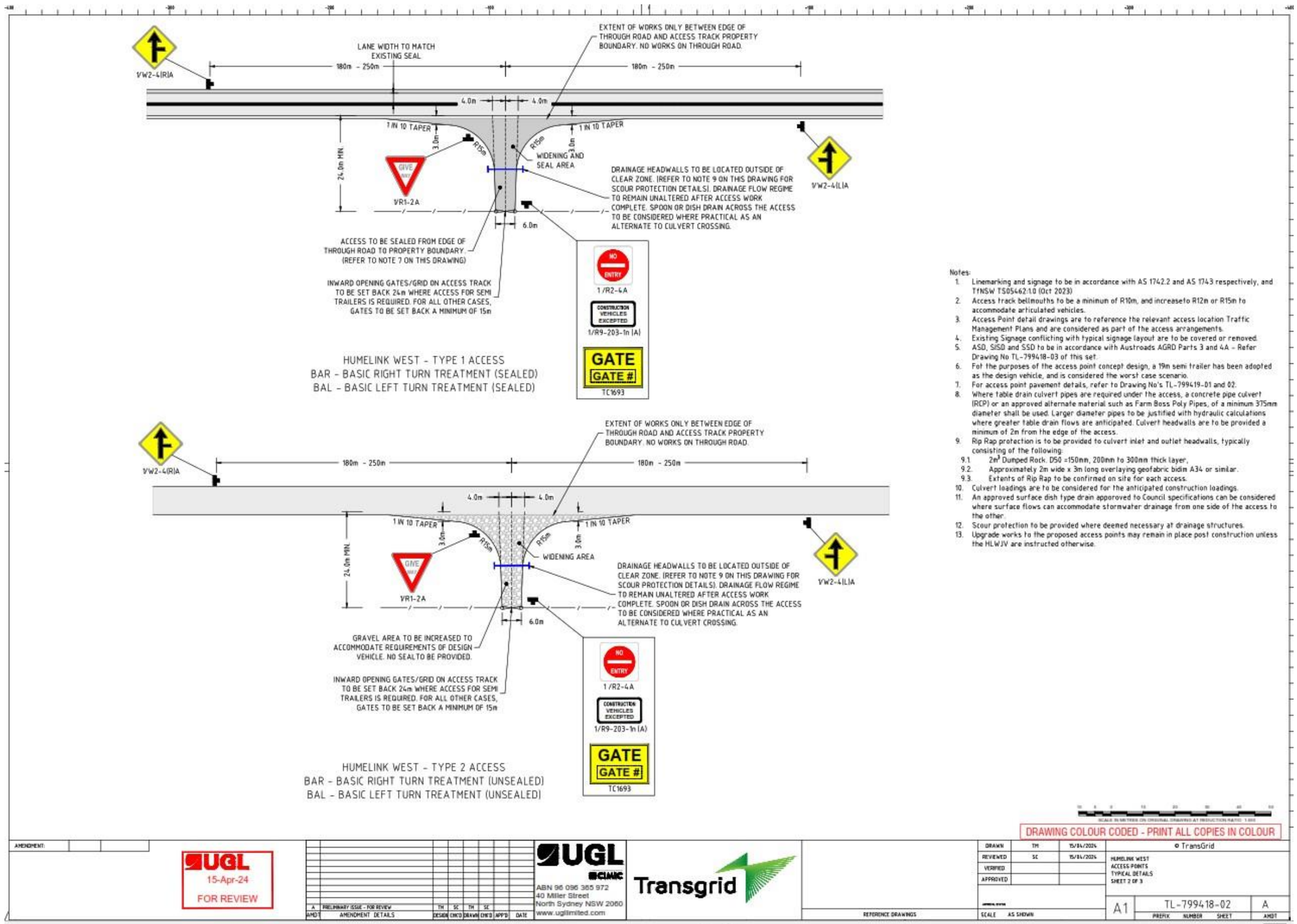
Attachment 1: Ellerslie Road Construction Facility Initial Erosion and Sediment Control (based on design Revision A)





BASIN 1
BASIN 2
BASIN 3
NOTES:
1. LEVELS DO NOT TAKE INTO ACCOUNT EFFECTS OF LOCAL OR REGIONAL FLOODING. DATA UNAVAILABLE AT THIS STAGE.
2. PAVEMENT THICKNESSESS SUBJECT TO CONFIRMATION OF PROPOSED TRAFFIC CONDITIONS (VEHICLE AND PLANT TYPES, VOLUMES AND DURATION), SUBGRADE CONDITIONS (DESIGN CBR), AND PERFORMANCE / MAINTENANCE EXPETATIONS.
3. FURTHER BUNDING/DRAINS MAY BE REQUIRED TO DIRECT AFFECTED OVERLAND FLOW TO BASIN.
4. BASIN SIZING INDICATIVE ONLY. TO BE ASSESSED IN DETAIL DESIGN
QUANTITIES AND SLOPES UNRELIABLE DUE TO QUALITY OF EXISTING GROUND DATA
20% ISSUE - NOT FOR CONSTRUCTION
DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR
UGL
12-Apr-24
FOR REVIEW
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.ugllimited.com
Transgrid
HUMELINK WEST
SITE FACILITIES
ELLERSLIE LAYDOWN
DESIGN CONTOURS
PLAN
A1
TL-799417-41
A

Access Point Initial Erosion and Sediment Control (based on 20% design)



Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

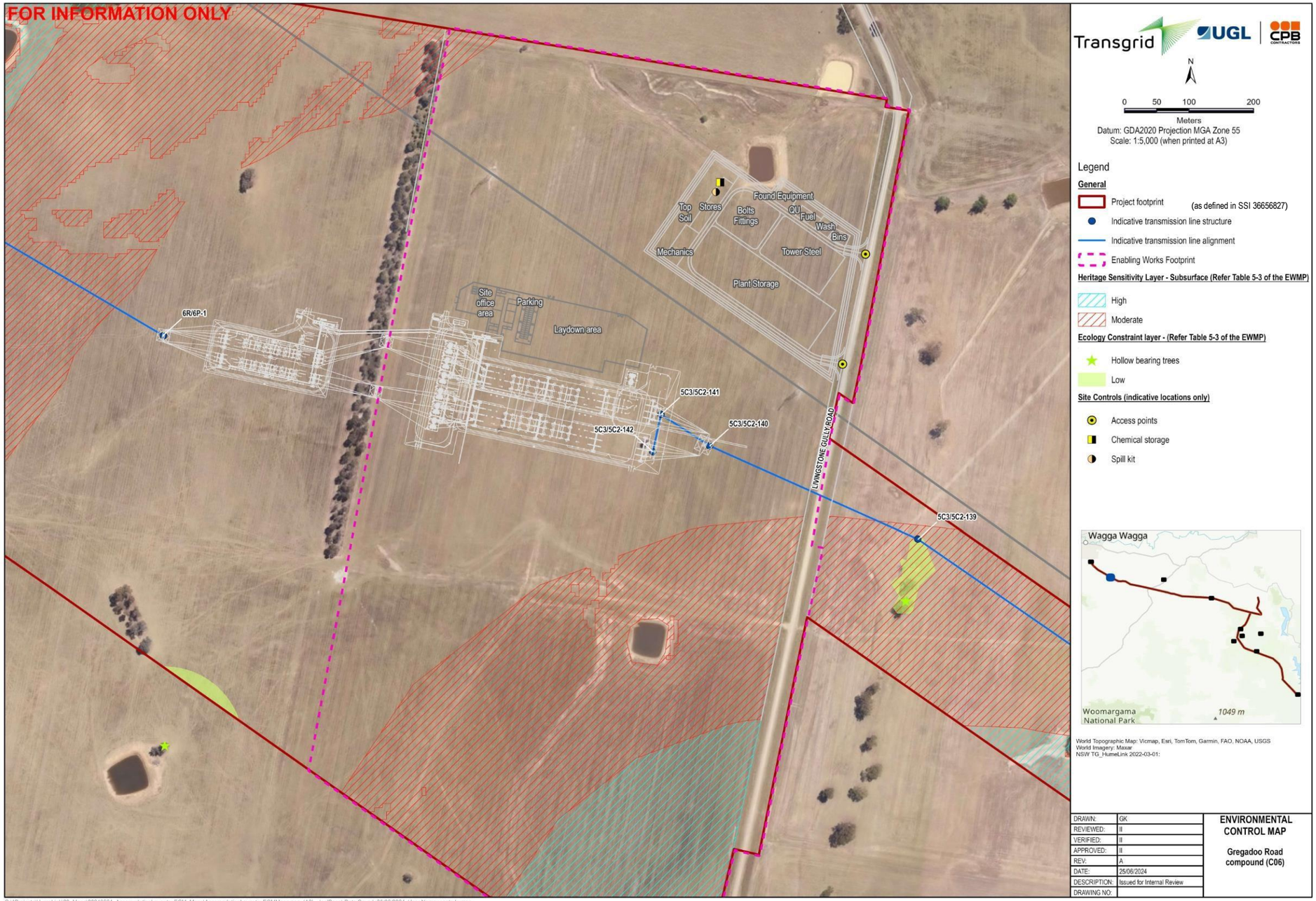
General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. Progressive ESCPs will be developed to detail environmental erosion and sediment controls for construction stages
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches, or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys' nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Scope of works covered by this ECM includes: Compound establishment and usage.

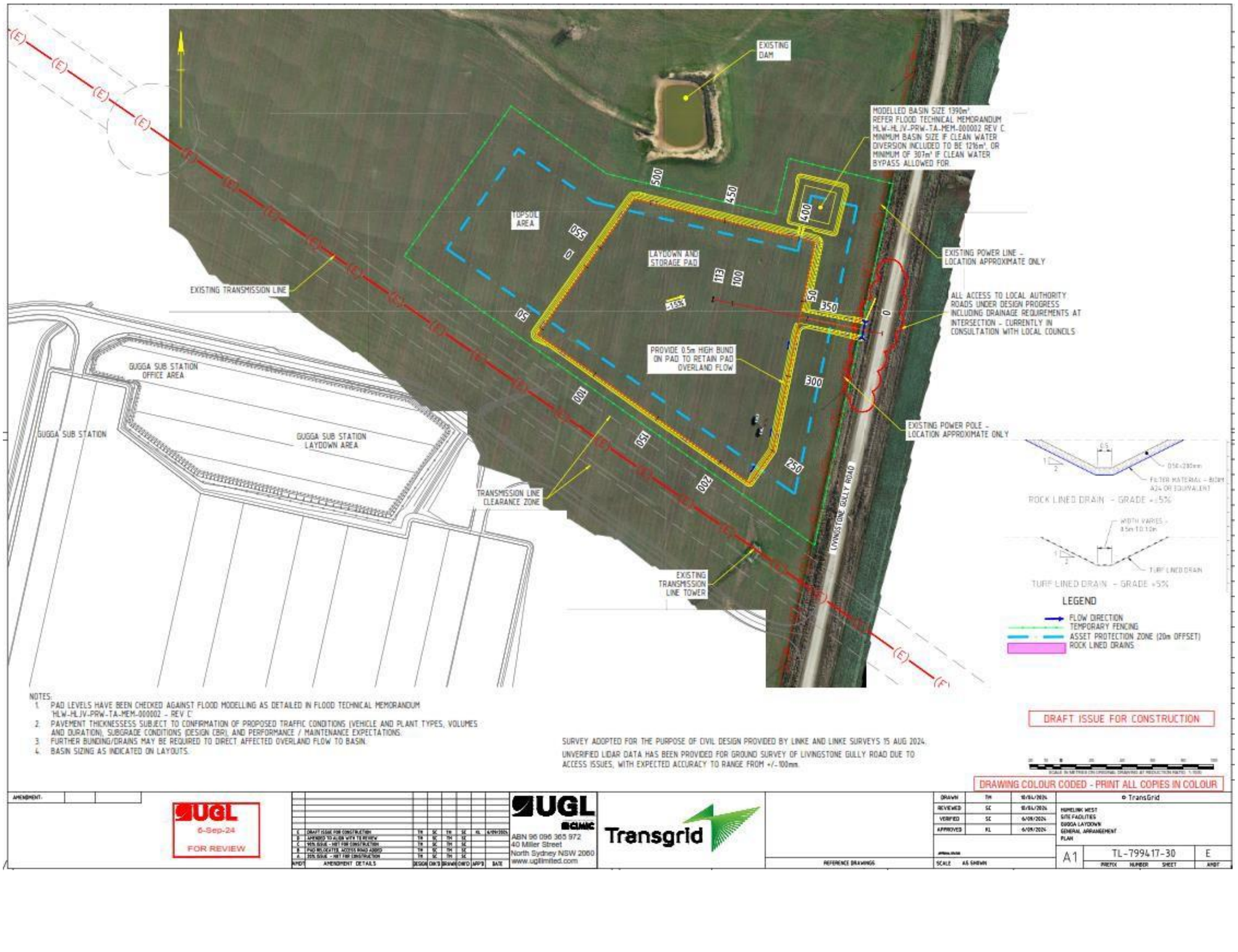
Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 36

Environmental Control Map: Gugaa Substation Construction Compound

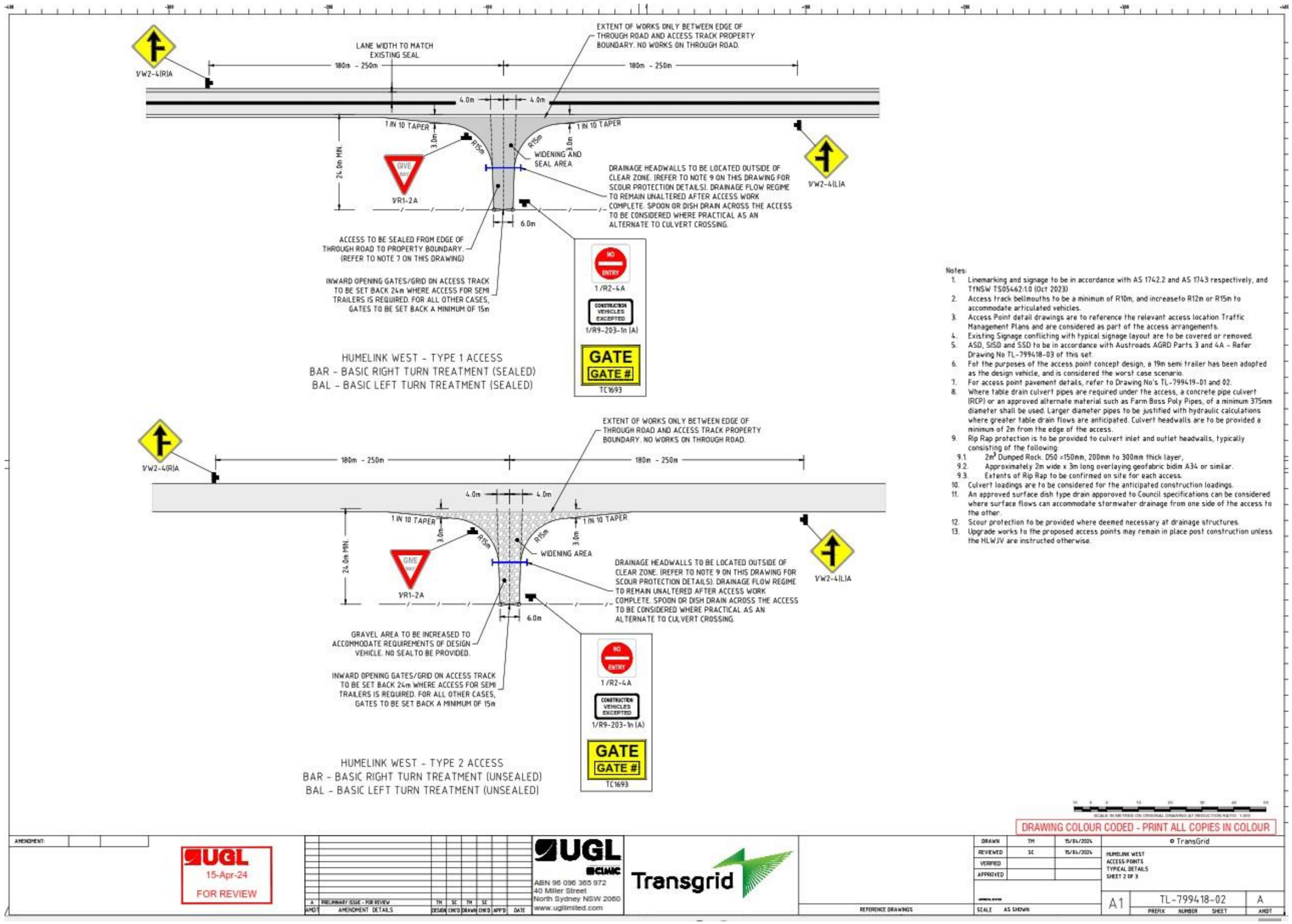


G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Gugaa Substation Construction Compound Initial Erosion and Sediment Control (based on design Revision E)



Access Point Initial Erosion and Sediment Control (based on 20% design)



Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. Progressive ESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

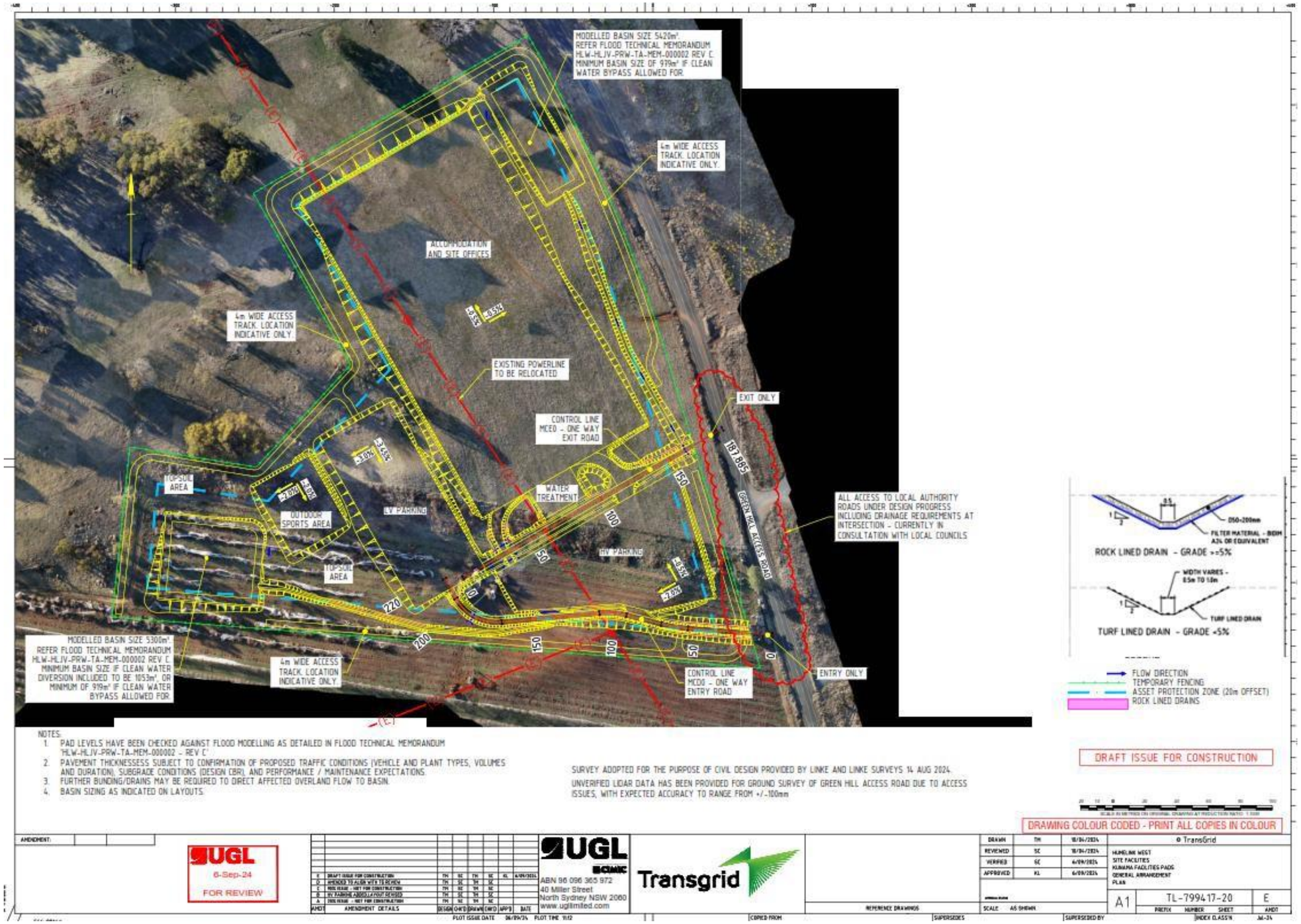
Scope of works covered by this ECM includes: Compound establishment and usage.

Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

Environmental Control Map: Kunama Construction Compound

G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Kunama Construction Compound Initial Erosion and Sediment Control (based on 90% design)



NOTES:
1. PAD LEVELS HAVE BEEN CHECKED AGAINST FLOOD MODELLING AS DETAILED IN FLOOD TECHNICAL MEMORANDUM 'HLW-HLJV-PRW-TA-MEM-000002 - REV C'
2. PAVEMENT THICKNESSES SUBJECT TO CONFIRMATION OF PROPOSED TRAFFIC CONDITIONS (VEHICLE AND PLANT TYPES, VOLUMES AND DURATION), SUBGRADE CONDITIONS (DESIGN CBR), AND PERFORMANCE / MAINTENANCE EXPECTATIONS.
3. FURTHER BUNDING/DRAINS MAY BE REQUIRED TO DIRECT AFFECTED OVERLAND FLOW TO BASIN.
4. BASIN SIZING AS INDICATED ON LAYOUTS.

SURVEY ADOPTED FOR THE PURPOSE OF CIVIL DESIGN PROVIDED BY LINKE AND LINKE SURVEYS 14 AUG 2024.
UNVERIFIED LIDAR DATA HAS BEEN PROVIDED FOR GROUND SURVEY OF GREEN HILL ACCESS ROAD DUE TO ACCESS ISSUES, WITH EXPECTED ACCURACY TO RANGE FROM +/-100mm

AMENDMENT:		

UGL 6-Sep-24 FOR REVIEW

AMDT	AMENDMENT DETAILS	DESIGN	CHKD	DRAWN	CHKD	APP'D	DATE
E	DRAFT ISSUE FOR CONSTRUCTION	TH	SC	TH	SC	KL	6/09/2024
D	AMENDED TO ALIGN WITH TS DESIGN	TH	SC	TH	SC		
C	90% ISSUE - NOT FOR CONSTRUCTION	TH	SC	TH	SC		
B	HV PARKING ADDED/LAYOUT REVISED	TH	SC	TH	SC		
A	70% ISSUE - NOT FOR CONSTRUCTION	TH	SC	TH	SC		

PLOT ISSUE DATE 06/09/24 PLOT TIME 11:12

UGL SCIMC
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.uglimited.com

Transgrid

COPIED FROM | SUPERSEDES | SUPERSEDED BY

REFERENCE DRAWINGS

DRAWN	TH	18/04/2024
REVIEWED	SC	18/04/2024
VERIFIED	SC	6/09/2024
APPROVED	KL	6/09/2024

SCALE AS SHOWN

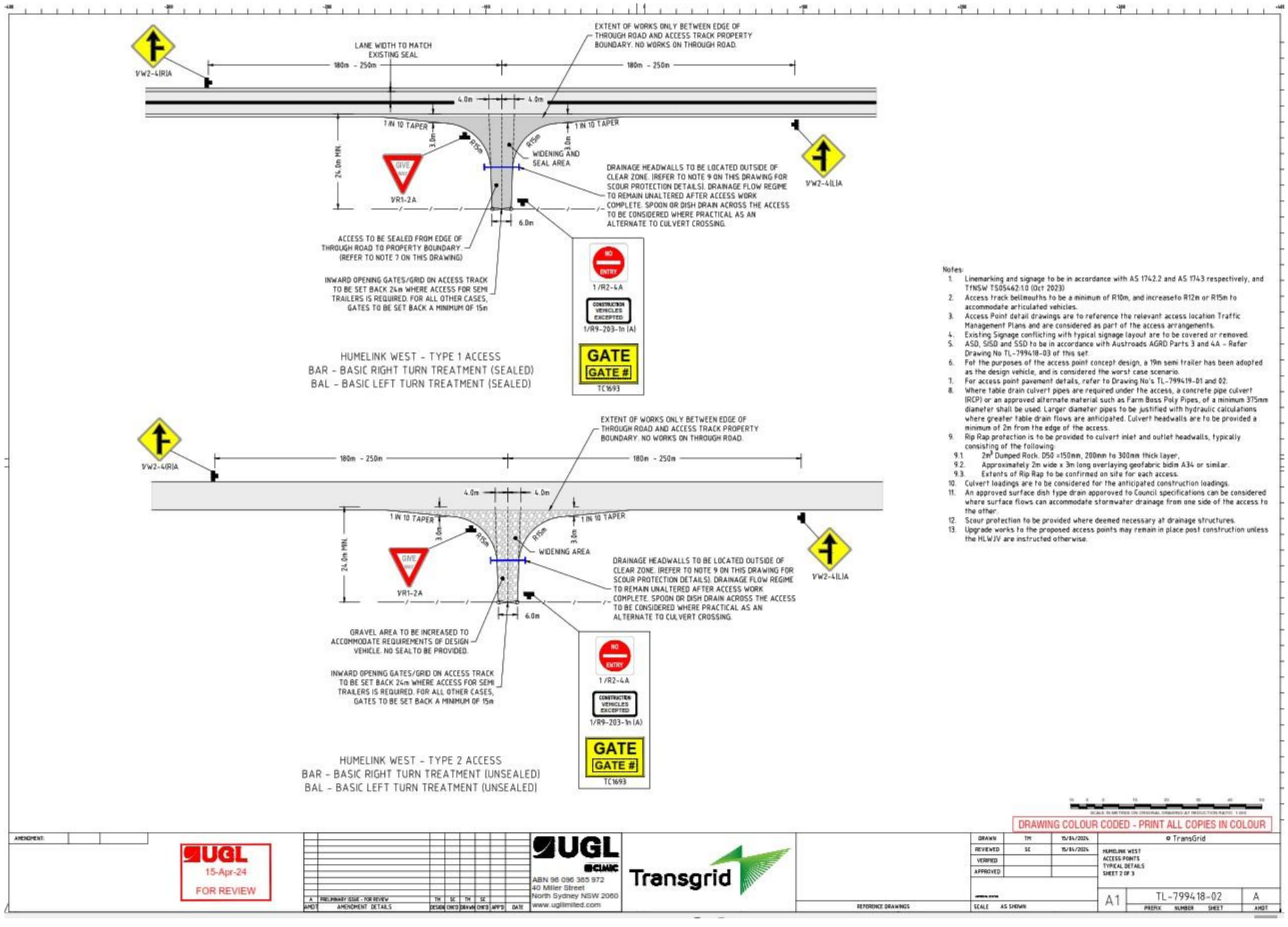
© TransGrid

HUMELINK WEST
SITE FACILITIES
KUNAMA FACILITIES PADS
GENERAL ARRANGEMENT PLAN

A1	TL-799417-20	E
	PREFIX NUMBER SHEET	AMDT

INDEX CLASS'N A4-34

Access Point Initial Erosion and Sediment Control (based on 20% design)



Notes:

1. Linemarking and signage to be in accordance with AS 1742.2 and AS 1743 respectively, and TfNSW TS05462:1.0 (Oct 2023)
2. Access track bellmouths to be a minimum of R10m, and increase to R12m or R15m to accommodate articulated vehicles.
3. Access Point detail drawings are to reference the relevant access location Traffic Management Plans and are considered as part of the access arrangements.
4. Existing Signage conflicting with typical signage layout are to be covered or removed.
5. ASD, SISD and SSD to be in accordance with Austroads AGRD Parts 3 and 4A – Refer Drawing No TL-799418-03 of this set.
6. For the purposes of the access point concept design, a 19m semi trailer has been adopted as the design vehicle, and is considered the worst case scenario.
7. For access point pavement details, refer to Drawing No's TL-799419-01 and 02.
8. Where table drain culvert pipes are required under the access, a concrete pipe culvert (RCP) or an approved alternate material such as Farm Boss Poly Pipes, of a minimum 375mm diameter shall be used. Larger diameter pipes to be justified with hydraulic calculations where greater table drain flows are anticipated. Culvert headwalls are to be provided a minimum of 2m from the edge of the access.
9. Rip Rap protection is to be provided to culvert inlet and outlet headwalls, typically consisting of the following:
   - 9.1 2m³ Dumped Rock. D50 =150mm, 200mm to 300mm thick layer,
   - 9.2. Approximately 2m wide x 3m long overlaying geofabric bidim A34 or similar.
   - 9.3. Extents of Rip Rap to be confirmed on site for each access.
10. Culvert loadings are to be considered for the anticipated construction loadings.
11. An approved surface dish type drain approved to Council specifications can be considered where surface flows can accommodate stormwater drainage from one side of the access to the other.
12. Scour protection to be provided where deemed necessary at drainage structures.
13. Upgrade works to the proposed access points may remain in place post construction unless the HLWJV are instructed otherwise.

SCALE IN METRES ON ORIGINAL DRAWING AT INDICATED RATIO: 1:600

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

AMENDMENT:

UGL 15-Apr-24 FOR REVIEW

AMDT	AMENDMENT DETAILS	DESIGN	CHKD	DRAWN	CHKD	APP'D	DATE
A	PRELIMINARY ISSUE - FOR REVIEW	TH	SC	TH	SC		

UGL LIMITED
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.ugllimited.com

Transgrid

REFERENCE DRAWINGS

DRAWN	TH	15/04/2024
REVIEWED	SC	15/04/2024
VERIFIED		
APPROVED		

SCALE AS SHOWN

© TransGrid

HUMELINK WEST
ACCESS POINTS
TYPICAL DETAILS
SHEET 2 OF 3

A1 | TL-799418-02 | A
PREFIX NUMBER SHEET AMDT

Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

General notes relating to Erosion and Sediment Control:

1) With the exception of any upgrades to the access point it is not expected that ground disturbance will occur. If ground disturbance is required, an Erosion and Sediment Control Plan (ESCP) will be prepared to manage the issues and the following listed requirements will be met.
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. PESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches, or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys' nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

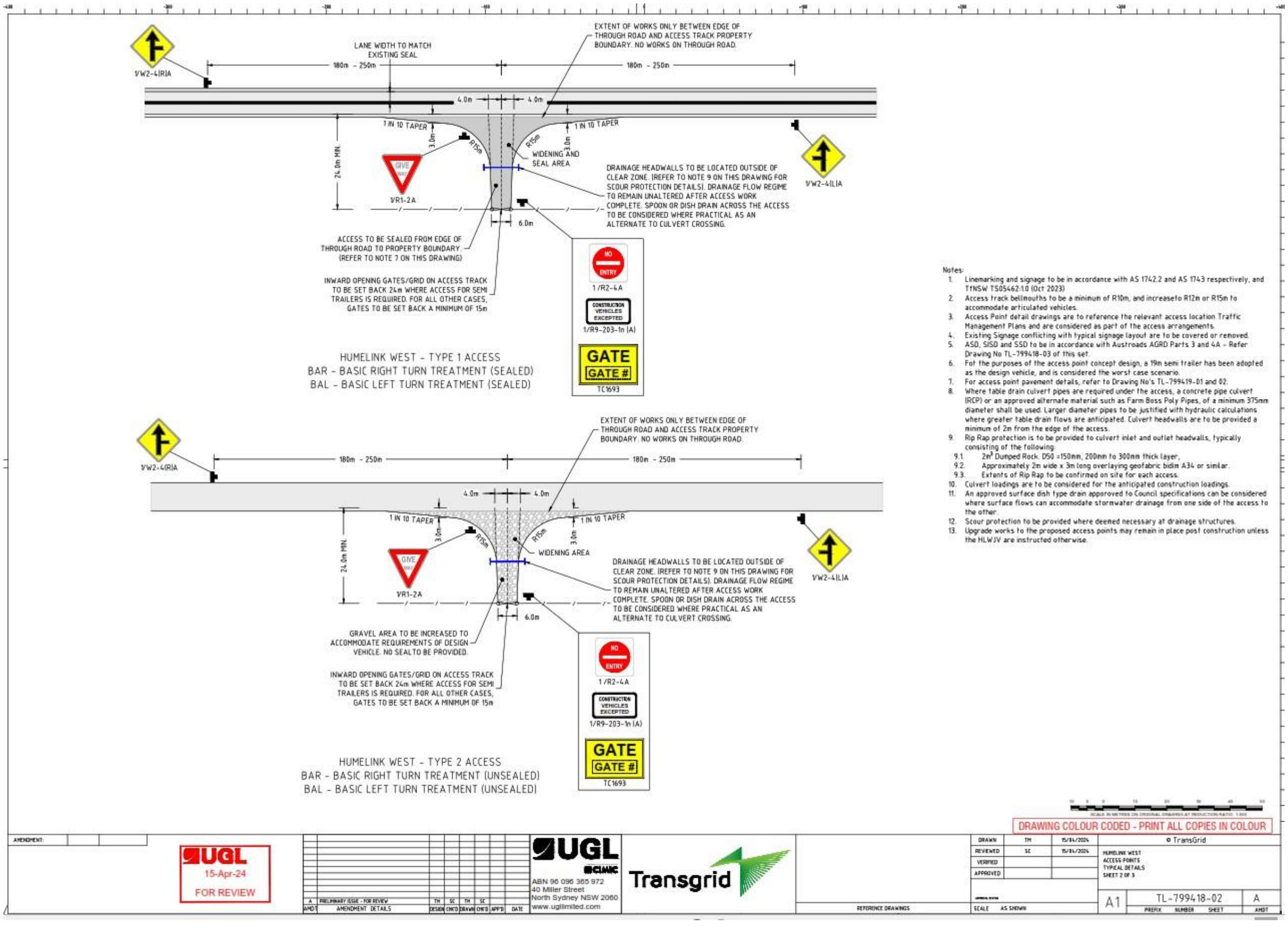
Scope of works covered by this ECM includes: Compound establishment and usage.

Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

Environmental Control Map: Memorial Ave Construction Compound

G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Access Point Initial Erosion and Sediment Control (based on 20% design)



Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan / EWMP.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. Progressive ESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

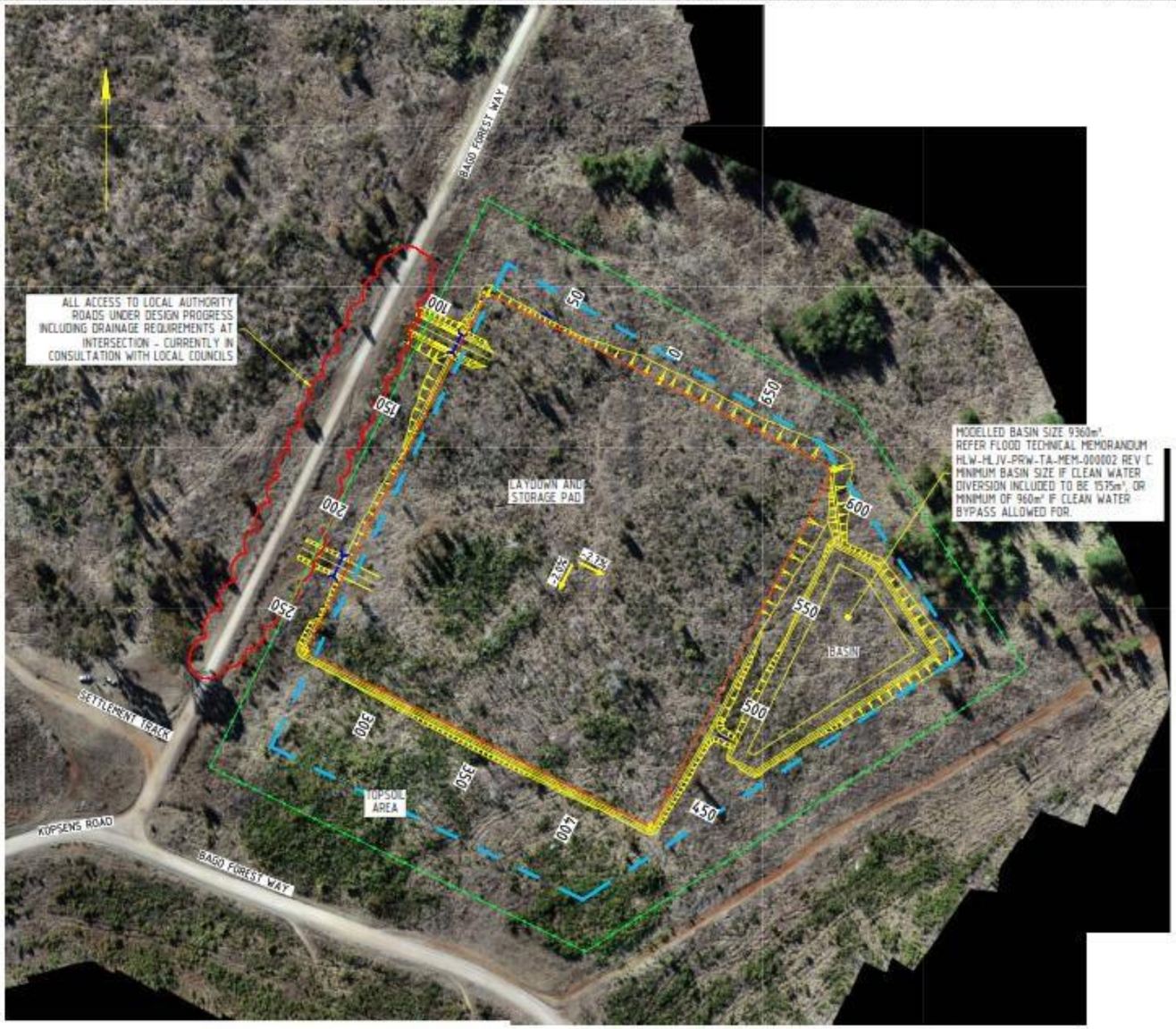
Scope of works covered by this ECM includes Compound establishment and usage.

Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

Environmental Control Map: Snubba Road Construction Facility

G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Snubba Road Construction Facility Initial Erosion and Sediment Control (based on design Revision E)



NOTES:
1. PAD LEVELS HAVE BEEN CHECKED AGAINST FLOOD MODELLING AS DETAILED IN FLOOD TECHNICAL MEMORANDUM 'HLW-MLJV-PRW-TA-MEM-000002 - REV C'
2. PAVEMENT THICKNESSESS SUBJECT TO CONFIRMATION OF PROPOSED TRAFFIC CONDITIONS (VEHICLE AND PLANT TYPES, VOLUMES AND DURATION), SUBGRADE CONDITIONS (DESIGN CBR), AND PERFORMANCE / MAINTENANCE EXPECTATIONS.
3. FURTHER BUNDING/DRAINS MAY BE REQUIRED TO DIRECT AFFECTED OVERLAND FLOW TO BASIN.
4. BASIN SIZING AS INDICATED ON LAYOUTS.

SURVEY ADOPTED FOR THE PURPOSE OF CIVIL DESIGN PROVIDED BY LINKE AND LINKE SURVEYS 28 AUG 2024.

NO SURVEY INFRASTRUCTURE SUCH AS SURVEY MARKS WERE LOCATED WITHIN THE AREA OF THE SURVEY, WITH THE ORIGINAL PLANS FOR THE PROPERTY QUITE AGED. THIS RESULTED IN A SIGNIFICANT CHALLENGE RELATED TO THE CADASTRAL BOUNDARY SURVEY. A DEFINITIVE CADASTRAL BOUNDARY SURVEY WAS UNABLE TO BE PROVIDED AND IT IS RECOMMENDED THAT IF ANY CONSTRUCTION IS PLANNED ON OR NEAR THE PROPERTY BOUNDARIES, A FORMAL PLAN OF SURVEY SHOULD BE LODGED AND REGISTERED WITH LAND REGISTRY SERVICES (LRS). THIS STEP WOULD HELP ENSURE THAT ANY POTENTIAL DISCREPANCIES ARE ADDRESSED BEFORE CONSTRUCTION BEGINS, REDUCING THE RISK OF FUTURE BOUNDARY-RELATED ISSUES

LEGEND
- FLOW DIRECTION
- TEMPORARY FENCING
- ASSET PROTECTION ZONE (20m OFFSET)
- ROCK LINED DRAINS

DRAFT ISSUE FOR CONSTRUCTION

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

AMENDMENT:

UGL 6-Sep-24 FOR REVIEW

AMND	AMENDMENT DETAILS	DESGN	DWG	DRAWN	CHKD	APP'D	DATE
E	DRAFT ISSUE FOR CONSTRUCTION	TH	SC	TH	SC	KL	6/09/2024
D	AMENDED TO ALIGN WITH TS REVIEW	TH	SC	TH	SC		
C	90% ISSUE - NOT FOR CONSTRUCTION	TH	SC	TH	SC		
B	WESTERN AREA REMOVED	TH	SC	TH	SC		
A	30% ISSUE - NOT FOR CONSTRUCTION	TH	SC	TH	SC		

UGL CIMIC
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.uglimited.com

Transgrid

REFERENCE DRAWINGS

DRAWN	TH	10/04/2024
REVIEWED	SC	10/04/2024
VERIFIED	SC	6/09/2024
APPROVED	KL	6/09/2024

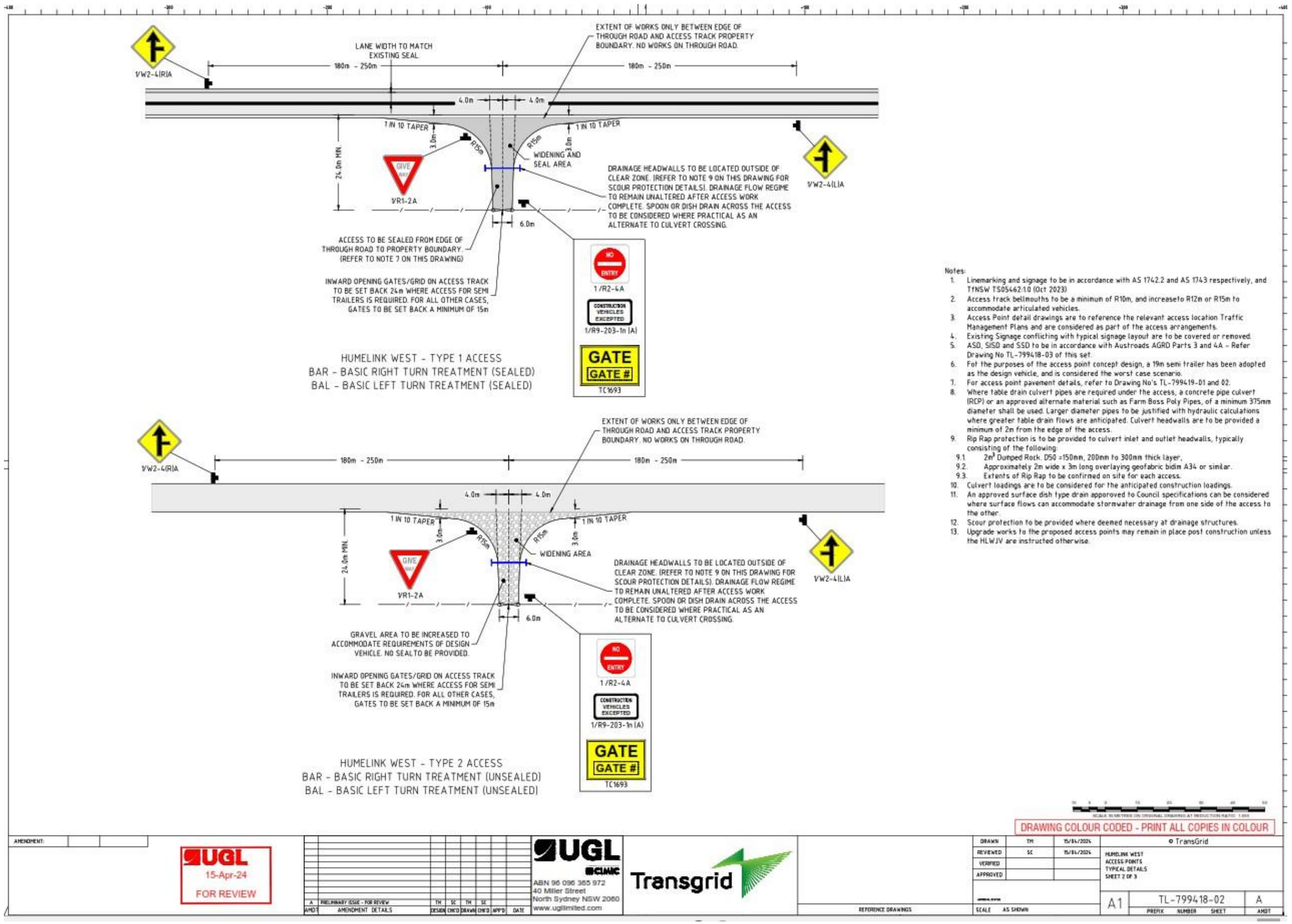
SCALE AS SHOWN

© TransGrid

HUMELINK WEST
SITE FACILITIES
SNUBBA LAYDOWN
GENERAL ARRANGEMENT PLAN

A1 | TL-799417-60 | E
PREFIX | NUMBER | SHEET | AMDT

Access Point Initial Erosion and Sediment Control (based on 20% design)



Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. Progressive ESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches, or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced, or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys' nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Scope of works covered by this ECM includes: Compound and accommodation facilities establishment and usage.

Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

Environmental Control Map: Tarcutta Accommodation Compound

Transgrid UGL CPB CONTRACTORS

N

0 50 100 200
Meters
Datum: GDA2020 Projection MGA Zone 55
Scale: 1:4,000 (when printed at A3)

Legend

General
- Project footprint (as defined in SSI 36656827)
- Enabling Works Footprint

Heritage Sensitivity Layer - Subsurface (Refer Table 5-3 of the EWMP)
- High
- Moderate
- AHIMS location

Ecology Constraint layer - (Refer Table 5-3 of the EWMP)
- Low

Monitoring locations / Sensitive receivers
- Sensitive receiver
- Monitoring location (dust)

Site Controls (indicative locations only)
- Access points
- Chemical storage
- Spill kit

World Topographic Map: Vicmap, Esri, TomTom, Garmin, FAO, NOAA, USGS
World Imagery: Maxar
NSW TG_HumeLink 2022-03-01:

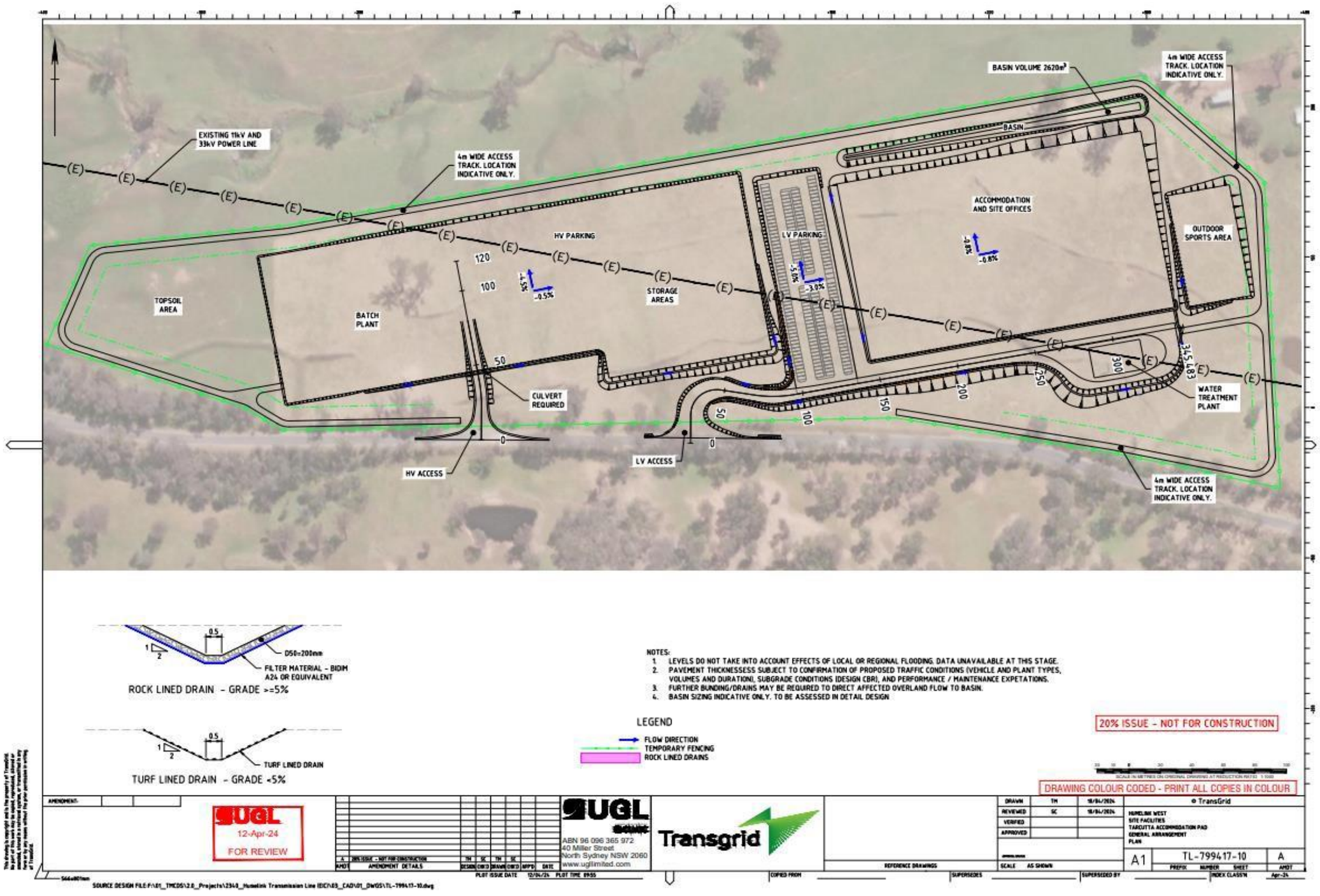
DRAWN:	GK
REVIEWED:	II
VERIFIED:	II
APPROVED:	II
REV:	A
DATE:	25/06/2024
DESCRIPTION:	Issued for Internal Review
DRAWING NO:	

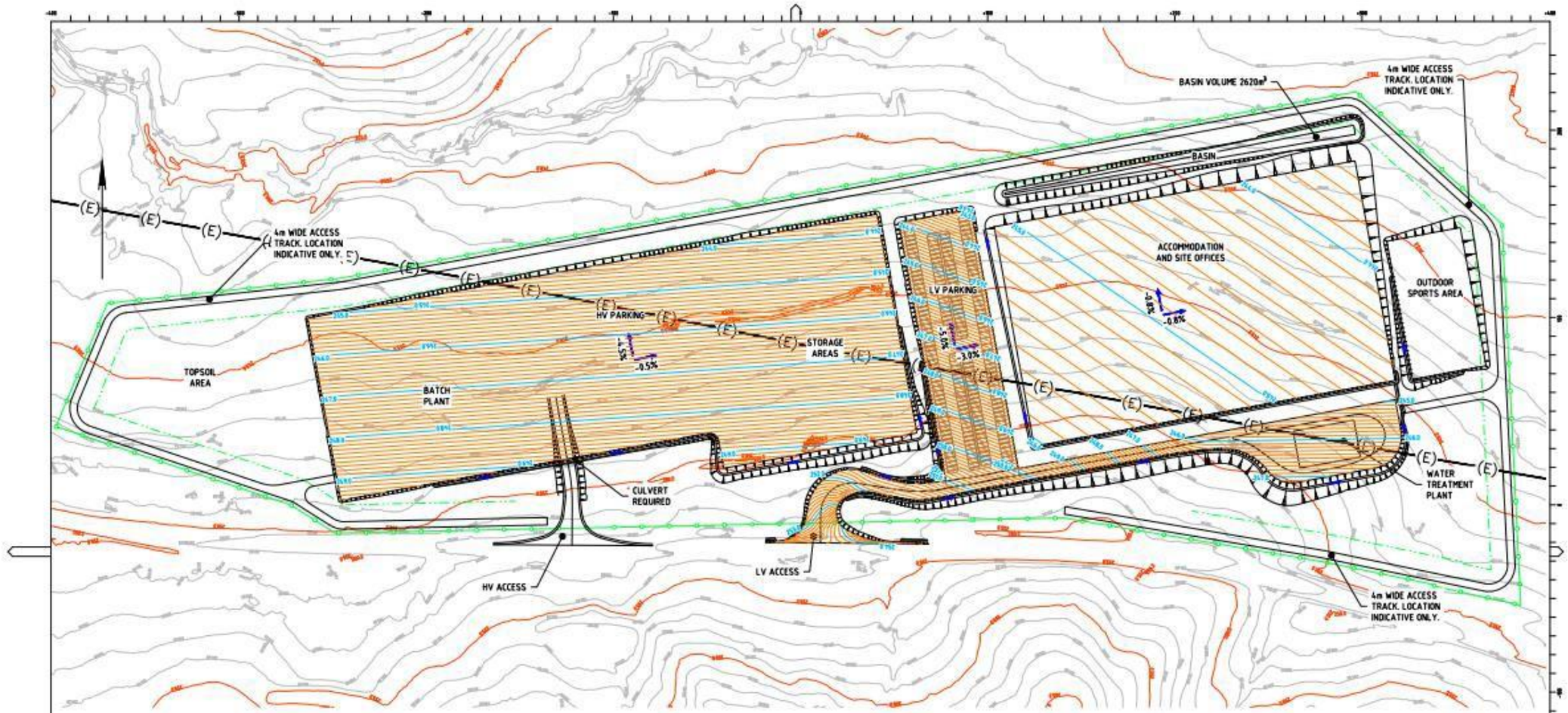
ENVIRONMENTAL CONTROL MAP

Tarcutta accommodation facility and compound (AC03)

G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_Joel Base) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Tarcutta Construction Compound Initial Erosion and Sediment Control (based on design Revision A)





NOTES:
1. LEVELS DO NOT TAKE INTO ACCOUNT EFFECTS OF LOCAL OR REGIONAL FLOODING. DATA UNAVAILABLE AT THIS STAGE.
2. PAVEMENT THICKNESSESS SUBJECT TO CONFIRMATION OF PROPOSED TRAFFIC CONDITIONS (VEHICLE AND PLANT TYPES, VOLUMES AND DURATION), SUBGRADE CONDITIONS (DESIGN CBR), AND PERFORMANCE / MAINTENANCE EXPETATIONS.
3. FURTHER BUNDING/DRAINS MAY BE REQUIRED TO DIRECT AFFECTED OVERLAND FLOW TO BASIN.
4. BASIN SIZING INDICATIVE ONLY. TO BE ASSESSED IN DETAIL DESIGN

LEGEND
- FLOW DIRECTION
- TEMPORARY FENCING
- ROCK LINED DRAINS

20% ISSUE - NOT FOR CONSTRUCTION

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

This drawing is copyright and is the property of TransGrid. No part of this work may be copied, reproduced, altered or issued to a third party without the prior permission in writing of TransGrid.

AMENDMENT:

UGL 12-Apr-24 FOR REVIEW

AMDT	AMENDMENT DETAILS	DESIGN	CHK'D	DRAWN	CHK'D	APP'D	DATE
A	20% ISSUE - NOT FOR CONSTRUCTION	TH	SC	TH	SC		

PLOT ISSUE DATE 12/04/24 PLOT TIME 09:56

UGL Limited
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.ugllimited.com

Transgrid

DRAWN	TH	18/04/2024
REVIEWED	SC	18/04/2024
VERIFIED		
APPROVED		

REFERENCE DRAWINGS
SCALE AS SHOWN
COPIED FROM
SUPERSEDES
SUPERSEDED BY

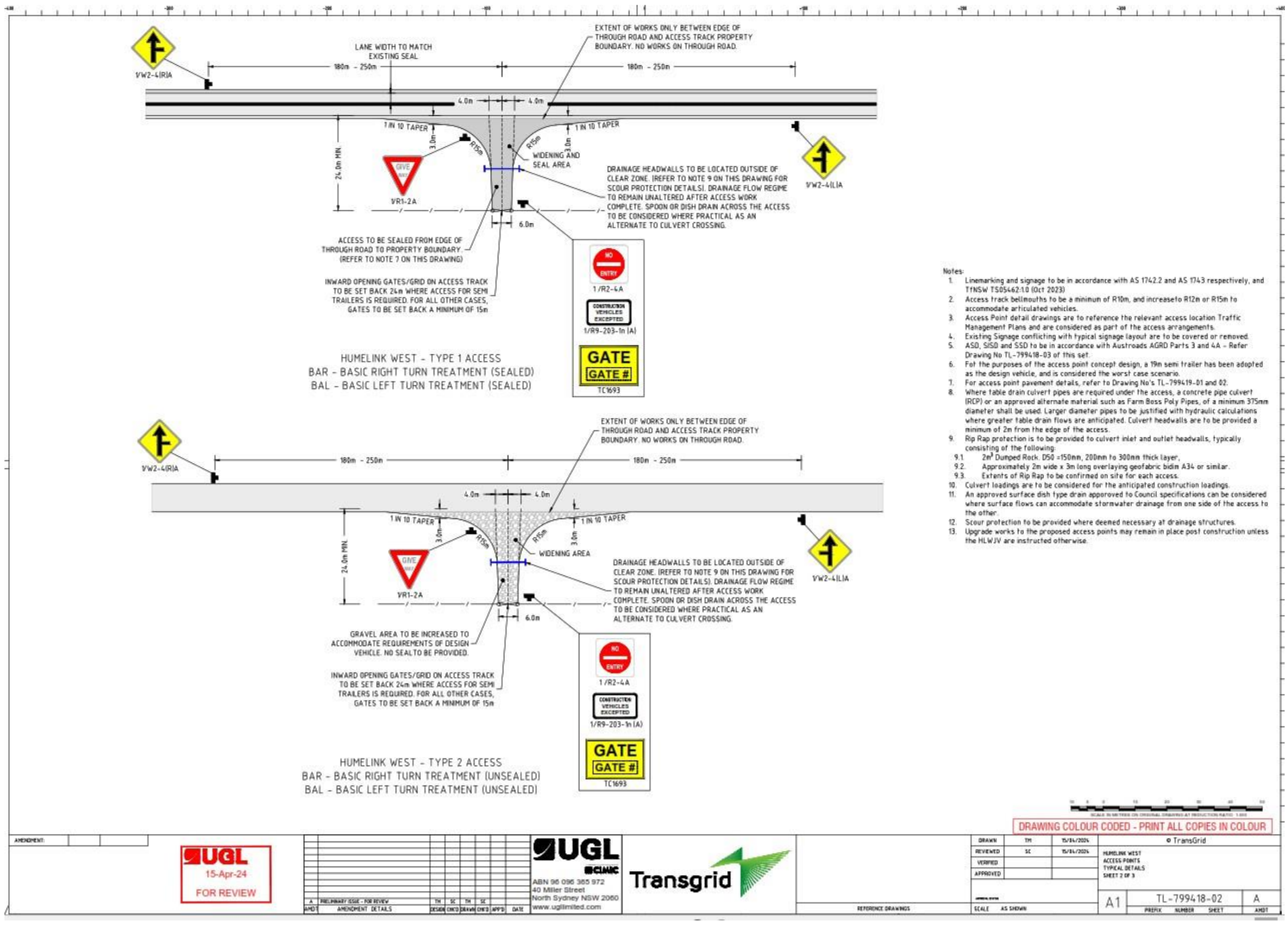
© TransGrid

HUMELINK WEST
SITE FACILITIES
TARCUTTA ACCOMMODATION PAD
DESIGN CONTOURS
PLAN

A1 | TL-799417-11 | A
PREFIX NUMBER SHEET AMDT
INDEX CLASS'N Apr-24

SOURCE DESIGN FILE:F:\01_TMEDS\2.0_Projects\2340_Humelink Transmission Line (EIC\03_CAD\01_DWGS\TL-799417-11.dwg

Access Point Initial Erosion and Sediment Control (based on 20% design)



Notes:

1. Linemarking and signage to be in accordance with AS 1742.2 and AS 1743 respectively, and TfNSW TS05462:1.0 (Oct 2023)
2. Access track bellmouths to be a mininum of R10m, and increase to R12m or R15m to accommodate articulated vehicles.
3. Access Point detail drawings are to reference the relevant access location Traffic Management Plans and are considered as part of the access arrangements.
4. Existing Signage conflicting with typical signage layout are to be covered or removed.
5. ASD, SISD and SSD to be in accordance with Austroads AGRD Parts 3 and 4A - Refer Drawing No TL-799418-03 of this set.
6. For the purposes of the access point concept design, a 19m semi trailer has been adopted as the design vehicle, and is considered the worst case scenario.
7. For access point pavement details, refer to Drawing No's TL-799419-01 and 02.
8. Where table drain culvert pipes are required under the access, a concrete pipe culvert (RCP) or an approved alternate material such as Farm Boss Poly Pipes, of a minimum 375mm diameter shall be used. Larger diameter pipes to be justified with hydraulic calculations where greater table drain flows are anticipated. Culvert headwalls are to be provided a minimum of 2m from the edge of the access.
9. Rip Rap protection is to be provided to culvert inlet and outlet headwalls, typically consisting of the following:
   - 9.1. 2m³ Dumped Rock. D50 =150mm, 200mm to 300mm thick layer,
   - 9.2. Approximately 2m wide x 3m long overlaying geofabric bidim A34 or similar.
   - 9.3. Extents of Rip Rap to be confirmed on site for each access.
10. Culvert loadings are to be considered for the anticipated construction loadings.
11. An approved surface dish type drain approved to Council specifications can be considered where surface flows can accommodate stormwater drainage from one side of the access to the other.
12. Scour protection to be provided where deemed necessary at drainage structures.
13. Upgrade works to the proposed access points may remain in place post construction unless the HLWJV are instructed otherwise.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

AMENDMENT:

UGL 15-Apr-24 FOR REVIEW

AMDT	AMENDMENT DETAILS	TH DESIGN	SC CHK'D	TH DRAWN	CHK'D	APP'D	DATE
A	PRELIMINARY ISSUE - FOR REVIEW	TH	SC	TH	SC		

UGL CIMIC
ABN 96 096 365 972
40 Miller Street
North Sydney NSW 2060
www.uglimited.com

Transgrid

REFERENCE DRAWINGS

DRAWN	TH	15/04/2024
REVIEWED	SC	15/04/2024
VERIFIED		
APPROVED		

SCALE AS SHOWN

© TransGrid

HUMELINK WEST
ACCESS POINTS
TYPICAL DETAILS
SHEET 2 OF 3

A1 | TL-799418-02 | A
PREFIX NUMBER SHEET AMDT

Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

General ECM Notes:

1) This ECM has been prepared to enable field staff to be aware of onsite environmental constraints and to provide guidance on the installation of environmental controls measures.
2) Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities.
3) Any ground disturbance or clearing require a 'Land Disturbance Permit' prior to works commencing.
4) If entry is required into a fenced off area a 'Permit to Enter No Go Zone' is required, unless work is related to the constraint that is fenced (e.g. heritage salvage within a heritage site)
5) This ECM is to be used in conjunction with Environmental Work Method Statements (EWMS), Enabling Works Management Plan (EWMP) or the Construction Environmental Management Plans (CEMP), Progressive Erosion and Sediment Control Plans and the Pre-Clearing Survey Report.
6) This plan is to be revised progressively as site conditions or construction methods are determined.
7) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within the boundaries of this ECM and outside of sensitive areas. Controls will also be established on an as needs basis, i.e. controls marked on the plan may not be installed until the associated work commences.
8) Remediation of contaminated areas must be completed in accordance with the Remediation Action Plan. Unexpected finds must be managed in accordance with the Unexpected Finds Procedure – Contaminated Land.
9) Site access and haulage - The existing track network will be utilised to access the work site. Major haul roads to be constructed have been marked on the plan. Additional tracks and haulage roads within ECM zone will be established as required outside of fenced or sensitive areas.
10) Weeds are marked onsite. Weeds are to be segregated from native vegetation during clearing and mulching operations. Weed material will be temporarily stockpiled adjacent to clearing areas until permanent on or off-site disposal locations are determined. These locations are not marked on the ECM and will be temporarily established on-site at least 40 metres from a waterway. Weed growth and spread to be monitored and actioned through the weekly environmental inspection process.
11) Topsoil, unsuitable and other general stockpiles in place for greater than 30 days to be located in areas marked on plan. Minor temporary stockpiles will be established as works progress and are to have appropriate erosion and sediment controls in place. All stockpiles and weed containment cells that are marked on this plan are considered temporary unless approval to retain onsite is confirmed via an IFC design.
12) Habitat features marked on plan are to be removed only in the presence and under the guidance of the project Ecologists. This will require a two-stage clearing process for habitat trees.
13) This site is likely to contains snakes, threatened fauna and other protected native fauna which are not marked on this ECM. Report all potential fauna impacts that may (or have) resulted due to construction works. Work is to cease prior to any fauna is impacted - contact the Environment Manager below.
14) No threatened flora species or endangered ecological communities exist within this zone of works that require further onsite management:
15) Spill kits are located at basins, compounds and within HLWJV vehicles. Contain and report all spills immediately.
16) Any movement of water (e.g. pumping, syphons, opening discharge valves or dewatering with an excavator) requires a dewatering permit.
17) Prior to repurposing or decommissioning farm dams, they are to be de-fished in accordance with the Biodiversity CEMP and will require involvement with the project ecologist. Dam wall breaking requires the approval of the HLWJV Environment Manager.
18) Works to be conducted during normal working hours (0700-1800 Monday to Friday, 0800-1300 Saturday). Permit for Out of Hours Work required for all works outside these hours. Unnecessary noise onsite to be kept to a minimum.
19) Ecology constraint levels and terms are summarised in Section 5.3, Table 5-3 of the Enabling Works Management Plan (EWMP)
20) Unexpected heritage finds protocol is in place. Stop work in the area and contact the HLWJV Environment Manager (who will contact TransGrid Environment Manager) if any suspected aboriginal heritage items are found.
    a. Medium and High Heritage sensitivity layers are subject to further assessment as per the Updated Mitigation Measures. Layers will be updated post this assessment.
21) Additional requirements outlined in the land parcels Property Management Plan (PMP) as required.
22) During enabling works, any relocation of utilities/services required to enable construction and operation of the construction facility will be reviewed and approved by the HLWJV Environment Manager to demonstrate that it has been appropriately assessed to minimise impact to the environment and the works are in line with the mitigation measures and requirements set out in the EWMP.

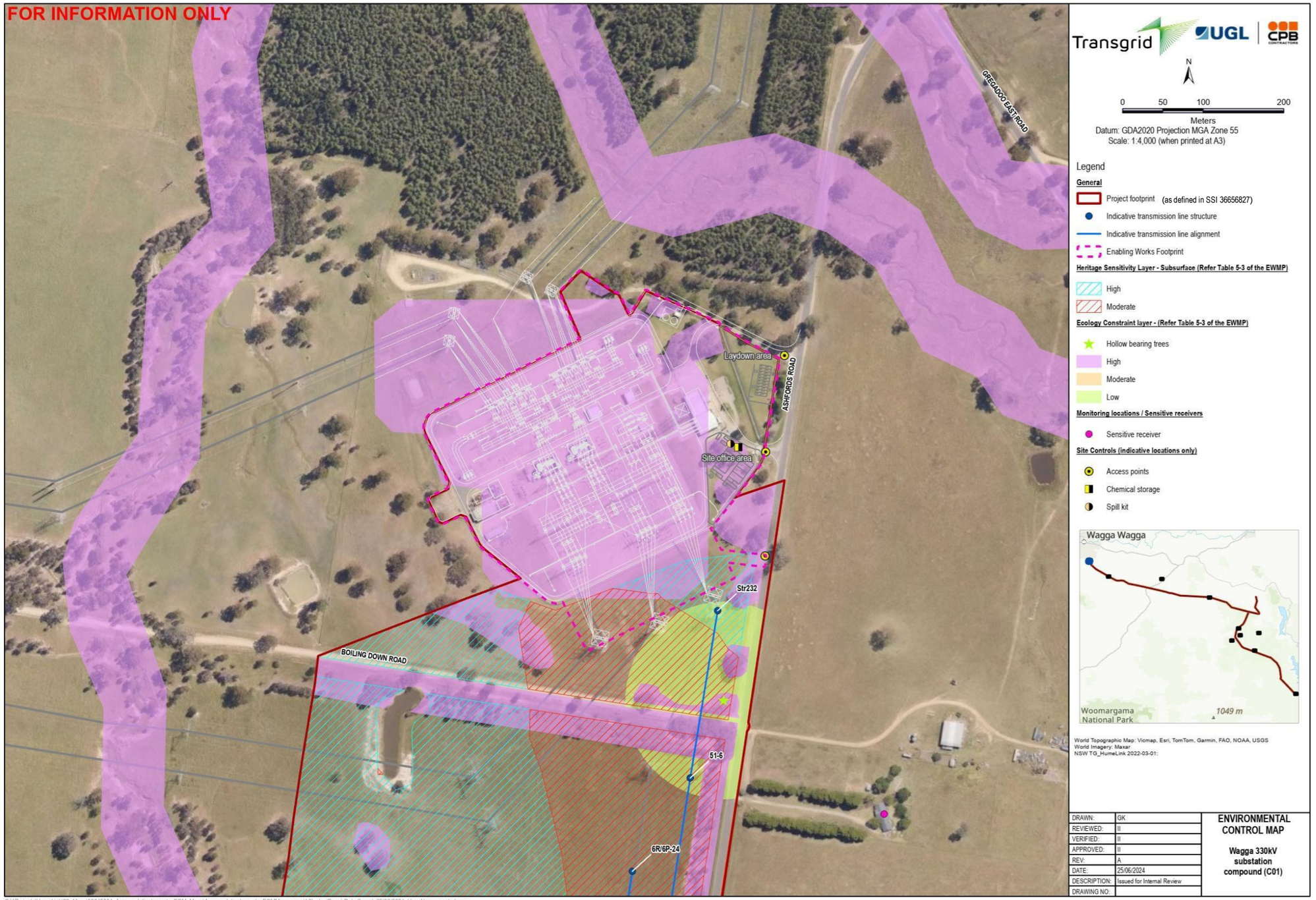
General notes relating to Erosion and Sediment Control:

1) This plan includes erosion and sediment controls, and therefore covers the requirement to prepare an Erosion and Sediment Control Plan (ESCP).
2) This plan should be read in conjunction with the HLW Soil and Water Management Plan.
3) All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
4) Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. Progressive ESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5) Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6) The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7) Areas that are not disturbed or used (>10 days) are to be stabilised to manage dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8) Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
9) Farm dams to be retained for water retention, sediment traps and sediment control until removal is required to assist with the progression of earthworks. Once farm dams have been removed slope breaks are to be established every 80 meters at a minimum. Sediment controls indicated on this ECM are indicative only.
10) Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11) 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12) 'Dirty water' flow to sediment basins is to be maximised through the use of diversion banks, cut off drains, channels and pre-existing water ways. Major channels to be stabilised where practical to do so.
13) Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan and Dewatering and Basin Management EWMS.
14) 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkeys' nest or sumps).
15) Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16) Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Scope of works covered by this ECM includes: Compound establishment and usage.

Key contacts: General Superintendent TBC - Environment Manager: Jeremy Slattery (0421 827 231) - Construction Manager: Ryan Robertson (0401 608 271) Community line: 1800 317 367

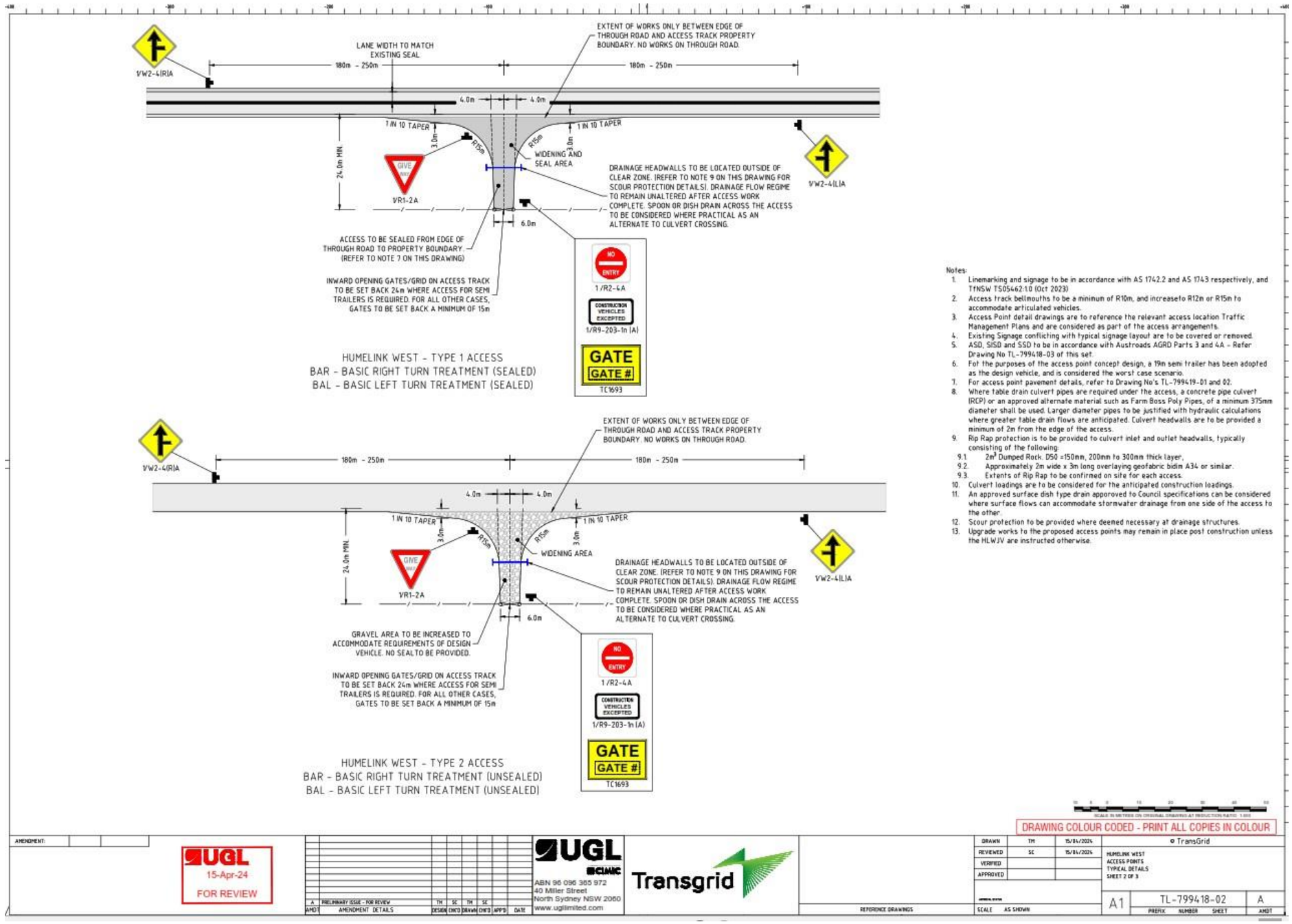
Environmental Control Map: Wagga Wagga Substation Construction Compound



G:\Projects\HumeLink\20_Maps\20240624_AccomodationLayouts_ECM_Maps\AccomodationLayouts_ECMMaps.aprx (A3L_JoelBase) Date Saved: 25/06/2024 User Name: geeta.kumar

Attachment 1: Wagga Wagga Substation Construction Compound Initial Erosion and Sediment Control (based on design Revision E)

Access Point Initial Erosion and Sediment Control (based on 20% design)



Attachment 2: Fencing Protocols

Sensitive Area Fencing Protocol

Type	Identification	Requirements	General Fencing Steps
1. Construction Impact Zone / Protected Vegetation	 (or permanent chain link fence)	Fenced off by onsite workforce: • Star pickets, highly visible flagging (green) or permanent fencing • Must be installed prior to commencement of construction work in a new area. • Must be in place prior to clearing	**Step 1** - Confirm with the Environment Manager that the GIS has been updated with ecology, heritage and contamination survey data in the proposed work area. **Step 2** - Prior to work commencing, delineate sensitive areas within 50m of proposed construction activities. **Step 3** - Notify survey and environment team that fencing has been installed. **Step 4** - Survey team to pick up the location of installed fencing – to confirm it is in the correct location and to provide evidence if an incident involving damage to sensitive areas occurs. **Additional notes:** • If any clearing or land disturbance is required, it must be approved via a Land Disturbance Permit. • If entry is required into a fenced off area a Permit to Enter No Go Zone is required. However, this is not applicable to the heritage team working within heritage sites or the remediation team working within contaminated sites. • No fencing (both paddock fencing & sensitive area fencing) is to be removed unless approved by a CPB LL Supervisor.
2. Heritage sites and threatened flora to be protected		Fenced off by onsite workforce: • Heritage sites to be protected with onion bag. • Threatened species that require further management (such as translocation) to be fenced of with onion bag. • Must be installed prior to commencement of construction work in a new area.	
3. Contaminated Site		Fenced off by onsite workforce: • Star pickets with two runs of highly visible orange flagging • Will be in place until clearance certificate has been obtained. • May include Asbestos or other contaminated material	
4. Noxious Weeds		Flagged off by ecologist: • Pink ribbon used to identify priority weeds that require specific management	
5. Habitat trees (and other habitat features)		Flagged off by ecologist: • Two stage clearing approach required – refer to Clearing EWMS. • Red & white ribbon wrapped around tree trunk • Large white 'H' spray painted around tree.	

Appendix E – Unexpected finds procedure

Unexpected Finds:

- Discovery of potential threatened flora or fauna species or threatened ecological community
- Potential Contaminated Land
- Potential aboriginal object, historical relic or heritage items and suspected human remains

STOP ALL WORK IMMEDIATELY AND SECURE THE SITE

Notify Site Supervisor, Environmental Manager and Environmental Representative

Heritage

Environmental Team to contact Project Archaeologist

Are the finds human remains?

YES

Contact:

- NSW Police
- DPHI (DPHI will liaise with Heritage NSW)

Site investigation will take place

Works in the area of the remains (designated area) may not re-commence until the proponent receives written approval from:

- DPHI as the approval authority and from the relevant statutory authority: from the Police or Coroner in the event of an investigation,
- Heritage NSW in the case of Aboriginal or non-Aboriginal (historical) remains outside of the jurisdiction of the Police or Coroner.

NO

Is the find consistent with the approval documents / not a historical heritage item relic of State or Local significance

YES

Works can continue

NO

DPHI & Heritage NSW to be informed

Collection and salvage to be carried out as per methodology in Appendix K of the EWMP

Works can re-commence as outlined in the management strategy

Contamination Soil / Water / UXO

Environmental Team to contact Project Subject Matter Expert (SME)/ Consultant

Preliminary investigation and samples to be taken (as required)

Does the contamination present unacceptable risk to human health / the environment?

YES

Project SME/ Consultant to supervise remediation/ excavation & undertake validation/ clearance

Project SME/ Consultant to submit assessment/ validation/ clearance

Works can recommence

NO

Project SME/ Consultant to submit assessment/ validation clearance

Works can continue based on Project SME/ Consultants advice

Flora / Fauna

Environmental Team to contact Project Ecologist

Ecologist to complete assessment and provide recommendation for management

Relevant agencies to be notified (DPHI, BCS, AG DCCEEW)

Can the impact be avoided?

YES

Works to recommence

NO

Consult with relevant agencies and submit management plans for approval

Review management plans and approval conditions

Works can recommence once endorsed by the Planning Secretary

Appendix F – Out of hours works protocol

Out Of Hours Works Protocol

HumeLink

SSI-36656827

May 2024

Document #: HLE-AGJ-ENV-ALE-PRD-0000-00001 - Revision 0

Contents

Tables

Figures

1 Introduction

This Out-of-Hours Work Protocol (herein referred to as the Protocol) for the Humelink transmission line project (the Project) has been prepared in accordance with Updated Mitigation Measure (UMM) NV2 to define the process for assessment and approval of work undertaken outside of standard construction working hours (out-of-hours work, OOHW).

OOHW have the potential to exceed relevant noise management levels (NMLs) determined in accordance with the approach outlined in the Interim Construction Noise Guidelines (DECC, 2009) (ICNG). As OOHW has the potential to impact on the amenity of adjacent sensitive receivers, the work requires assessment and approval prior to commencement.

This OOHW Protocol is applicable only to the works that are proposed outside the hours defined in Section 4.6.2 of the Environmental Impact Statement (EIS). Works that comply with the hours defined in the EIS are not required to be undertaken in accordance with the processes outlined in this OOHW Protocol.

In accordance with UMM NV2, the operation of the accommodation camp facilities would not be subject to this OOHW Protocol, as these camps will be operational 24 hours a day, 7 days a week.

2 Construction Hours

2.1 Standard construction hours

Section 4.6.2 of the EIS states that standard construction hours would be as per the *Interim Construction Noise Guideline* (ICNG) (DECC, 2009):

- 7:00am to 6:00pm Mondays to Fridays
- 8:00am to 1:00pm Saturdays
- At no time on Sundays or public holidays.

Additionally, Section 4.6.2 of the EIS states that if required, blasting is permitted also as per the ICNG as follows:

- 9:00am to 5:00pm Mondays to Fridays
- 9:00am to 1:00pm Saturdays
- At no time on Sundays or public holidays.

2.2 Variation to standard construction hours

There are times where works outside the above hours are unavoidable and may be undertaken under specific circumstances as described in Section 4.6.3 of the EIS. This includes:

a) The delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons;

b) Emergency work to avoid the loss of life, property or to prevent material harm to the environment;

c) Works carried out in accordance with the hours and noise limits specified in any negotiated agreements with sensitive receivers (owners and occupiers), provided the negotiated agreements are in writing and finalised before the commencement of works;

d) Low Noise Impact Work, including:

   i. Work that causes LAeq(15 minute) noise levels:

      - No more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and

- No more than the ‘Noise affected’ NMLs specified in Table 3 of the ICNG at other sensitive land user(s); and

ii. Work that causes LAFmax(15 minute) noise levels no more than 15 dB(A) above the rating background level at any residence; or

iii. Work that causes:

- Continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or
- Intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006)

e) Road upgrades required by the relevant roads authority to be undertaken outside the standard construction hours; or

f) Works carried out in accordance with an Out-of-Hours Work Protocol approved in accordance with condition C10.

Any works proposed to occur outside of the hours detailed within Section 2.1, which do not fall into categories (a) – (e) above, must be undertaken in accordance with this OOHW Protocol.

3 Purpose and Scope

OOHW has the potential to exceed noise management levels (NMLs) determined in accordance with the approach outlined in the ICNG, and requires assessment and approval prior to commencement. This Protocol provides the process by which this assessment and approval must be undertaken for OOHW subject to this Protocol as permitted under UMM NV2.

UMMs relevant to this OOHW Protocol are provided in Table 3-1. A cross-reference is included to indicate where each condition is addressed in this OOHW Protocol or other project management document.

Table 3-1 UMMs relevant to this Protocol.

UMM	Requirement	Where addressed
UMM NV2	An out-of-hours work protocol that details how the project will identify, assess and approve out of hours work outside standard construction hours that are likely to generate noise levels that exceed the relevant noise management levels at sensitive receivers will be developed and implemented. The protocol will include provisions to: • carry out additional assessments for work proposed outside standard construction hours, to confirm noise levels at potentially affected sensitive receivers and determine suitable mitigation measures to minimise noise levels • notify and engage with potentially noise affected receivers about upcoming work outside standard construction hours and address any associated complaints. • identify appropriate respite for noise affected receivers (where required). The out-of-hours work protocol will not apply to the operation of the worker accommodation facilities.	This document

4 OOHW Justification

4.1 OOHW subject to this protocol

Work associated with the Project will be undertaken in accordance with the assessment and management approach outlined in the ICNG.

The approved construction hours for the Project are outlined in Section 2.1. Where work is proposed outside of these hours, it must be appropriately justified with consideration to the ICNG and in accordance with UMM NV2.

The ICNG outlines categories of work that might be undertaken out of hours. Generally, the following are considered to justify OOHW:

- To sustain the operational integrity of the wider associated transmission network.
- Where disruption to essential services and/or considerations of worker safety do not allow work within standard hours
- Where out of hours works shorten the length of construction and are supported by the affected community
- Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours
- Where works are required to be completed continuously (over a longer period than the ICNG standard construction day).

4.2 OOHW not subject to this protocol

Certain works for the Project would not need to follow the OOHW process outlined in this protocol. These are defined in (a) to (e) in Section 2.2or would be in accordance with the relevant conditions of an EPL.

Where construction activities can occur outside of the standard construction hours in accordance with Section 2.1, or where construction activities are justified outside standard construction hours, associated activities at the relevant construction compounds to support the activities are also justified.

5 OOHW Process

For any proposed OOHW subject to this Protocol, the following process will be implemented:

1) When it is identified that OOHW are required, an OOHW application will be prepared by the team requesting the works, detailing:
   - A summary of the proposed activity (including plant and equipment required).
   - Duration of the proposed activity within and across OOHW periods (including start and finish times).
   - Location of the proposed activity (including a diagram or figure).
   - Justification for the need to carry out the specific work as OOHW, in accordance with Section 4.1.
   - The OOHW application will be submitted to the Environment Team who will undertake a noise assessment. This may include use of the construction noise and vibration management tool developed for the Project. This assessment will utilise the information provided in step 1 to:
     - Identify any potentially affected sensitive receivers.
     - Produce noise and vibration predictions based upon required plant and equipment (as described in Section 6.1).
   - Determine risk level based upon noise and vibration predictions (risk levels are defined in Section 7).
   - Provide a description of mitigation measures to be implemented based upon risk level and predicted impacts (as described in Section 6.4).
2) The OOHW Permit will be submitted to the appropriate party for review and approval (refer to Section 7).
3) Approval of the OOHW Permit will follow the process outlined in Section 6 of this Protocol.
4) If approved, Community consultation and notification will be undertaken in accordance with the Community and Stakeholder and Engagement Community Communication Strategy and Section 8 of this Protocol.
5) Following approval, the activity will be undertaken in accordance with the OOHW Permit.

OOHW permits may be issued for extended periods of time where the risk of amenity impacts due to noise and vibration are negligible and/or where similar activities will be undertaken for an extended period.

OOHW permits may also be issued on an area basis (rather than an activity basis) so that project areas can be identified where project activities can occur with approved mitigation and management measures. The approval process for OOHW is identified in Section 6.

Figure 3-1 Approval process for OOHW subject to this Protocol

6 OOHW Assessment

6.1 Noise assessment

The following section outlines the assessment criteria to determine the risk level of the proposed OOHW. The risk category considers both the predicted noise impact relative to the appropriate noise management level, OOHW period, and the duration of works.

OOHW categorisation periods are as follows:

OOHW Period 1: (Evening & Extended Day)

- Monday to Friday: 6pm to 10pm (i.e., 'Evening')
- Saturday: 7am to 8am and 1pm to 10pm (i.e., 'Evening' & 'Extended Day")
- Sunday and Public Holidays: 8am to 6pm (i.e., 'Extended Day').

OOHW Period 2: (Night)

- Monday to Friday: after 10pm and prior to 7am
- Saturday: after 10pm and prior to 7am
- Sunday and Public Holidays: after 6pm and prior to 8am.

A construction noise assessment will be undertaken to consider proposed works outside of the hours defined in Section 2.1. Assessments would be undertaken through a construction noise tool, or otherwise by a construction noise specialist.

The construction noise tool will enable the prediction and assessment of potential noise impacts resulting from proposed OOHW in specific work areas. The construction noise tool will predict noise and vibration impacts on sensitive receivers, based on the specific work areas and types of plant and equipment operating in the work area. The tool will identify potentially noise affected sensitive receivers, as well as the magnitude of any predicted exceedance of relevant noise management levels.

The results of the noise assessment(s) will be used to determine the requirements for management actions in accordance with this OOHW Protocol.

6.2 Noise and Vibration criteria

Guidelines for establishing project-specific noise and vibration criteria to guide the application of mitigation measures include the following.

- Airborne and ground-borne noise - the Interim Construction Noise Guideline (DECC, 2009)1
- Vibration (human comfort) - Assessing vibration: a technical guideline (DEC, 2006)
- Building damage - BS 7385 Part 2-1993 'Evaluation and measurement for vibration in buildings Part 2' as they are 'applicable to Australian conditions'
- Heritage items - German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage) (applicable when a heritage-listed structure is identified in poor condition).

- [1] Note: The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction Noise Management Level (NML)

Project-specific NMLs have been calculated for each Noise Catchment Area (NCA) within the Project area and are summarised in Table 15-3 of the EIS. Recommended minimum working distances from vibration intensive equipment that have been adopted for the project are summarised in Table 15-6 of the EIS.

6.3 Reporting

A report for each noise assessment will be generated and attached to the OOHW permit application and will include:

- Details of the nature and scope of each activity, including times, location(s) of works, duration
- Plant and equipment to be used with estimated equipment sound power levels (including 5 dB penalty where applicable for annoying characteristics)
- Justification of the need to work outside standard hours
- Relevant noise management levels and vibration criteria
- An evaluation of predicted noise levels with a summary of the number of exceedances and predicted maximum noise levels
- Assessment of vibration (whether works are likely to be within safe working distances for selected plant)
- Recommended standard and additional mitigation measures.

Any additional mitigation measures will be recommended based on identified reasonable and feasible measures and the predicted levels of exceedance at each identified sensitive receiver.

6.4 Mitigation

All reasonable and feasible measures for noise mitigation and management described in the EWMP will be implemented regardless of predicted noise levels. These actions will include:

- Managing behaviour such as avoiding shouting and swearing, turning off idling equipment when not in use and avoiding impulsive noise (metal on metal contact)
- Selecting quieter equipment such as smaller, lower powered, newer, or better maintained
- Examining alternative technologies and methods to complete activities more quietly
- Programming to avoid noisy activities after midnight as far as practicable such as hammering, sawing and rattle guns
- Using screens and enclosures to reduce noise emissions from equipment
- Ensuring adequate consultation and notification (as described in Section 8)
- Implementing noise and vibration monitoring as described in Section 9.

In addition, the most appropriate reasonable and feasible management measures will be determined based on the predicted noise and vibration levels and in accordance with the ICNG. This will include consideration of additional mitigation measures defined below. These are guided by the Construction Noise and Vibration Guideline (CNVG) in accordance with UMM NV4 where feasible and reasonable and would be implemented for impacts as detailed in Table 6-1 and Table 6-2.

Notification: The notification may consist of a letterbox drop (or equivalent) detailing work activities, time periods over which these will occur, impacts and mitigation measures. Notification will be provided to potentially affected receivers seven business days prior to the start of works.

Given that the affected sensitive receivers are also likely to be affected landholders for the project, phone call and email will be favoured for these notifications.

Respite: Where out-of-hours construction noise is proposed to occur during OOHW period 1 (evening) or OOHW period 2 (night) the following will apply:

- For OOHW period 1 (evening) where work occurs for four or more consecutive evenings, respite should occur; or
- For OOHW period 2 (night) where work occurs for three or more consecutive nights, respite should occur.

Duration Respite: Respite periods may be counterproductive in reducing the impact on the community for longer duration projects. In these instances, where it can be agreed by affected residents, it may be beneficial to increase the work duration, number of evenings or nights worked through duration respite so that the project can be completed more quickly. The project will engage with affected receivers to determine support for duration respite. Where possible, negotiated agreements are the preferred project approach in lieu of duration respite.

Verification: Verification of construction noise and vibration levels should occur to ensure the actual impacts are consistent with the predicted levels.

Table 6-1 Additional mitigation measures- noise

Predicted airborne LAeq(15min) noise level at receiver		**OOHW Period 1: Additional mitigation measures**	**OOHW Period 2: Additional mitigation measures**
Perception	**dB(A) above NML**		
Noticeable	<5	N/A	N
Clearly audible	5-15	N	N
Moderately intrusive	15-25	N, V, RO	N, V, R4, DR
Highly intrusive	>25	N, V, R4, DR	N, V, R3, DR

Notes: N = Notification, RO = Short term respite offer, R4 = Respite offered when impacts occur over four or more consecutive nights, R3 = Respite offered when impacts occur over three or more consecutive nights, DR = Duration respite, V = Verification.

Table 6-2 Additional mitigation measures- vibration

Predicted ground-borne vibration level at receiver	**OOHW Period 1: Additional mitigation measures**	**OOHW Period 2: Additional mitigation measures**
Predicted Vibration Exceeds Human Comfort Screening Levels	N, V, R4	AA, V, N, R3
Predicted Vibration Exceeds Structural Damage Screening Levels	V, Alternative Construction Methodology	V, Alternative Construction Methodology

Note: If structural damage screening levels are predicted to be exceeded and alternative construction methodology should be investigated by the Project team. AA = Alternative accommodation

It should also be noted that sensitive receivers may have individual circumstances, meaning that the standard approach to specific additional mitigation measures may not be suitable. The Environment Manager and the Communications and Stakeholder Manager have the authority to amend the approach for specific sensitive receivers by considering the individual circumstances that may apply.

7 Approval process

The OOHW Approval process is outlined in Section 5 and identifies the following risk categories for the Project:

- Negligible Risk
- Low/Moderate Risk
- High Risk.

The relevant approval authority for each risk category is outlined in Table 7-1. The risk categories are defined in Table 7-2.

Once the risk level has been determined, based on the noise assessment and duration of the proposed works, the OOHW permit and supporting assessment will be provided to the relevant authority for approval.

Table 7-1 OOHW approval authority

Risk level	**Approval authority**
Negligible	Environmental Manager
Low/moderate	Environmental Representative
High	Planning Secretary

Following approval, the OOHW Permit will be provided to the construction team by the Environment Manager.

Table 7-2 OOHW Approval pathways

Risk level	Approval authority	Item no.	OOHW period	Activities or circumstances
The below activities <u>are not subject</u> to the OOHW Protocol process:				
Permitted	Not applicable	1	Any	The below activities are not subject to this OOHW Protocol: • The delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons • Emergency work to avoid the loss of life, property or to prevent material harm to the environment • Works carried out in accordance with the hours and noise limits specified in any negotiated agreements with sensitive receivers (owners and occupiers), provided the negotiated agreements are in writing and finalised before the commencement of works • Low Noise Impact Work, including: i. Work that causes LAeq(15 minute) noise levels: • No more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and • No more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); and ii. Work that causes LAFmax(15 minute) noise levels no more than 15 dB(A) above the rating background level at any residence; or iii. Work that causes: • Continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or • Intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006); • Road upgrades required by the relevant roads authority to be undertaken outside the standard construction hours. These works may proceed without any further approvals detailed within the OOHW Protocol.
Activities <u>subject</u> to the OOHW Protocol process as follows:				
Negligible	Environmental Manager	2a	Extended (day) working hours	Activities which result in noise levels which are <u>higher than NML (audible) but no more than 10dBA above NML</u>
		2b	Evening and night works	Activities which result in noise levels <u>equal to or less than 5 dBA above NML</u>
Low/Moderate	Environmental Representative	3a	Any OOHW period	Any activity which is <u>not negligible</u> in risk, and is one of the following activities: • Works required to occur on or adjacent to a road (i.e., stringing activities) and the relevant road authority requires the works to be undertaken outside the standard construction hours (i.e., Road Occupancy Licence restrictions). This does not include road upgrade works as condition C2 permits road upgrades to occur outside of the hours detailed within condition C1 • Utility works required by relevant service providers to occur outside of the standard construction hours • Works on or adjacent to rail corridors. The asset owner/authority may require these works to occur outside standard construction hours to maintain the operational integrity of the associated infrastructure network • Activities (e.g., concrete pours) that must occur continuously for quality reasons • Where the out of hours works are agreed to by a majority of receivers impacted by more than 10 dBA above NML, but not all receivers • Where transmission line connections to the substations are required to occur during a power outage • Works that would exceed the human comfort vibration criteria • Works that are more than 25dBA above the NML however will be short in duration (such as 1-2 hours) and notification to the affected receivers will occur • Any other activity which is not negligible in risk, and the Environmental Representative determines can be assessed as low risk.
		3b	Extended (day) working hours	Any activity which is <u>not negligible</u> in risk and is <u>not an activity within row 3a</u>.
		3c	Evening and night periods	Any activity which is <u>not negligible</u> in risk and is <u>not an activity within row 3a</u>, the following noise levels must be met for the activity to be determined low/moderate risk: • Works which are between 5dBA above the NML to 25 dBA above the NML and are carried out for no more than three (3) consecutive evening or nights per week.

Risk level	Approval authority	Item no.	OOHW period	Activities or circumstances
High	Planning Secretary	4	Any OOHW period	Any activity which is not considered to be permitted (Item. No 1), is not considered to be negligible risk, is not considered to be low/moderate risk and meets any of the following is determined to be high risk: • Works that are more than 25 dBA above the NML for more than three consecutive evenings or nights per week • The following activities if proposed to occur during extended (day) working hours, evenings or night periods – Rock drilling – Jackhammering, rock hammering or rock breaking – Impact piling • Activities where the Environmental Representative is of the opinion that the proposed work is high risk.

8 Consultation and Notification

8.1 Consultation

The Community Engagement & Stakeholder Team will use a range of communication tools to provide clear, effective and timely information to the predicted affected sensitive receivers and stakeholders. The method of communication will be chosen based on the nature of works and the potential impacts. All community consultation would be carried out in accordance with the Project Community Stakeholder Engagement Management Plan and as required by this Protocol.

Where exceedances of noise management levels are predicted for OOHW, consultation will be undertaken with affected receivers to understand their preferences for mitigation and management measures (in accordance with UMM NV4) and any individual circumstances that may be relevant. The results of this consultation may be applied in similar subsequent OOHW activities.

8.2 Notification requirements

Notifications of OOHW events will be issued to potentially affected sensitive receivers at least five days prior to the OOHW commencing. Notification would be provided to relevant councils seven business days prior to any OOHW.

8.3 Community Agreement

Variation to working hours may occur following negotiated agreements with affected residents and sensitive land user(s). If such negotiated agreements can be made the overall duration of construction works may be reduced. Where proposed OOHW are identified that may provide benefit to the community with an accelerated program, the contractor may engage with and seek agreement from the noise affected community to conduct the works through this accelerated program.

Negotiated agreements made where a substantial majority (>75%) of receivers affected by noise levels greater than 10 dBA above the NML is obtained, the implementation of this OOHW Protocol is not required. Where agreement can be obtained by a lesser majority (50-75%) of affected receivers (affected by greater than 10 dBA above NML), this Protocol would be implemented and approval sought in accordance with Section 7.

8.4 Complaints management

Section 8.3 of the EWMP summarises the Project complaints management process, which will be implemented for any OOHW carried out under this protocol. In addition to the complaints management process outlined in the EWMP, should a complaint be received that relates to noise associated with out of hours work, the complaint will be reviewed by the Environment Manager (or delegate) to ensure that appropriate mitigation measures were implemented as per the approved out of hours work permit.

OOHW complaints will be included in the Project's complaints register which will be made available on the Project website and updated monthly.

9 Monitoring

Noise monitoring will be conducted at the commencement of a new OOHW activity where exceedance of an NML is predicted to occur at the nearest sensitive receiver. Noise monitoring of OOHW may also be required where identified on the OOHW Permit or in response to a complaint.

Where monitored noise levels are found to be above predictions, the following actions will be undertaken:

- Confirm monitored levels are not being impacted by other noise or vibration sources.

- Confirm all mitigation measures required by the OOHW Permit are being implemented.
- Confirm that the modelling reflects the actual activity being undertaken.
- Review whether any additional feasible and reasonable mitigation measures can be applied and implement these where appropriate.
- Determine if alternative equipment, plant, construction methodologies or mitigation measures can be adopted for the activity.
- Continue work where impacts can be reduced or if the exceedance is deemed minor i.e. does not trigger additional community mitigation measures to be implemented.
- Refine the noise modelling assessment process based on the learnings. For example, if noise or vibration predictions are lower/higher than expected, noise modelling would take this into consideration to more accurately predict impacts for future works.
- Communicate lessons learnt to relevant personnel.
- Should the permit be deemed insufficient by the investigation, a new permit may be required to be produced and approved, and additional mitigation measures may need to be applied.

The Project will review monitoring data and lessons learnt to help inform future OOHW activities and mitigation measures and minimise impacts. The outcome of the investigation would be shared with the ER.

Appendix G – Additional Enabling Works Risk Assessment / minor impact checklist (Template)

Minor impact checklist

Use / directions

• This form is for use prior to undertaking any Enabling Works other than at camps and compounds where ECMs are provided in the EWMP.
• Enabling works are not to be undertaken on land that has not previously accessed as part of the environmental assessment (Environmental Impact Statement, Amendment Report, Revised Biodiversity Development Assessment Report, or other project biodiversity survey).
• Enabling works other than works associated with access tracks are only to be undertaken on land that is detailed in Table 5-4 of the Enabling Works Management Plan with constraints level of “no significant biodiversity” or “low” and Section 5.3 of the EWMP. Enabling Works other than works associated with access tracks must not be undertaken on land categorised otherwise.
• Access track works are only to be undertaken on land with constraints level of “moderate”, “high” or “very high” constraints level at stream crossings if the works have been assessed as low risk and approved by the Environmental Representative.
• Please also refer to the following documents for more details:
  • HumeLink Environmental Impact Statement, August 2023
  • HumeLink Submissions Report, May 2024
  • HumeLink Amendment Report, May 2024
  • Revised Biodiversity Development Assessment Report, June 2024
  • NSW Conditions of Approval
  • Commonwealth Conditions of Approval
  • Enabling Works Management Plan
  • Property Management Plans and Land Access Approval (commercial in confidence documents)
• The description column provides an outline of the information required to populate this form for approval.
• Consultation is required with the Environmental Team, the Property Team and the Community Management Team, and the works permit will require sign-off by all Team Leads or their authorised representative prior to commencement of works.
• For any assistance with completing this form, please contact the Environmental Manager

1. Description of proposed works

Ref.	Description of the Proposed Works	
	Action	**Description**
1.1	**Description of scope and methodology**	[Describe all tasks to be completed - mobilisation, on-site actions and methods (i.e. any excavation (e.g. depth and area) etc.), demobilisation, storage, materials and equipment required, materials to be disposed, traffic and access]
1.2	**Plant and equipment**	[List all plant and equipment to be used]
1.3	**Location**	[Describe the location of the works] [Refer to Attachment 1]
1.4	**Proposed work commencement and duration**	[Insert month/year of commencement] [Insert how long the works are expected to take]
1.5	**Working hours**	[Include working hours]
1.6	**Planning context**	Enabling works for the HumeLink project (SSI-36656827) (the Project) were approved via the Enabling Works Management Plan which was submitted to the Department of Planning, Housing and Infrastructure (DPHI) for approval as part of the planning approval. Consistent with Chapter 26 of the Environmental Impact Statement, enabling works include the following: • site establishment and operation of construction compounds, including excavations, surface preparation, access roads, laydowns and utility connections • site establishment and operation of worker accommodation facilities, including excavations, surface preparation, access roads and utility connections • establishment of new access tracks • minor adjustments to existing access tracks and road improvement work as defined in Chapter 4 (Project description - construction) • utility relocations and adjustments. The purpose of this checklist is to determine whether the potential environmental and community impacts cause by proposed enabling works are of minor impact (or less). Minor impact is where: • Any potential Aboriginal heritage impacts are limited to areas surveyed areas and assessed in the Aboriginal Heritage Cultural Assessment Report (ACHAR) or in an approved Addendum ACHAR • Potential ecology impacts are located in areas mapped as either 'no significant biodiversity' or 'low' as per the biodiversity constraints mapping and described in Section 5.3 of the EWMP • Any other impacts are no more than minor after the application of mitigation measures.
1.7	**Checklist number**	

2. Potential environmental impact review

Complete the following tables. A review of environmental constraints shall be undertaken (using the datasets identified in the EIS / Amendment Report, as well as the additional datasets outlined in Attachment 2 where applicable).

Environmental constraints must be identified in Attachment 1. Any environmental requirements and/or mitigation measures to avoid or minimise impacts must be included in Attachment 3. Include any permit requirements e.g. Road Occupancy Licence in this section and in the mitigation measures (Attachment 3). All works must be carried out in accordance with the mitigation measures in Attachment 3.

If any impacts are more than minor after the application of mitigation measures, the works cannot be considered as 'minor impact' and are not to proceed.

2.1	**Project footprint**		
2.1.1	**Will works be outside areas previously accessed and assessed for biodiversity?**	☐ No	☐ Yes
	[If yes, works cannot proceed]		
2.1.2	**Are there Aboriginal heritage impacts within unsurveyed areas that have not been addressed in the Aboriginal Heritage Cultural Assessment Report (ACHAR) or in an Addendum ACHAR?**	☐ No	☐ Yes
	[Discuss here. If yes, works cannot proceed]		
2.1.3	**Are there potential impacts to biodiversity located in areas outside of stream crossings* that are mapped as either 'No-Go, 'high', 'very high' or 'moderate' as per the biodiversity constraints mapping?** *As per Section 5.3 of the EWMP, access track works are permitted to proceed in stream crossing areas (and associated buffers), classified as very high, high, or moderate constraint only if works have been assessed as low risk. For works in stream crossings, further discussion is required in section 2.2 of this checklist.	☐ No	☐ Yes
	[Discuss here. If yes, works cannot proceed]		

Note, if 'yes' is answered to any of the above questions the works cannot proceed. Refer to Section 6.2 of the EWMP for other approval options.

2.2	**Biodiversity**		
2.2.1	**Other than at stream crossing locations, are the works outside areas mapped as either 'no significant biodiversity' or 'low' as per the constraints mapping?**	☐ No	☐ Yes
	[Discuss here. If yes, works cannot proceed]		
2.2.2	**Are there any stream crossings in the proposed area?**	☐ No	☐ Yes
	[Describe impacts and mitigation here, including application of mitigation measures EW8-EW12 – engage specialist if required]		
2.2.3	**For stream crossings in locations where biodiversity constraints are mapped as 'moderate', 'high' or 'very high', are the works assessed as more than low risk?**	☐ No	☐ Yes
	[Discuss here. If yes, works cannot proceed] *Guidance note – discussion to include:* - *Specifying the constraint (moderate, high, very high) and whether the crossing/s are KFH or not.* - *Describing the proposed works involved with the crossing (what works are required to allow use) and how this relates to the constraint. This may include explanation as to why the proposed works will / will not interrupt fish passage or cause bank / downstream impacts.*		

2.2	Biodiversity
	- *Describing the proposed controls to be applied, including the ecological assessment for KFH or other constraint. A general design needs to be included and/or detailed description on design to help demonstrate how potential impacts on biodiversity or waters will be managed.* *A statement from a suitably qualified ecologist must be obtained and attached to the checklist. The statement is to confirm that they have reviewed the scope of works in the checklist, the constraints and the proposed controls and that they consider the impact to be low (or not).*

2.3	Soils		
2.3.1	**Any there any acid sulfate soils mapped in the works area?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.3.2	**Any there any saline soils mapped in the works area?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.3.3	**Is there any naturally occurring asbestos mapped in the works area?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.3.4	**Are there any areas of environmental concern in the works area?**	☐ No	☐ Yes
	[If yes, describe impacts here]		

2.4	Hydrology and water quality		
2.4.1	**Are any works locations within 40m of a watercourse?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.4.2	**Are any works locations within the 1% AEP?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.4.3	**Is there potential for groundwater to be encountered during the works?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.4.4	**Has an ESCP been prepared in accordance with EW52 to support ground disturbance works outlined in section 1.1 of this checklist?**	☐ No	☐ Yes
	[If yes, reference the ESCP document title and no. here]		

2.5	Biosecurity		
2.5.1	**Are there any known or potential weed and/or biosecurity issues?**	☐ No	☐ Yes
	[If yes, describe impacts here – including reference to Property Management Plan]		

2.6	Heritage		
2.6.1	**Are any Aboriginal Heritage Information Management System (AHIMS) sites identified within 100 metres of the works?**	☐ No	☐ Yes
	[If yes, describe impacts here and as a minimum, include the AHIMS reference, description and quantify the distance from the proposed works]		
2.6.2	**Are any heritage sites (including those listed below) within the works area?** • World, Commonwealth and National Heritage lists • State Heritage Register and Inventory • Local Environmental Plan heritage items.	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.6.3	**Were any heritage sites identified during the Aboriginal cultural heritage pre-clearance (inspection) checks and/or is there potential for heritage sites to be affected by the proposed works?**	☐ No	☐ Yes
	[If yes, describe impacts here -] *Details should include the status of heritage surveys, their findings and recommendations and how they have been incorporated into this checklist/ scope of works.* *Describe why there is or is not a potential for heritage sites to be affected, for example:* - *The works are in an area with no heritage constraint* - *The proposed work area/s have already been cleared and there is an accompanying statement or line of evidence from a suitably qualified archaeologist to confirm they have reviewed the scope of works in the checklist and the subject area is clear for construction impacts (or not) and they consider the impact to be low. (Evidence is to be included in the checklist)* - *Heritage investigations form part of the scope of works of the checklist (linking to EW18-EW30) and no works will occur in the areas subject to heritage survey until written clearance is obtained from the heritage consultant. This needs to be represented in the figures accompanying the checklist and included in the controls.*		
2.6.4	**Is the works area within low, moderate or high area of archaeological potential?**	☐ No	☐ Yes
	[Describe impacts and mitigation here (including salvage if required) – engage heritage specialist if required.] *This section must:* - *Include a statement from a suitably qualified archaeologist confirming that the scope of works in the checklist has been reviewed of low impact.* - *Specify what works are proposed in areas mapped above in areas of low archaeological sensitivity potential (and provide this evidence in the Appendix) IF survey and clearance has not been undertaken by a suitably qualified archaeologist to confirm low impact of works and this is clearly indicated on maps shown in appendix.* - *Provide a status of heritage investigations, sampling, salvage etc (see section 2.6.3)* *Note, if heritage investigations have not been completed, then a clear justification must be provided as to why (linking it to EW18 - EW30) (see section 2.6.3).*		

2.7	Noise and vibration and visual		
2.7.1	**Are there sensitive receivers (e.g. residence, school, hospital) within 100m of the works?**	☐ No	☐ Yes
	[If yes, describe impacts here]		

2.7	Noise and vibration and visual		
2.7.2	**Will any works be undertaken outside of standard working hours (as identified below)?** ***Monday to Friday: 7:00am – 6:00pm*** ***Saturdays: 8:00am – 1:00pm*** ***No work on Sundays or Public Holidays***	☐ No	☐ Yes
	[If yes, describe impacts here and follow OOHW protocol in Appendix F.] *Guidance note:* *Where the OOHW is predicted to be greater than low risk as defined in the OOHW protocol, the assessment and application is to be submitted with this checklist. This is required in order for the ER to determine whether the proposed enabling works constitute 'low risk'.*		

2.8	Traffic and access		
2.8.1	**Will any works be undertaken within the road reserve and/or require lane/ road closures and/or cause traffic disruptions?**	☐ No	☐ Yes
	[If yes, describe impacts here, and include any permit requirements here and in the mitigation measures]		
2.8.2	**Will any works affect access to properties and/or businesses?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.8.3	**Will any works affect parking spaces and/or cause parking issues?**	☐ No	☐ Yes
	[If yes, describe impacts here]		

2.9	Air quality		
2.9.1	**Is any dust and/or other emissions likely to be generated by the works?**	☐ No	☐ Yes
	[If yes, describe impacts here]		

2.10	Bushfire risk		
2.10.1	**Is hot work or fire risk work involved?** NOTE: Hot work includes grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations Fire risk work includes slashing, mulching, operation of steel tracked machines or steel attachments on heavy plant (e.g. grading, boring, excavation & the like), chainsaw operation, chipping, mowing, brush cutting and operation of motor vehicles in a hazardous area	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.10.2	**Are the work areas located within bushfire prone land?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.10.3	**Are chemicals, fuels or other hazardous substances required to be transported or stored for the proposed works?**	☐ No	☐ Yes
	[If yes, describe impacts here]		

2.11	Waste		
2.11.1	**Will any spoil or waste be removed from site or stored?**	☐ No	☐ Yes
	[If yes, describe impacts here]		
2.11.2	**Will any potentially hazardous/ contaminated spoil or waste be removed from site?**	☐ No	☐ Yes
	[If yes, describe impacts here]		

2.12	Conclusion		
2.12.1	**Given the assessment above, are any activities assessed as higher than 'low risk' after the application of mitigation measures?**	☐ No	☐ Yes
	[Discuss here. If yes, works cannot proceed under the EWMP. Refer to Section 6.2 of the EWMP for other approval options.])		

3. Authorisations and approvals

The actions described in this checklist, including all control measures, have been considered, taking into account:

a) All matters affecting or likely to affect the environment including the community

b) The requirement for actions to be assessed as 'low risk'

c) Transgrid's existing legal obligations which apply to the proposed action

d) The approval is for the scope of work detailed in this checklist. Any changes to the scope of work will require re-approval/re-endorsement of the checklist.

Preparation of checklist	
Prepared by:	
Position:	**Date:**
Signature:	

Review of checklist	
Reviewed by:	
Position: Environment Manager	**Date:**
Signature:	

Review of checklist (Transgrid)	
Reviewed by:	
Position:	**Date:**
Signature:	

Approval of checklist	
Approved by:	
Position: Environmental Representative	**Date:**
Signature:	

Minor impact checklist – Attachments

Attachment 1 – EIS / Amendment Report environmental constraints

Attachment 2 – Environmental constraints (additional datasets)

Attachment 3 – Mitigation measures

Attachment 4 – Specialist advice (biodiversity, heritage)

Appendix H – Example Environmental Work Method Statement (EWMS) – Clearing and Grubbing

Environmental Work Method Statement (EWMS) – EWMP Clearing and Grubbing (EWMS11)

Project details:			
Project name:	Humelink East – AGJV	**Project No.:**	C3055
Work activity:	Clearing, grubbing, and mulching involves the felling of trees, grubbing (digging out) roots and stumps, and mulching of organic matter from topsoil. In accordance with the Enabling Works Management Plan., this is proposed to be completed at access tracks, camps, laydowns and parking areas, that have areas of low-moderate biodiversity and heritage impact. Equipment involved in the activity will include, but not limited to, a harvester, excavator, bulldozer, tub grinder, stump grinder, skid-steer loader, and hand-held chainsaws. All equipment will be appropriately sized to efficiently handle the vegetation present. The purpose of clearing, grubbing, and mulching is to prepare topsoil for stripping during the Humelink East works. The typical sequence of the works is as follows: • The project ecologist is to confirm the location and extent of the biodiversity exclusion zones, as well as any special biodiversity protection zones, via pre-clearance surveys. • The project archaeologist is to confirm the location and extent of sensitive areas, via heritage surveys. • The project contamination land consultant is to confirm the extent of any areas of environmental concern (AEC), or other known contamination, via detailed site investigation (DSI) where required. • The extent of clearing required for sensitive areas and exclusion zones, are to be surveyed and marked out on site. • Development of detailed design to avoid impact on sensitive areas. • All locations will be reviewed against sensitive area plans and tool boxed to personnel prior to activities commencing in this area. • A Clearing and Land Disturbance Permit will be approved by the Environment Manager or delegate before clearing activity commences. • Undertake 2 stage clearing, grubbing and mulching and install erosion and sediment controls.		
Work location:	Within the clearing limits set out and agreed by the Project Ecologist.	**ITP reference** (if applicable)**:**	N/A
Risk register reference (if applicable)**:**	N/A risk assessment completed in this EWMS	**EWMS No.:**	EWMS11
		Revision No.:	A
Date EWMS prepared:	15/05/2024	**Date work to be commenced:**	October 2024

People involved in the development of the EWMS (add more lines if required):					
Name (printed):	**Signature:**	**Position:**	**Name (printed):**	**Signature:**	**Position:**
		Environmental Manager			

INFORMATION ONLY

Persons responsible for the approval of this EWMS:			
Position:	**Name (print):**	**Signature:**	**Date:**
AGJV Environmental Manager			
AGJV Project Manager (or delegate)			
Transgrid Environmental Manager (or delegate)			

Additional Information:	
Personnel qualification, competencies, and experience required (e.g. suitably qualified person, fauna spotter etc): • Ecologist • Arborist – Level 4/5 • Surveyor • Project Personnel All personnel must be suitably qualified and trained for phase one activities whilst on site. List of competencies of all workers is retained within AG JV systems.	**Legislation, Codes of Practice, Australian Standards; Applicable Hold Points; Relevant Approvals/Permits/Licences:** • Relevant provisions of the Environmental Protection and Biodiversity Conservation Act 1999, Environmental Planning and Assessment Act 1979 and Protection of the Environment Operations Act 1997. • Blue Book 2D Main Road Construction Transgrid are required to review and approve this EWMS. Works and access must be in accordance with the conditions of the approved EWMS. Everyone must abide by the conditions of the EWMS. Any changes to the works or access must be approved by the EM who will determine if the changes require approval by TransGrid.

INFORMATION ONLY

List of attachments (design drawings, diagrams, standard operating procedures (SOPs), sensitive area plans, ESC plans etc.)**:** • Clearing Permit • Site clearing plans, Sensitive Area Plans (SAPs) / Environmental Control Map (ECMs) (attached) • Vegetation Clearance Procedure – for Clearing, grubbing and Mulching • Unexpected Finds Procedure for Archaeological Finds, Contamination, and Threatened Species • Fencing protocol • Progressive Erosion and sediment control plan (if required)	**Hazardous substances: (name, SDS (attached)** (The use of substance must be considered in this EWMS) • Fuel and Oils (SDS) for machinery - Refer safety management system • Unexpected, contaminated material, e.g. burst drums, hydrocarbons, acid sulphate soil, and asbestos • Tannins/leachates from mulch

Other Relevant Consideration:

- ❖ Biosecurity risk across sites, including management weeds, disease, seeds, pests. TG Biosecurity protocols will be followed, including any additional landowner requirements outlined in the Property Management Plan (PMP).

INFORMATION ONLY

RISK RATING TABLES						
Risk Analysis Risk Classification = Consequence x Likelihood		CONSEQUENCE				
		1 Insignificant Negligible damage to the environment Community complaints with no corrective action Visit from Regulators with verbal comments of OFI	2 Minor Minor damage to the environment, Within site boundaries Minor adverse local public or media attention or complaints Improvement and Infringement Notice	3 Moderate Serious damage to the environment, Medium term effect, Protected species or habitat involved Serious impact on the community, services and property, State media attention Prohibition Notice, fines	4 Major Major damage to the environment, Long term effect, Damage to protected species or habitat Major impact on the community, services and property, National public or media negative attention Prosecution, major fines	5 Catastrophic Permanent environmental damage, Endangered species and habitat destroyed Severe impact on the community, services and property, International scale negative media attention Criminal prosecution, Serious litigation, Major fines
LIKLIHOOD	A Almost Certain The event is expected to occur in most circumstances Occurs more than once a month	High - 11	High - 16	Extreme – 20	Extreme – 23	Extreme - 25
	B Likely The event will probably occur in most circumstances Occurs once every month to 1 year	Moderate - 7	High - 12	High - 17	Extreme – 21	Extreme - 24
	C Possible The event should occur at some time Occurs once every 1 year to 5 years	Low - 4	Moderate - 8	High - 13	Extreme – 18	Extreme - 22
	D Unlikely The event could occur at some time Occurs once every 5 years to 10 years	Low - 2	Low - 5	Moderate - 9	High - 14	Extreme - 19
	E Rare The event may occur only in exceptional circumstances Occurs less than once every 10 years	Low - 1	Low – 3	Moderate - 6	High - 10	High - 15

RISK LEVEL ACTION TABLE	
EXTREME (Unacceptable)	Immediate action required – High level of supervision and monitoring of controls musts be added with senior management responsibility. I.e. Increase inspection monitoring and added to the daily inspection process. A job prestart must be undertaken with all relevant workers, including review of control methods and use of relevant permits to work as applicable.
HIGH (Undesirable)	Site management attention needed with safety, quality and environmental responsibilities communicated and delegated at management level. Take all reasonable steps to eliminate the risk or minimise it by introducing substitution, isolation or engineering controls as soon as possible.
MODERATE (Tolerable)	Site specific supervisory responsibilities must be specified for safety, quality and environmental responsibilities and communicated at site level. Take all reasonable steps to eliminate the risk or minimise it by introducing substitution, isolation or engineering controls as soon as possible. If these options are not immediately practical, implement administrative controls and/or PPE. Implementation of control measures should decrease the risk to as low as reasonably practicable.
LOW (Acceptable)	Manage by routine procedures such as safe work method statements and communication and consultation processes on a regular basis at individuals. Implementation of control measures should decrease the risk to as low as reasonably practicable.

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the 'Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
Pre-Commencement work aspects						
1	Obtain required approvals to commence activity and enter properties	Non-compliance with Management Plan MCoA, EIS, or property access procedure	Extreme - 21	• Works not to commence until approval is obtained for the following TG procedure: o consent to enter – TG property. o land access request – AGJV submission six weeks prior to site entry with methodology and EWMS. o Landowner access approval – 4 weeks, 1 week, and 24/48hrs	High -10	Environmental Manager / Engineer / Supervisor / All

INFORMATION ONLY

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				before entry - TG Land Access Officer (LAO). o TG land access approval following completion of the steps above. o project planning approvals. • All works to be carried out in accordance with this EWMS, Vegetation Clearance Procedure (VCP), landowner PMP, and TG Biosecurity Management Procedure.		
2	Undertake any required community and landowner consultation	Community / landowner unaware of proposed activities, potential complaints, and not enough notice	High - 17	• Ensure all community consultation has been undertaken and HumeLink East community relations manager is aware of the proposed works. • Ensure landowner is aware of proposed work within their property and appropriate notice has been allowed as per the above process.	Moderate - 9	Stakeholder / Community Manager
3	Provide training to personnel and sub-contractors involved	Non-compliance with work methods	Extreme - 21	• All relevant project personnel involved in vegetation clearance, including relevant sub-contractors will be trained on EWMP protocols and the requirements for the project, provided with ECMs (showing clearing boundaries and exclusion zones) and updates as required, and will be subject to	High - 14	Project Manager / Environment Manager / Ecologist / Engineer / Supervisor / All

INFORMATION

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				toolbox talks and daily prestart meetings. • Ensure all personnel undertaking works have signed onto the environmental management documents – ECM, EWMS, and pre-start toolboxes.		
4	Erosion and Sediment Control	Pollution of Waterways, discharge of sediment offsite	High - 16	• Develop progressive erosion and sedimentation control plans (PESCP) to ensure the potential for erosion and sedimentation impacts are minimised as far as practicable, including monitoring the success of erosion and sediment control measures. • Signed off by a suitably qualified person.	Moderate - 8	Environmental Manager/ Environmental Coordinator
5	Pre-clearing survey	Impact to habitat species and heritage sites	Extreme - 20	• Initial pre-clearing surveys will be completed across the easement by a suitably qualified ecologist, archaeologist, and contaminated land consultant, to confirm sensitive areas. Information will be used to further micro site tower locations to avoid sensitive areas and inform detailed design. • Pre-clearing surveys will identify all habitat trees, important habitat features (e.g. large woody debris, burrows, nests), inform relocation of	Moderate - 9	Environmental Manager / Ecologist

INFORMATION

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				species, heritage items, and contaminated sites within the impact area, including exclusion zones. • The Arborist will look for opportunities to retain and protect existing vegetation through a review of preliminary design and work methodologies.		
6	Survey and delineate sensitive areas (ecology, heritage) and clearing limits	Impact to sensitive areas (flora, fauna, heritage sites)	Extreme - 21	• Prior to clearing a suitably qualified ecologist will complete a final round of pre-clearing survey, subject to species and habitat identified during initial pre-clearing surveys. • All sensitive area locations to be nominated on Sensitive Area Plans / ECMs and the Sensitive Area Fencing Protocol. • Clearing boundaries and sensitive areas to be identified through survey and delineated. • If an overlap of sensitive areas is identified (eg ACM within clearance site), ensure a collaborative approach with Arborist, Archaeologist, Ecologist, Occupational Hygienist and Environmental Manager is adopted to get site clearance.	High- 14	Environmental Manager /Survey Manager / Environmental Coordinator

INFORMATION ONLY

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
Carrying out works						
7	Stage 1 clearing (non-habitat trees)	Impact on the Environment, heritage, flora and fauna	Extreme - 21	• A land disturbance permit will be completed and issued prior to clearance. No clearing without a clearing permit. • Works shall be carried out between 7:00am to 6:00pm Monday to Friday and 8:00am to 1.00pm on Saturday. No activities to be undertaken outside of these hours unless prior approval has been granted by the Environmental Manager. • Areas where no habitat features are present may be removed in one stage. All other demarcation and flagging are to occur as required by the Clearing and Land Disturbance Permit. • If habitat features are identified, ensure habitat has been marked and are clearly visible in the field. Do not fell habitat trees during this phase. • Where possible, opportunities to retain vegetation will occur through a review of preliminary design and work methodologies.	High - 10	Project Manager / Environment Manager / Ecologist / Engineer / Survey Supervisor / All

INFORMATION

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				• The vegetation will be cleared in accordance with preliminary design, tree risk assessment (TRA), and the VCP. • Separate priority weeds from non-weed material prior to shearing and mulching. • Implement the fauna handling and rescue procedure as detailed in the VCP. • Monitor weather conditions and do not commence works where heavy rainfall or unsuitable conditions are forecast. • If during work activities the project ecologist (or other project personnel) identify a threatened species or threatened ecological community that has not been assessed as a part of the project assessment, the Unexpected Threatened Species Finds Procedure will be followed. • No vegetation clearing without the approval of the Environment Manager, via a Clearing Permit • All fencing to be established prior to clearing in accordance with		

INFORMATION

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				Sensitive Area Fencing Protocol of the ECM.		
8	Stage 2 clearing (Habitat trees)	Injury or death of fauna, unauthorised impact to retained vegetation.	Extreme - 23	• A respite period of a minimum of 24 hours after the removal of non-habitat vegetation is required to allow resident fauna the opportunity to vacate the remaining habitat before final clearing commences. • The project ecologist will identify habitat vegetation and features with flagging (typically yellow/hot pink) and provide unique identifier numbers indicated by identification tags. • At their discretion the project ecologist will be onsite to supervise the final clearing works and will implement the fauna handling and rescue procedure. • Locations of fauna release (including GPS coordinates) will be recorded in a post-clearing report.	High - 14	Project Manager / Environment Manager / Ecologist / Engineer / Survey Supervisor / All
9	Special Biodiversity Protection Zone Management	Impact on threatened species and their habitat	Extreme - 23	• During clearing in a special biodiversity protection zone, the project ecologist will be on-site at all times to monitor activities within the zone. • Attach flagging tape at the top of the stake to notify clearing	High - 10	Project Manager / Environment Manager / Ecologist / Engineer / Survey Supervisor / All

INFORMATION ONLY

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				machinery where to avoid (where possible). • Site features with the highest biodiversity conservation significance, will be given the highest priority for impact avoidance. • Stop work immediately if work activities occur that result in unauthorised disturbance and/or impacts that are not permitted. • Works can only recommence once the Environmental Manager has confirmed that appropriate measures to limit the potential recurrence of the event, have been implemented.		
10	Control of priority weeds	Priority weeds not controlled in accordance with the biodiversity and biosecurity management plan	High - 13	• Treat any necessary priority weeds before beginning clearing operations to ensure that weed control and other measures specified in the pre-clearing assessment report are carried out. • Implement vehicle movement plans into and out of weed-infested regions as needed and use vehicle washdowns when necessary.	Moderate - 6	Engineers / Ecologists / Supervisor/ Surveyors/ All

INFORMATION

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
11	Creation of dust particles during clearing	Decreases air quality	High - 16	• Implement dust mitigation measures where possible. • Minimise mud tracking onto local roads and engage a street sweeper or equivalent where required.	Moderate - 8	Environmental manager/ Coordinator/ All
12	Conclude works in an area or end of workday	Soil left exposed with potential for runoff	Extreme - 21	• Ensure all erosion and sediment controls stay in place until works in an area are complete and the catchment is stabilised. • Backfilling is required for any holes left after trees and stumps are removed.	High - 10	Environmental manager/ Coordinator/ All
		Area left untidy	Low - 5	• Ensure no waste materials are left on site.	Low - 3	All
		Unaddressed Complaints	Moderate - 8	• All community complaints to be reported and members of the community directed to the community hotline.	Low - 4	Community & Stakeholder Engagement Manager/ All
13	Post-Clearing Reporting and Monitoring	Non-compliance	High - 13	• Reporting will be completed once all clearing is complete. It will include: • the Information on clearing operations, dates, procedures, and areas • The type of clearing • A breakdown of the spatial extent and type of clearing of threatened ecological communities and threatened flora.	Moderate - 6	Ecologist / Arborist

INFORMATION ONLY

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
				• Live animal sightings, captures, any releases or injured/shocked wildlife. • Fauna that may have died as a result of clearing. • Photographs of any rescued fauna. • The clearing of native vegetation will be monitored and recorded to inform any final biodiversity offset requirements within the biodiversity offset package.		

INFORMATION

ey Toolbox Items

General:

- All personnel are to be fully inducted in the site inductions prior to the commencement of any site activities.
- No additional activities are permitted outside the scope of this EWMS without approval from the EM.
- Ensure gates are left as they were found (either closed or open).
- Ensure vehicles are fitted with appropriate silencers and are maintained in an efficient condition.
- Spill kits to be readily available.
- Refuelling to be undertaken in designated refuelling areas.
- 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. The capacity of any bunded area will be 130% of the largest chemical volume contained within the bunded area
- All vehicles are to stay within the project corridor and are not to exceed 40 km/h.
- Access to site is to occur along the existing tracks or new tracks identified on the ECM (where approval has been provided by the environmental team). Vehicles are not to cross any waterways which haven't got an existing established crossing point.
- Delineation of sensitive areas in accordance with the Project's Flagging Protocol is to be the first activity to be undertaken on the Project.
- No ground penetration (including staking, installation of control or use of survey jigger) is allowed outside the Project boundary unless approved by the EM.
- No vegetation clearing without the approval of the Environment Manager via a Clearing Permit.
- Vegetation Clearing Procedure (VCP) must be followed while clearing the sites.

Biosecurity:

- Ensure all biosecurity mitigation measures are implemented
- Complete the Plant Clean Down Checklist before entering site.
- Precautions to minimise the spread of weeds are to be adhered to when working in high risk weed areas including:
  - Avoid driving through high risk weed areas where possible.
  - Brushing off excess soil and plant material from boots / clothing / equipment to minimise potential seed spread.
  - Spray / wash boots / equipment with water to remove any mud/soil. Ensure transfer of weed seed to vehicle is minimised by carrying out wash down process prior to entering vehicle.

Pollution: Soil, Water, Air:

- ERSED controls to be installed as per the PESCP as required
- Measures are to be implemented to minimise dust, soil or mud from being deposited from vehicles onto public roads. This will be achieved by implementing mitigation measures such as driving on stabilised areas of the site wherever possible, minimising vehicle movements within the site during and following inclement weather and manual cleaning prior to exiting site to remove accumulated material from vehicles where required.
- In the event of any spillage or tracking, the spilt material will be removed immediately following consideration of pubic and personnel safety risks and the implementation of any required public and personal safety protection measures in the removal of the material from the roadway.
- All waste must be removed from the site and disposed of appropriately including all food/drink containers and spray paint cans.
- Spills are to be contained immediately and used spill kit material/contaminated soil shall be stored in contained areas until disposal.

Noise and Vibration

INFORMATION ONLY

- Works shall be carried out between 7:00am to 6:00pm Monday to Friday and 8:00am to 1:00pm on Saturday. No activities to be undertaken outside of these hours unless prior approval has been granted by the Environmental Manager.
- Minimise radio noise, yelling, rowdy behaviour, etc at all times.
- All equipment that is not in use shall be switched off.
- Ensure equipment / vehicles are serviced.

Unexpected Finds:

- In the event of an unexpected find (such as dumped asbestos or other unexpected waste/contamination), the area will be delineated, and the Environmental Manager notified. The Unexpected Contaminated Lands Procedure will then be followed.
- If any unexpected heritage items or suspected human skeletal remains are encountered, works potentially affecting the find would cease immediately, the area is to be delineated and the AG JV Environmental Manager and TG Environmental Manager is to be notified. The unexpected Heritage Finds Procedure to be followed.
- If incidental or unanticipated threatened flora and fauna finds are identified, work shall cease in the vicinity of the find, the area is to be delineated and the AG JV Environmental Manager and TG Environmental Manager is to be notified. The unexpected flora and fauna procedure to be followed.

EWMS Change Sheet

INFORMATION ONLY

Environmental Work Method Statement (EWMS) – EWMP Clearing and Grubbing (EWMS11)

STEP	BASIC STEPS *List the logical steps required to undertake the activity. Include relevant materials and equipment as appropriate*	POTENTIAL HAZARDS *Identify the potential environmental hazards which may arise out of conducting this step. What may cause environmental harm to occur?*	RISK RANKING *Determine the likelihood, consequence and risk category*	HAZARD CONTROLS *Determine the appropriate hazard control(s) are required to address the potential risk identified. What can be done to prevent environmental harm from occurring? Hazard controls should be determined using the "Hierarchy of Controls' and must not raise or create an increased risk)*	RESIDUAL RISK RANKING *Determine the residual risk category following the implementation of nominated hazard control(s)*	RESPONSIBILITY *Who will ensure that the nominated hazard controls are implemented during the activity?*
1						
2						
3						
4						

Persons responsible to approve the change of this EWMS:			
Position:	**Name (print):**	**Signature:**	**Date:**
Environmental Representative			
Project Manager (or delegate)			

EWMS Sign On:

By signing onto this EWMS, I confirm that I:

1. Have been given the opportunity to have input/comment into this EWMS;
2. Have read and agree with the contents of the EWMS;
3. Agree to work to the control measures; and
4. I will stop work immediately, if I cannot work to this EWMS.

Name (Printed):	Signature:	Date:	Employer:

INFORMATION O

Appendices

Number	Description	Attached
1		☐ Yes ☐ No
2		☐ Yes ☐ No
3		☐ Yes ☐ No
4		☐ Yes ☐ No

INFORMATION ONLY

5		☐ Yes ☐ No
6		☐ Yes ☐ No
7		☐ Yes ☐ No
8		☐ Yes ☐ No
9		☐ Yes ☐ No

Important note: It is noted that the communication of the hazard controls indentified in this risk assessment are to be communicated to relevant personnel in accordance with project communication protocols (e.g. via toolbox, JHA's etc).

INFORMATION ONLY

Appendix I – Summary of proposed construction access roads

Road	Road surface type
National and State roads	
Hume Highway (M31)	Sealed
Snowy Mountains Highway (B72) including: Blowering Road Fitzroy Street Adelong Road Tumut Street Inglis Street.	Sealed
Batlow Road (HW85) including: Reedy Street.	Sealed
Crookwell – Goulburn Road including: Goulburn Street (Crookwell) Carrington Street (Crookwell) Fitzroy Street (Goulburn).	Sealed
Burley Griffin Way	Sealed
Sturt Highway (A20)	Sealed
Regional roads	
Britannia Street	Sealed
Bunnaby Street	Sealed
Burrinjuck Road	Sealed
Camp Street	Sealed
Comour Street	Sealed
Elliott Way	Sealed
Grabben Gullen Road	Sealed
Gundaroo Road	Sealed
Gunning Street	Sealed
Hammond Avenue	Sealed
Hume Street	Sealed
Lachlan Valley Way	Sealed
Laggan – Taralga Road	Sealed/ Unsealed
Laidlaw Street	Sealed
Orchard Street	Sealed
Rye Park Road	Sealed
Taradale Road	Sealed
Taralga Road	Sealed
Tumbarumba Road	Sealed
Wee Jasper Road (including Grand Junction Road)	Sealed
Wondalga Road	Sealed
Yass Street	Sealed
Yass Valley Way	Sealed

Road	Road surface type
Local roads	
Abbots Lane	Unsealed
Adavale Road	Unsealed
Adelong Creek Road	Unsealed
Adjungbilly Road	Sealed
Angels Lane	Unsealed
Ardrossan Headquarters Road	Unsealed
Ash Creek Road	Unsealed
Ashfords Road	Sealed
Audley Road	Sealed
Back Arm Road	Unsealed
Back Camp Road	Unsealed
Back Creek Road	Unsealed
Back Kunama Road	Unsealed
Back Nacki Creek Road	Unsealed
Bago Creek Road	Unsealed
Bago Forest Way	Unsealed
Bango Lane	Unsealed
Bannaby Road	Sealed
Bannister Lane	Unsealed
Barneys Highway	Unsealed
Bartoman Street	Sealed
Bb Feeder Road	Unsealed
Big Springs Road	Sealed
Black Range Road	Unsealed
Blakney Creek North Road	Sealed
Blakney Creek Road South	Sealed
Blakney Creek South Road	Sealed
Boiling Down Road	Unsealed
Booths Access Road	Unsealed
Booths Road	Unsealed
Bradleys Drive	Unsealed
Bridge Road	Unsealed
Brown Street	Unsealed
Browns Forest Road	Unsealed
Browns Road	Unsealed
Brungle Creek Road	Unsealed
Brungle Road	Sealed

Road	Road surface type
Brunskill Road	Sealed
Buddong Road	Unsealed
Buggali Road	Unsealed
Bulleys Crossing	Unsealed
Bullongra Road	Unsealed
Bundarbo Road	Unsealed
Bundarbo Road	Unsealed
Burkinshaws Lane	Unsealed
Bushs Road	Unsealed
Butcher Road	Unsealed
Byes Lane	Unsealed
Carnells Lane	Unsealed
Carrabungla Road	Unsealed
Carrs Road	Unsealed
Castle Hill Road	Unsealed
Centenary Avenue	Sealed
Central Logging Road	Unsealed
Chapel Street	Sealed
Childowla Road	Sealed
Church Street	Sealed
Clancys Road	Unsealed
Cockatoo Road	Unsealed
Colyer Street	Sealed
Comatawa Road	Unsealed
Commercial Road	Sealed
Cooks Hill Road	Sealed
Coolalie Road	Unsealed
Coreinbob Road	Unsealed
Coreinbob Siding Road	Unsealed
Cullerin Road	Sealed
Dawes Road	Unsealed
Days Road	Unsealed
Dunns Road	Unsealed
East Bago Powerline Road	Unsealed
Ellerslie Road	Unsealed
Enterprise Place	Sealed
Ernies Way	Unsealed
Fagan Drive	Sealed

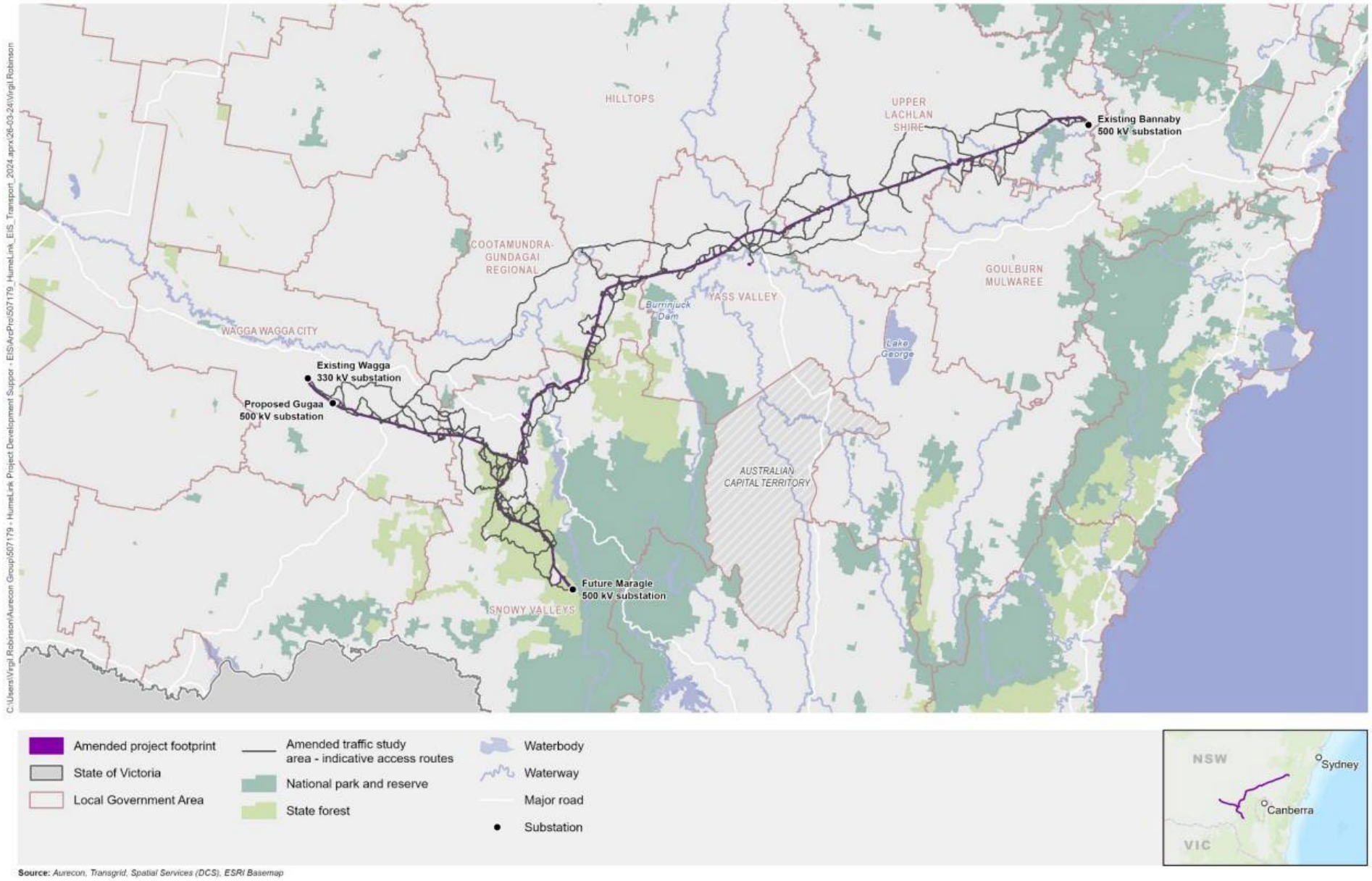
Road	Road surface type
Fairy Hole Road	Unsealed
Faulder Avenue	Unsealed
Felled Timber Road	Unsealed
Fernhill Road	Unsealed
Flacknell Creek Road	Unsealed
Forest Road	Sealed
Gadara Lane	Unsealed
Gadara Road	Unsealed
Gilmore Mill Road	Sealed
Glebe Street	Sealed
Grand Junction Road	Sealed
Green Hills Access Road	Sealed
Green Hills Forest Way	Unsealed
Greendale Road	Unsealed
Greenhills Road	Sealed
Gregadoo East Road	Sealed
Gregadoo-Ladysmith Road	Sealed
Gurrundah Road	Sealed
Hanworth Road	Sealed
Harley Road	Unsealed
Hillcrest Road	Unsealed
Honeysuckle Road	Unsealed
Hovell Street	Sealed
Hugel Trail	Unsealed
Humula Link Road	Sealed
Humula Road	Sealed
Hydes Old Road	Unsealed
Illalong Road	Sealed
Industrial Close	Sealed
Ivydale Road	Unsealed
Jerrawa Road	Sealed
Keajura Road	Sealed
Kialla Road	Sealed
Kileys Creek Road	Unsealed
Kileys Road	Unsealed
Kooringal Road	Sealed
Kopsens Roada	Unsealed
Kunama Road	Unsealed

Road	Road surface type
Kurrajong Avenue	Sealed
Kyeamba Street	Sealed
Lade Vale Road	Unsealed
Lake Albert Road	Sealed
Livingstone Gully Road	Unsealed
Loop Road	Unsealed
Lower Bago Road	Sealed
Lower Greendale Road	Unsealed
Macarthur Street	Sealed
Maryvale Road	Unsealed
Mates Gully Road	Sealed
Mcallisters Trail	Unsealed
Mcdonald Street	Sealed
Mcintosh Lane	Unsealed
Meadow Creek Road	Unsealed
Memorial Avenue	Sealed
Menzies Lane	Unsealed
Middle Arm Road	Sealed
Mill Road	Sealed
Millers Road	Unsealed
Mitchell Road	Sealed
Monterey Road	Unsealed
Mount Pedlar Road	Unsealed
Mount Pleasant Creek Trail	Unsealed
Mount Rae Road	Unsealed
Nacki Creek Road	Unsealed
Nanangroe Road	Unsealed
New Maragle Road	Unsealed
Northern Boundary Road	Unsealed
Nursery Access Road	Unsealed
Oberne Ellerslie Trail	Unsealed
Oberne-Umbango Road	Unsealed
Offleys Lane	Unsealed
Old Telegraph Track	Unsealed
Old Tumbarumba Road	Sealed
Old Western Boundary Road	Unsealed
One Tree Hill Trail	Unsealed
Orion Street	Sealed

Road	Road surface type
Palmer Street	Unsealed
Parsons Creek Road	Unsealed
Parsons Lane	Sealed
Paynes Road	Unsealed
Pejar Road	Unsealed
Perkins Road	Unsealed
Perry Street	Sealed
Pierces Boundary Road	Unsealed
Pipe Dump Road	Unsealed
Pollux Street	Sealed
Powerline Road	Unsealed
Powerline Trail	Unsealed
Prices Lane	Unsealed
Prices Road	Unsealed
Prickle Road	Unsealed
Range Road	Sealed
Red Hill Road	Unsealed
Red Strip Road	Unsealed
Reddall Street	Sealed
Rhyanna Road	Sealed
Right Arm Creek Road	Unsealed
Riverside Drive	Sealed
Robertson Lane	Sealed
Roches Road	Unsealed
Rocky Gully Road	Unsealed
Rosehill Road	Unsealed
Roslyn Road	Sealed
Rugby Road	Sealed
Sailors Road	Unsealed
Sapphire Road	Sealed
Sargood Trail	Unsealed
Sawmill Creek Road	Unsealed
Scotties Hut Road	Unsealed
Sharps Creek Road	Unsealed
Sharps Road	Unsealed
Shedleys Road	Unsealed
Sixty Five Feeder Road	Unsealed
Snubba Road	Unsealed

Road	Road surface type
Soldiers Settlement Road South	Unsealed
Spicers Lane	Unsealed
Spyglass Trail	Unsealed
Stantons Road	Unsealed
Stewarts Road	Sealed
Stink Pot Road	Unsealed
Stockmans Creek Road	Unsealed
Storriers Lane	Unsealed
Strathaird Lane	Sealed
Stud Horse Feeder Road	Unsealed
Talmo Road	Unsealed
Toonga Settlement Road	Unsealed
Trewalla Road	Unsealed
Tywong Street	Sealed
Veterans Road	Sealed
Vincent Road	Sealed
Walsh Street	Sealed
Walshs Road	Unsealed
Wargeila Road	Sealed
Warroo Road	Sealed
Webbs Road	Unsealed
West Branch Feeder	Unsealed
West Gilmore Road	Unsealed
Westbrook Road	Sealed
Westwood Road	Unsealed
Wilds Road	Unsealed
Willigobung Middle Spur Road	Unsealed
Wilsons Road	Unsealed
Wiltys Road	Unsealed
Wombeys Feeder Road	Unsealed
Woodhouselee Road	Sealed
Yarrawonga Road	Unsealed
Yaven Creek Road	Sealed
Yellowin Access Road	Sealed

Traffic routes overview:



Appendix J – State road network – access point design and traffic management/mitigation measures

Site ID	Road/intersection	Design	Traffic mitigation measures	Timing of implementation of road upgrades and temporary traffic management	Cessation of use of the access or intersection for the project
7	Kopsens Road/Batlow Road	No upgrades required at this point. Maximum design vehicle 19m. Swept paths for design vehicle to fit within the existing pavement to be confirmed with TfNSW prior to use.	Temporary traffic management required for duration of use, only permitted during construction hours.	Commencement of intersection use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
86	Rural property access/Batlow Road	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870 1300 207 783
E. development.west@transport.nsw.gov.au transport.nsw.gov.au

153	Keajura Road/Hume Highway	Maximum design vehicle 12.5m. Swept paths for design vehicle to fit within the existing pavement to be confirmed with TfNSW prior to use.	Temporary traffic management not permitted. Left in and left out. One vehicle permitted at the intersection at any time. U-turn facility via adjacent southern rest area (Coordinates: -35.33860042509476, 147.64723909412152)	Commencement of intersection use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
194	Rural property access/Snowy Mountains Highway	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Staging of timing of construction between 454 and 456 as they are in close proximity. Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870 1300 207 783
E. development.west@transport.nsw.gov.au transport.nsw.gov.au

272	Derringullen Creek Rest Area/Hume Highway	Installation of access gates. Maximum design vehicle length 19m.	Temporary traffic management not permitted.Heavy vehicle movement (one in and one out unless otherwise agreed with TfNSW prior to increased movements) during night works at this location	Commencement of use of Rest Area by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location. Construction access gate to be removed post completion of construction.
275	Rural property access/Lachlan Valley Way	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time. Temporary traffic management only permitted in southbound direction, left in left out, u-turn facility via Bowning or Yass.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870 1300 207 783
E. development.west@transport.nsw.gov.au transport.nsw.gov.au

318	Tarcutta Rest Area/Hume Highway	Installation of access gate. Maximum design vehicle is 19m. Post-construction the rest area is required to be re-sealed. No requirement for full re-build of the rest area.	Left in and left out. Option for closing of the rest area during this period or extend rest area as agreed with TfNSW prior to use. U-turn facility via Mates Gully Road on ramp and off ramp. (Coordinates: -35.28160254041295, 147.72675180783727)	Commencement of use of Rest Area by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location. Construction access gate to be removed post completion of construction. Post-construction remedial works to be agreed between TfNSW and TG.

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870
E. development.west@transport.nsw.gov.au
1300 207 783
transport.nsw.gov.au

334	Nursery Access Road/Batlow Road	The throat of the intersection of Nursery Road is to be sealed per Austroads Guide to Road Design Part 4 Figure 7.4.prior to use. Maximum design vehicle 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of intersection upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
340	Rural property accesses/Batlow Road	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m	Temporary traffic management required for duration of use, only permitted during construction hours. Signage to identify that entry only at the northern access and exit via southern access.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
341	Rural property access/Batlow Road	No upgrades required. Left in / Right out. Maximum design vehicle is 19m	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of intersection use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870 1300 207 783
E. development.west@transport.nsw.gov.au transport.nsw.gov.au

365	Rocky Gully Road/Gocup Road	No road upgrades required. Maximum length of design vehicle 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of intersection use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
366	Stockpile site/Gocup Road	Installation of access gates. Maximum design vehicle 19m.	Temporary traffic management required for duration of use, only permitted during construction hours.	Commencement of intersection use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
376	Rural property access/ Goulburn Road (Crookwell Road)	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
377	Rural property access/Crookwell Road	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870 1300 207 783
E. development.west@transport.nsw.gov.au transport.nsw.gov.au

					location.
194B	Rural property access/Snowy Mountains Highway	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Staging of timing of construction between 454 and 456 as they are in close proximity.Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location.
199B	Rural property access/Batlow Road	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle length 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location. Rural property access to be removed post

					completion.
202B	Rural property access/Batlow Road	Sealing and upgrading the rural property access per Austroads Guide to Road Design Part 4 Figure 7.4. Maximum design vehicle 19m.	Temporary traffic management required for duration of use, only permitted during construction hours. One vehicle permitted at the intersection at any time.	Commencement of Rural Property Access upgrade with commencement of use by proponent for enabling works and construction	Use of the access to cease upon completion of the construction at this location. Rural property access to be removed post completion.

Lvl 1, 51-55 Currajong Street, Parkes NSW 2870
E. development.west@transport.nsw.gov.au
1300 207 783
transport.nsw.gov.au

Appendix K – Enabling Works Heritage Methodology

Enabling Works Methodologies

Navin Officer Heritage Consultants *December 2024*

1 Identification of PADs

A potential archaeological deposit, or PAD, is defined as any location where the potential for subsurface archaeological material is considered to be of moderate or high archaeological sensitivity, as predicted by the landform archaeological sensitivity model relative to the surrounding study area landscape. The potential for subsurface material to be present is assessed using criteria developed from the results of previous surveys and excavations undertaken as part of the ACHA. These criteria include:

- Areas of low disturbance. This has excluded sealed and gravelled tracks and roads, railway lines, dams, waterways, and farm dams.
- Landscapes that have accumulated soil deposits (i.e. not on bedrock outcrops)
- Where it is likely that Aboriginal people may have camped close to water and food resources, i.e. within 400 metres of perennial water sources and on level to gentler slopes.

For further detail on the archaeological sensitivity model see Section 4.2.4 to 4.2.7 within the ACHA.

Areas of moderate and high archaeological sensitivity that will be the subject of direct project impact will be assessed for the presence of PAD using the criteria listed above. The boundaries of PADs will be defined by the extent of particular micro-landforms known to have high correlations with archaeological material such as: predominantly low to moderately inclined low spurs above creeks/valley flats/flood plains.

A PAD may or may not be associated with surface artefacts. Where one or more surface artefacts occur on a sedimentary deposit, a PAD may also be identified where there is insufficient evidence to assess the nature and content of the underlying deposit. This situation is due mostly to poor ground surface visibility.

2 New access tracks and root ball removal

The location of new access tracks and root ball removals will be inspected in areas of high and moderate sensitivity to assess for the location of PAD and surface artefacts. If PAD or sites are identified, then tracks may be reviewed and realigned to avoid if possible. If surface artefacts are found and they cannot be avoided, then the surface collection methodology will be used, refer to Section 4. If a larger than expected concentration of artefacts are found (greater than 10 artefacts per m^2) during field survey and/or monitoring following grading and where there is a noted soil deposit, i.e. more than 10 cm, then the test excavation method may be triggered, (refer to Section 3.2) subject to an assessment of prior disturbance and or the potential for in-situ archaeological material at that location. If PAD cannot be avoided, then the 'Creek crossings and PADs' test excavation method will be used, refer to Section 3.2.

3 Proposed Methodology for Subsurface Test Excavation

3.1 Study Aims

An archaeological subsurface testing program will be undertaken in consultation with the RAPs. The aim is to ascertain the nature and extent of archaeological deposits within PADs that are to be directly impacted by the location of new access tracks, new creek crossings, accommodation facilities and construction compounds. The methodology has been designed to test the density, horizontal and vertical, of substantial archaeological deposits. The methodology will not conclusively prove or disprove that Aboriginal objects are present or absent from the wider area of large landscape-based PADs. We recognise in some cases for these large landform PADs that the testing may not reduce the size of the PAD outside the area of testing. The locations of such test pits will be determined in the field based on an infield appreciation of the possible extent of the PAD.

3.2 Test Excavation Methodology

Accommodation Facilities and construction compounds:

Within PADs impacted by Accommodation Facilities and construction compounds, a line (transect) of pits will be placed within the area of impacts. The exact location of any test transect will depend on the PAD location and the impact location. A cross transect may be placed to ensure the length and width of the impact area is tested. Pits will be placed a maximum of 10 metres apart. Pits will be excavated until bedrock or archaeologically sterile layers are encountered.

Following an on-site review, the test pit locations may be varied slightly in order to avoid hazards and obstructions including the following:

- large stone cobbles or tors;
- outcropping bedrock;
- highly disturbed or eroded ground including rabbit burrows, ants nests, buried infrastructure such as pipes or cables; and/or
- substantial vegetation.

If substantial or significant deposits are identified during the test excavation program this will indicate the need for accommodation facilities or construction compounds to be relocated or redesigned, or for a future mitigation program which might include salvage.

Excavation procedures and protocols may be modified at the discretion of the archaeologist in consultation with the RAPs and client as the conditions in the field and nature of the excavations develop in order to properly characterise the nature of the archaeological deposit. This may include a provision for additional transects and/or transect extensions according to an archaeological appreciation of the results from the initial pits.

PADs on new access tracks and creek crossings:

Within PADs impacted by new access tracks and creek crossings, a line (transect) of pits will be placed along the proposed crossing/track alignment, in the PAD or on either side of the creek. Pits will be placed a maximum of 10 metres apart.

Following an on-site review, the test pit locations may be varied slightly in order to avoid hazards and obstructions including the following:

- large stone cobbles or tors;
- outcropping bedrock;
- highly disturbed or eroded ground including rabbit burrows, ants nests, buried infrastructure such as pipes or cables; and/or
- substantial vegetation.

If substantial or significant deposits are identified during the test excavation program this will indicate the need for the relocation of a track or for a future mitigation program which might include salvage.

3.3 Hand Excavation

The test excavation program would be carried out in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (Part 6 National Parks and Wildlife Act 1974) (DECCW 2010) Requirement 16a. All pits would be excavated by hand using 50 x 50 centimetre (cm) units. An indicative testing methodology would consist of the following:

1. Mark out and record pit location(s).

The size of an individual test pit will be 50 x 50 cm.

2. Excavate pit.

Pits will be excavated by shovel and trowel using standard by-hand archaeological methodologies including vertical and horizontal recording of spit levels and sedimentary, cultural and stratigraphic features.

The first excavation unit at each site will be excavated and documented in 5 cm spits. Depending upon the results of the first excavation unit, subsequent spit intervals will be at 10 cm, except in circumstances where the excavation of cultural features or stratigraphic units necessitates a smaller interval.

Excavation will cease when the natural B horizon or the base of Aboriginal object bearing units is reached, or until deposits are sterile. The first pit that is being excavated in 5 cm spits will extend 1 spit to below the sterile layer.

3. Archaeological investigation will not go beyond 150 cm in depth or beyond a depth considered unsafe based on field conditions.

4. For each pit photographic and scale-drawn records of the stratigraphy/soil profile will be completed.

5. Where cultural features are identified, such as heat treatment pits or hearths, knapping floors are identified then three-dimensional co-ordinates may be taken and detailed plans will be drawn and samples of dateable material will be collected.

6. Other samples may be obtained for the potential analysis of paleoenvironmental indicators such as pollen, phytoliths and microfauna.

7. All excavated material will be sieved through at least a 5 millimetre (mm) mesh, with use of a top larger mesh (10 x 10 mm) where appropriate. All identified or suspected cultural material recovered from sieving will be retained, bagged and labelled.

Bioarchaeological material that may be encountered during testing and salvage includes faunal remains, shell, macrobotanicals, and charcoal. Collection of this material provides information on subsistence, past environments, and are a source for dating materials. Recovery of these materials can occur in three situations: 1) associated with hearths, 2) from middens, 3) low density or isolated materials collected from sieves. Collecting material from these contexts during sub-surface investigations varies:

- Hearth materials. Materials would be collected and recorded in situ where possible. This includes charred organics, bone, and shell. A series of charcoal samples would be collected from appropriate stratigraphic contexts for possible further analysis. Bone and shell found during sieving would be bagged separately to lithics, and if wet, allowed to dry prior to storage to prevent bacterial and fungal growth.

- Midden materials. A bulk sample of Midden materials would be collected (i.e. all sediment and organics), and not sieved during excavation. Sieving and analysis would take place under controllable conditions in a laboratory. This provides a valuable analysis of midden materials as biological materials, and small bone and shell tools (e.g. bone points), are frequently not identified during onsite excavations. Remainder of the Midden samples would be sieved in the field and bagged separately to the lithic assemblage.

- Isolated materials. Isolated shell and bone from archaeological deposits would be recorded and recovered in situ where possible, however biological materials are likely to be found during sieving. Only faunal bone and shell would be recovered from sieves and bagged separately to lithics. If wet, all organic materials are to be allowed to dry prior to storage to prevent bacterial and fungal growth.

3.4 Salvage Excavations

Further salvage excavations would be carried out in accordance with the Conditions of Approval (B31, B32 and B33) and would be dependent on the test results, which will be assessed on a site-by-site basis. This is to be determined by the project archaeologist, and in consideration of existing project UMMs for sites of comparable significance/degree of proposed impact.

Where salvage is to be undertaken, the initial 50 x 50 cm test pit will be expanded to 1 x 1 m with additional 1 x 1m squares excavated around the deposit in a contiguous open area until a representative sample has been recovered. Salvage excavation will be limited to the area of impact (disturbance footprint). Individual excavation squares would be hand excavated in stratigraphic units (Unit A, Unit B, etc.). Squares would be excavated until the basal layer or culturally sterile deposit is reached. Where results indicate no archaeological stratigraphy within units, i.e. the A1 and A2 soil layers are culturally one layer (suffering from cyclical soil transfer resulting in a mixed cultural profile within the soil), these can be salvaged as one unit where possible.

Sieving and recording will be conducted in the same manner as Section 3.3 above.

4 Surface Collection Methodologies

Surface collection methodology

The following methodology will be implemented for salvage collection of the identified surface artefacts.

- Re-visit the location of the previously recorded surface artefact occurrence.
- Salvage personnel will collect the artefact.
- A sketch map will be drafted for the collected site, showing:
    - Local features, including vehicle tracks and north direction;
    - A graphic approximation of artefact densities;
    - The spatial extent of the surface distribution; and
    - The location of any separate collection areas.
- GPS positions will be logged for the collection area.
- One or more digital photographs will be taken and logged, showing the general context of the artefact.
- The collected artefact will be appropriately bagged and labelled.
- The collected artefact will be temporarily held by the consultants and described by a lithic specialist:
    - Basic technological traits will be recorded; and
    - The artefact will be photographed using a digital camera.

Surface collection methodology for access tracks in areas of moderate and high sensitivity

Following test excavations (if required), any stripping and grading works and prior to placement of any fill or road base material for establishment of access track, a site walkover will be completed along tracks in areas of high and moderate archaeological sensitivity. Any surface artefacts will be recorded and moved off of the track or collected, depending on the wishes of the RAPs.

If artefacts are moved the artefact locations will be recorded as sites and then entered on the Aboriginal Heritage Information Management System (AHIMS) database. The recording will include a record of their original location. Artefacts may be grouped into sites and the location provided to AHIMS accordingly.

5 Materials Analysis

5.1 Lithic (stone) Material

All lithic items would be examined in detail by a lithic specialist, using a low-power binocular microscope and incident illumination and/or hand lens. Descriptive recording of collected material would be to a level concomitant with the stated testing and salvage aims of the investigation, and the number of artefacts/type of material recovered.

Management strategies

Attributes for each artefact in the assemblage would be entered into a relational database and digital photographs may be taken of select artefacts, where appropriate. Information for each specimen recorded in the analysis would be provided in an appendix in the final report. The analysis would specifically address the following:

- Source information. What raw material resources were used; where did they come from; and what does this tell us about Aboriginal use of the region in the past?
- Stone reduction technology. How was the stone worked and used? Does this change over time? Can the function of the site be inferred from the artefact assemblage? What does this tell us about Aboriginal occupation, use, settlement and activities undertaken through time in this region?
- Post-depositional influences. What post-depositional influences have impacted the assemblage, and what does this tell us about the integrity and significance of the site?
- Site chronology. When was the site occupied? Was the assemblage the product of repeated occupations or a single event? Is there spatial patterning in the assemblage, and what does this tell us about repeated use, activities and/or occupation of the region through time?

If suitable material is identified during the excavation conjoin analysis (re-fitting) on a sample of artefacts may be undertaken.

The primary aim of the analysis of the lithic items retrieved from the test locations would be to assist in the assessment of the significance of the sites/deposits and to identify appropriate management strategies.

The analysis will be consistent with standards and guidelines defined by Heritage NSW.

5.2 Midden (shell) and animal bone

Bioarchaeological materials such as midden (shell) and animal bone will be examined by a trained Bioarchaeologist, (or other suitably qualified faunal specialist, depending on availability), using a stereoscope and/or hand lens. Descriptive recording of collected material would be to a level concomitant with the stated testing and salvage aims of the investigation, and the amount of material recovered. Analysis of bioarcheological material varies based on the mode of collection:

- Bulk collected materials; and/or

- Isolated finds and materials from sieves.

Material collected in bulk (e.g., from middens or hearths) would be processed in the NOHC or KNC lab. Organic materials, including faunal bone, shell, macrobotanicals, and charcoals, will be separated and available for further analysis. All material will be entered into a relational database and photographs may be taken of selected materials, where appropriate.

Shell and faunal materials will be further analysed to understand aspects of past life ways. Shells and faunal assemblages will be analysed using quantitative methods. Information for each specimen recorded in the analysis would be provided in an appendix in the final report. The analysis would specifically address the following:

- Assemblage composition: What species are recovered; are these endemic, native or introduced; and what do they tell us about past subsistence patterns or past environments?
- Anthropic modifications: is there evidence of butchery or other modifications (e.g. tools); and how does this contribute to regional models of tool production?
- Post-depositional influences. What agents have impacted the assemblage; what does this tell us about natural or anthropic assemblage origins; and how does this influence site formation models and significance assessments?

The analysis will be consistent with standards and guidelines defined by Heritage NSW.

5.3 Hearth material

If hearths are identified during excavation, these will be recorded using digital photography and/or drawn in plan and section. Charcoal, if present, will be sampled to allow radiometric dating and other appropriate analysis to be undertaken. Samples may be taken of hearth heat retainers be they stone or clay.

6 Care and Management of Recovered Artefacts

Disposition and storage of collected stone artefact assemblages during this test excavation will be dealt with in accordance with the Code of Practice (Part 6 National Parks and Wildlife Act 1974) under Requirement 26.

After examination and measurement, all recovered artefacts will be stored individually in standard resealable plastic bags or bagged in appropriate and identifiable units. The bags will be labelled using a permanent black pen with the item's unique identification number (where generated and appropriate), and/or details of its provenance within the excavation (as appropriate). The material will be stored at the NOHC or KNC lab premises.

Following completion of the analysis of the recovered artefacts; the long-term management of the artefacts will be discussed with the RAPs as outlined in Requirement 26 of the Code of Practice. One option for the long-term management is that Aboriginal objects be repositioned back into the landscape (‘returned to country’). All locations of repositioned artefacts would be recorded on appropriate AHIMS recording forms and lodged with the AHIMS.

7 Report preparation

Information gained in the course of the survey and information provided by the Aboriginal community will be documented in a report (except where information has been identified as culturally sensitive and therefore restricted). The report will be provided within 12 months from the completion of fieldwork, pending time required for analysis (dependant on size of artefact assemblage recovered). The report will detail the archaeological test excavation methodology, results and assessment of significance of identified sites.

Appendix L - Proposed waste facilities

Facility name	Location	LGA	Accepted waste	Approximate distance from the project footprint
Gregadoo Waste Management Centre	132 Ashfords Road, Gregadoo	Wagga Wagga City	Cardboard, paper, bottles, cans, motor oil, paint, gas bottles, fluoro globes and tubes, clean and separated rubble, scrap steel or recyclable materials, general putrescible waste, green waste, unsorted construction and demolition waste, medical and industrial asbestos waste, scrap metal	Less than 1km
Kurrajong Recycling	54 Chaston Street	Wagga Wagga City	Rigid plastic containers, steel cans, aluminium cans trays and foil, paper, cardboard, glass bottles and jars	10km
Wagga Scrap Metals	163-165 Fernleigh Road	Wagga Wagga City	Recycle all kinds of ferrous and non-ferrous scrap metals	10km
Gundagai Waste and Recovery Centre	Burra Rd, Gundagai	Cootamundra-Gundagai Regional	Paints and solvents, gas bottles, fire extinguishers, motor and grease oil, batteries (lead, acid and single use), smoke detectors, fluoro globes and tubes	24km
Cootamundra Waste Depot	35 Turners Lane, Cootamundra	Cootamundra-Gundagai Regional	Putrescible waste	46km
Cootamundra Soil Recycling Facility	17 Turners Lane, Cootamundra	Cootamundra-Gundagai Regional	All soil classifications including hazardous soil	46km
Adelong Resource Recovery Centre	183 Grahamstown Road, Adelong	Snowy Valleys	Agvet chemical drums (DrumMuster), batteries, green waste, mixed recycled, motor oil, scrap metals bulk loads	9km
Batlow Resource Recovery Centre	Forest Road, Batlow	Snowy Valleys	Agvet chemical drums (DrumMuster), batteries, green waste, mixed recycled, motor oil, scrap metals bulk loads	Less than 1km
Khancoban Resource Recovery Centre	Off the Alpine Way, Khancoban	Snowy Valleys	Agvet chemical drums (DrumMuster), batteries, green waste, mixed recycled, motor oil, scrap metals bulk loads	50km
Talbingo Resource Recovery Centre	Off Groves Street, Talbingo	Snowy Valleys	Agvet chemical drums (DrumMuster), batteries, green waste, mixed recycled, motor oil, scrap metals bulk loads	10km
Tumbarumba Resource Recovery Centre	Saleyards Road, off Mason's Hill Road, Tumbarumba	Snowy Valleys	Agvet chemical drums (DrumMuster), batteries, green waste, mixed recycled, motor oil, scrap metals bulk loads,	2km

Facility name	Location	LGA	Accepted waste	Approximate distance from the project footprint
			fluorescent tubes and bulbs, gas bottles	
Bellette Landfill	10 Killarney Road, Gilmore	Snowy Valleys	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	Less than 1km
Tumut Resource Recovery Centre	Killarney Drive, Gilmore	Snowy Valleys	Agvet chemical drums (DrumMuster), batteries, mixed recycled, motor oil, scrap metals bulk loads, fluorescent tubes and bulbs, gas bottles	Less than 1km
Murrumbateman Transfer Station	246 Isabel Drive, Murrumbateman	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	16km
Binalong Transfer Station	Cemetery Road (off Sykes Road), Binalong	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	22km
Bookham Transfer Station	Illalong Road (800 m from Hume Highway), Binalong	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	9km
Bowning Transfer Station	Silver Street (off Montem Street), Bowning	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture,	5km

Facility name	Location	LGA	Accepted waste	Approximate distance from the project footprint
			particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	
Gundaroo Transfer Station	100 Dairy Creek Road, Gundaroo	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	37km
Sutton Recycling	West Street, Sutton	Yass Valley	Green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch	45km
Wee Jasper Transfer Station	Wee Jasper Road, Wee Jasper	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	23km
Yass Transfer Station	Faulder Ave, Yass	Yass Valley	Mixed waste, green organic/natural timber waste, scrap metal, sorted building timber waste, timber furniture, particle board, tree branches and stumps, concrete, bricks, tiles, concrete including steel reinforcement, mulch, earth moving tyres, paper, cardboard, glass	Less than 1 km
Crookwell Landfill	3848 Grabben Gullen Road, Crookwell	Upper Lachlan Shire	Bulk demolition waste, bricks and concrete, timber, asbestos, cardboard, paper, plastic, glass, all scrap metal, batteries	11km
Gunning Waste Transfer Station	Dalton Road, Gunning	Upper Lachlan Shire	Glass, batteries, scrap metals, plastic, paper and cardboard	3km

Facility name	Location	LGA	Accepted waste	Approximate distance from the project footprint
Collector Waste Transfer Station	Currawang Road, Collector	Upper Lachlan Shire	Glass (clear, green and brown), batteries, plastic, paper and cardboard, scrap metals	34km
Taralga Waste Transfer Station	Old Showground Road, Taralga	Upper Lachlan Shire	Glass (clear, green and brown), batteries, plastic, paper and cardboard, scrap metals	7km
Bigga Waste Transfer Station	Mulgowrie Street, Bigga	Upper Lachlan Shire	Glass (clear, green and brown), plastic, paper and cardboard, scrap metals	65km
Tuena Waste Transfer Station	Tuena Cemetery Road, Tuena	Upper Lachlan Shire	Glass (clear, green and brown), plastic, paper and cardboard	65km
Ecofill Regional Landfill (Bald Hill Quarry)	5423 Hume Highway, Berremangra	Hilltops	Asbestos, putrescible solid waste from Yass, Hilltops, Cootamundra Gundagai and Snowy Valley Councils	12km
Victoria Street Transfer Station and Material Recovery Facility	Victoria Street, Young	Hilltops	Mixed solid waste, whitegoods, tyres and green waste, as well as facilities for recycling (including scrap metal, paper, plastics, glass, aluminium, e-waste, waste oils and agvet chemical drums to DrumMuster). The Victoria Street Facility accepts asbestos by appointment only with 48 hours' notice	71km
Redhill Road Landfill Facility	31 Redhill Road, Young	Hilltops	Inert and non-organic materials only, including concrete and rubble, building materials, furniture, plastics and fabrics (mattresses, lounges etc) No green waste, food items, hazardous wastes will be accepted at this site	71km
Boorowa Waste Treatment Facility	Tip Road, Boorowa	Hilltops	Mixed solid waste, whitegoods, tyres and green waste, as well as recycling facilities (including scrap metal, paper, plastics, glass, aluminium, e-waste, waste oils, and agvet chemical drums to DrumMuster)	40km
Murrumburrah Waste Transfer Station	Araluen Road, Murrumburrah	Hilltops	Mixed solid waste, whitegoods, tyres and green waste, as well as recycling facilities (including scrap metal, paper, plastics, glass, aluminium, e-waste, waste oils, and agvet chemical drums to DrumMuster)	42km

Facility name	Location	LGA	Accepted waste	Approximate distance from the project footprint
Goulburn Waste Management Centre	100 Sinclair Street, Goulburn	Goulburn Mulwaree	Mixed waste, clean metal, recyclable metal, asbestos, food and garden organics, truck tyres, clean fill	24km
Goulburn Resource Recovery Centre	54 Sinclair Street, Goulburn	Goulburn Mulwaree	Aluminium, cardboard, chemical drums, containers and packaging, paper, soft plastics, glass containers, iron and steel	23km
Marulan Waste Management Centre	Wilson Drive, Marulan	Goulburn Mulwaree	Sorted mixed waste, clean metal, food organics and garden organics, truck tyres, clean fill, mixed waste	28km
Tarago Waste Management Centre	Lumley Road, Tarago	Goulburn Mulwaree	Sorted mixed waste, clean metal, food and garden organics	57km

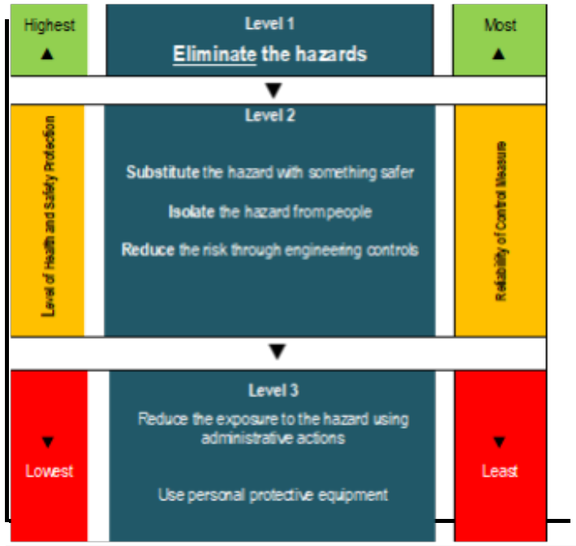
Appendix M – Environmental datasets

Topic	Dataset
Soils	
Acid sulfate soils	https://datasets.seed.nsw.gov.au/dataset/acid-sulfate-soils-risk0196c
Naturally occurring asbestos	https://datasets.seed.nsw.gov.au/dataset/naturally-occurring-asbestos
Contamination	https://www.epa.nsw.gov.au/your-environment/contaminated-land/notified-and-regulated-contaminated-land/list-of-notified-sites
Ecology	
Commonwealth listed communities and species	https://pmst.awe.gov.au/
NSW listed communities and species	https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet/web-services https://datasets.seed.nsw.gov.au/dataset/map-of-critically-endangered-ecological-communities-nsw-version-3e89bb
Areas of outstanding biodiversity value	https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/areas-of-outstanding-biodiversity-value/area-of-outstanding-biodiversity-value-register
Declared wilderness	https://datasets.seed.nsw.gov.au/dataset/nsw-declared-wildernessea39b
Resilience and Hazards SEPP	https://datasets.seed.nsw.gov.au/dataset/state-environmental-planning-policy-resilience-and-hazards-2021
Wetlands (including RAMSAR)	https://datasets.seed.nsw.gov.au/dataset/nsw-wetlands047c7 http://www.environment.gov.au/water/wetlands/ramsar http://www.environment.gov.au/water/wetlands/australian-wetlands-database/directory-important-wetlands
Heritage	
Aboriginal Heritage Information Management System (AHIMS)	http://www.environment.nsw.gov.au/licences/AboriginalHeritageInformationManagementSystem.htm https://www.environment.nsw.gov.au/heritageapp/heritagesearch.aspx https://www.environment.nsw.gov.au/awssapp/login.aspx
World, Commonwealth and National Heritage lists	https://datasets.seed.nsw.gov.au/dataset/australia-world-heritage-areas http://www.environment.gov.au/heritage/places/national-heritage-list http://www.environment.gov.au/heritage/places/commonwealth-heritage-list https://pmst.awe.gov.au/
State Heritage Register and Inventory	https://datasets.seed.nsw.gov.au/dataset/state-heritage-register-curtilages1c5ee
Local Environmental Plan heritage items	https://www.planningportal.nsw.gov.au/opendata/dataset/environmental-planning-instrument-heritage-her
Previous studies	
EIS, Submissions Report and Amendment Report and conditions of approval (pending)	https://www.planningportal.nsw.gov.au/major-projects/projects/humelink

Appendix N – Risk Assessments for Enabling Works Activities

RISK AND OPPORTUNITY RATING TABLES

Hierarchy of Controls



RISK

RISK RATING TABLE			CONSEQUENCE				
			Insignificant	Minor	Moderate	Major	Catastrophic
			1	2	3	4	5
LIKELIHOOD	Almost Certain	A	H-11	H-16	E-20	E-23	E-25
	Likely	B	M-7	H-12	H-17	E-21	E-24
	Possible	C	L-4	M-8	H-13	E-18	E-22
	Unlikely	D	L-2	L-5	M-9	H-14	E-19
	Rare	E	L-1	L-3	M-6	H-10	H-15

OPPORTUNITY

OPPORTUNITY RATING TABLE			CONSEQUENCE				
			Very Small	Small	Medium	Large	Very Large
			1	2	3	4	5
LIKELIHOOD	Almost Certain	A	H-11	H-16	E-20	E-23	E-25
	Likely	B	M-7	H-12	H-17	E-21	E-24
	Possible	C	L-4	M-8	H-13	E-18	E-22
	Unlikely	D	L-2	L-5	M-9	H-14	E-19
	Rare	E	L-1	L-3	M-6	H-10	H-15

LIKELIHOOD DEFINTION SUMMARY

Probability (Frequency)			Description
A	Almost certain	Occurs more than once a month	The event is expected to occur in most circumstances
B	Likely	Occurs once every month to 1 year	The event will probably occur in most circumstances
C	Possible	Occurs once every 1 year to 5 years	The event should occur at some time
D	Unlikely	Occurs once every 5 years to 10 years	The event could occur at some time
E	Rare	Occurs less than once every 10 years	The event may occur only in exceptional circumstances

CONSEQUENCE DEFINTION SUMMARY

		People / Health and Safety	Environmental	Financial / Asset	Community / Reputation	Statutory / Legal	Delay	Conformity / Quality
5	Catastrophic	Death, permanent disablement,	Permanent environmental damage, Endangered species and habitat destroyed	Loss > $250K, Irreparable damage to the product, service, outcome	Severe impact on the community, services and property, International scale negative media attention	Criminal prosecution, Serious litigation, Major fines	Indefinite Delay or Stoppage	The risks can cause damage to the infrastructure that can not be repaired and affect permanently its function
4	Major	Serious body injury or illness - LTI, Potential serious LTI, multiple LTIs	Major damage to the environment, Long term effect, Damage to protected species or habitat	Loss $100K - $250K, Serious damage to product, service, outcome	Major impact on the community, services and property, National public or media negative attention	Prosecution, major fines	Between 3 - 6 months	Damage or effects in the functionality of the infrastructure may occur that can be offset with complex measures, with significant impact on the cost
3	Moderate	Injury or Illness requiring casualty treatment - MTI, Potential LTI	Serious damage to the environment, Medium term effect, Protected species or habitat involved	Loss $25K - $100K, Repairable damage to product, service, outcome	Serious impact on the community, services and property, State media attention	Prohibition Notice, fines	Between 1 - 3 months	Damage or effects in the functionality of the infrastructure may occur that can be repaired or require increased maintenance assumable for the company
2	Minor	Injury/illness requiring first aid treatment – FAI,	Minor damage to the environment, Within site boundaries	Loss $5K - $25K, Minor damage to product, service, outcome	Minor adverse local public or media attention or complaints	Improvement and Infringement Notice	Between 1 week and 4 weeks	Damage or effects in the functionality of the infrastructure may occur that can be repaired at low costs for the company, without effect in the maintenance
1	Insignificant	Potential MTI	Negligible damage to the environment	Repairable damage to product, service, outcome	Community complaints with no corrective action	Visit from Regulators with verbal comments of OFI	No impact or less than 1 week	No effects are produced on the functionality of the infrastructure

RISK LEVEL ACTION TABLE

EXTREME (Unacceptable)	Immediate action required – High level of supervision and monitoring of controls musts be added with senior management responsibility. I.e. Increase inspection monitoring and added to the daily inspection process. A job prestart must be undertaken with all relevant workers, including review of control methods and use of relevant permits to work as applicable.
HIGH (Undesirable)	Site management attention needed with safety, quality and environmental responsibilities communicated and delegated at management level. Take all reasonable steps to eliminate the risk or minimise it by introducing substitution, isolation or engineering controls as soon as possible.
MODERATE (Tolerable)	Site specific supervisory responsibilities must be specified for safety, quality and environmental responsibilities and communicated at site level. Take all reasonable steps to eliminate the risk or minimise it by introducing substitution, isolation or engineering controls as soon as possible. If these options are not immediately practical, implement administrative controls and/or PPE. Implementation of control measures should decrease the risk to as low as reasonably practicable.
LOW (Acceptable)	Manage by routine procedures such as safe work method statements and communication and consultation processes on a regular basis at individuals. Implementation of control measures should decrease the risk to as low as reasonably practicable.

Humelink East Enabling Works Risk Register

Identified Activities & Hazards					Initial Risk Assessment			Implemented Controls	Residual Risk Assessment				
Risk ID	Risk or Opportunity?	Hazard Description	Hazard Details	Impact / Outcome	Likelihood	Consequence	Risk Rating	Controls	Likelihood	Consequence	Residual Risk	Escalation/ Approval	UMMs
		SOIL AND WATER											
1	Risk	**Erosion and Sediment Control - Discharge (Sediment)**	Failure of ERSED controls resulting in discharge.	Additional sampling and reporting required, resulting in time, cost, fines, prosecution.	Likely	Major	E-21	**Engineering** - Reduce earthworks volumes and therefore ERSED controls - Temp / permanent stabilisation **Administrative** - Regular communication with the construction team - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop PESCP, prior to ERSED control implementation on site. - Regular site inspections - Project induction, toolbox talks, training - Development of EWMS (Earthworks and Stockpile Management) - Erosion and Sediment Control Strategy	Possible	Moderate	H-13	Superintendent / E&S Manager	**SW1**: An Erosion and Sediment Control Plan (ESCP) will be developed and implemented in consultation with a Certified Professional in Erosion and Sediment Control during construction for activities and areas that are considered higher risk. The plan will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the principles and requirements in: · Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A and 2C (DECC, 2008), commonly referred to as the 'Blue Book' · Best Practice Erosion and Sediment Control (IESCA, 2008) · Transgrid's Environmental Guidance Notes · Guidelines for controlled activities (Riparian corridors (DPE, 2022d) and Watercourse crossings (DPE, 2022e)).
2	Risk	**Erosion and Sediment Control - Change in Methodology**	Change in construction method resulting in reduction or additional ERSED / change in ERSED control.	Time and cost for new PESCP and controls.	Likely	Moderate	H-17	**Engineering** - Reduce earthworks volumes and therefore ERSED controls **Administrative** - Regular communication with construction and design - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop new PESCP - Regular site inspections - Project induction, toolbox talks, training	Possible	Minor	M-8	Superintendent / E&S Manager	**SW1**: An Erosion and Sediment Control Plan (ESCP) will be developed and implemented in consultation with a Certified Professional in Erosion and Sediment Control during construction for activities and areas that are considered higher risk.
3	Risk	**Erosion and Sediment Control - Earthworks Staging**	Large areas of ground exposed during earthworks requiring ERSED controls.	Additional time and cost.	Possible	Moderate	H-13	**Engineering** - Reduce earthworks volumes and therefore ERSED controls - Staging Earthworks and using cut and cover method to remove runoff risk **Administrative** - Regular communication with construction and design - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop PESCP - Regular site inspections - Project induction, toolbox talks, training	Possible	Minor	M-8	Superintendent / E&S Manager	**SW1**: An Erosion and Sediment Control Plan (ESCP) will be developed and implemented in consultation with a Certified Professional in Erosion and Sediment Control during construction for activities and areas that are considered higher risk.
4	Risk	**Water Quality - Exceeding Basline Conditions**	Unable to maintain water quality baseline conditions while working within/near watercourses (including creek crossings), due to failure of ERSED controls or unexpected discharge from site.	Additional sampling and reporting required, resulting in time, cost, fines, prosecution.	Likely	Major	E-21	**Engineering** - Water quality sampling upstream and downstream to provide data on water quality both prior to, during, and after construction to confirm water quality status **Administrative** - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop PESCP, prior to ERSED control implementation on site. - Regular site inspections - Project induction, toolbox talks, training - Development of EWMS (Dewatering and Sediment Basin Management) - Monitoring weather forecast	Possible	Moderate	H-13	Superintendent / E&S Manager	**SW1** **SW3** : Water quality monitoring will be implemented to establish baseline water quality conditions in waterways of high sensitivity that may be impacted by nearby construction and to detect any changes in water quality that may be attributable to the project during construction. Monitoring locations will include: • at a minimum two monitoring locations (one located upstream and one downstream of the transmission line crossing) for waterways with a Strahler 4th stream order or higher within the Sydney Drinking Water Catchment where construction activities within 200 metres of the waterway will be carried out and could result in impacts • monitoring for TDS, TSS,TN and TP.
5	Risk	**Water Quality - Discharge of Site Water (le sumps/pits/basins)**	Site water (including sediment basins and sumps) discharged prior to meeting discharge criteria.	-Impact to aquatic environment downstream - Additional sampling and reporting - Remediation costs, fines, prosecution - Reputation impacts	Likely	Major	E-21	**Engineering** - Reduce earthworks volumes and therefore ERSED controls **Administrative** - Regular communication with construction and design - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop new PESCP - Regular site inspections - Project induction, toolbox talks, training - Development of EWMS (Dewatering and Sediment Basin Management) - Dewatering Procedure / Permit	Possible	Moderate	H-13	Superintendent / E&S Manager	**SW1** **HF4**: Where possible, existing drainage and overland flowpaths will be maintained at construction compounds and combined worker accommodation facilities. Where filling is required, suitable drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties. On site detention will be incorporated where increases in site stormwater discharges exceed predevelopment flows, and will be designed in accordance with the Blue Book.
6	Risk	**Water Quality - Concrete Runoff**	Concrete runoff into nearby watercourses	- Impact to aquatic environment downstream - Additional sampling and reporting - Remediation costs, fines, prosecution - Reputation impacts	Possible	Moderate	H-13	**Engineering** - Pre-cast concrete as an alternative to poured. **Administrative** - Regular communication with construction and design - Signage for waste concrete areas - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop new PESCP - Regular site inspections - Project induction, toolbox talks, training	Unlikey	Moderate	M-9	Superintendent / E&S Manager	SW1
7	Risk	**Flood Risk**	Heavy rainfall events across multiple sites on the alignment I.e. (1% AEP)	- Washout of tracks, bunds, swales, and ERSED controls offsite - Discharge of fuels/chemicals from plant/laydowns	Possible	Major	E-18	**Eliminate** - Move chemicals from site / outside of 1%AEP levels prior to event **Administrative** - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop PESCP, prior to ERSED control implementation on site. - Regular site inspections and weather monitoring. - Removal of controls in heavy rainfall events (1%AEP) - Project induction, toolbox talks, training - Monitor Weather Forecast	Possible	Moderate	H-13	E&S Manager	**HF3**: Where possible, overland flow paths up to the 5% AEP event for construction compounds and 2% AEP for combined worker accommodation facilities and construction compounds are to remain unobstructed from bulk filling, site infrastructure and/or stockpiling. Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be considered in flood prone areas.
		CONTAMINATION											
8	Risk	**Contaminated Land - Unknown**	Unexpected Contamination encountered during excavation causing, potential discharge, delay, H&S risk, and cost outside known volumes.	- Additional time and cost associated with sampling and disposal / remediation	Likey	Moderate	H-17	**Administrative** - Contaminated land consultant engaged to carry out DSI in Areas of Environmental Concern (AEC) to quantify known contamination - Consultant to complete site-wide sampling to identify unknown contamination, based on a risk review - In-situ VENM assessment to pre-categorise soil and minimise ex-situ stockpile sampling and unexpected finds. - If unexpected contamination is identified, all work activities will cease and the Environmental Manager will be notified - Project induction, toolbox talks, training	Likely	Minor	H-12		**SC7**: The discovery of any unexpected contamination during construction will be managed in accordance with an Unexpected Contaminants Finds Protocol which will be prepared prior to construction.

9	Risk	**Contaminated Land - Known**	Contaminated land management, specifically NOA, is more difficult than first thought. Land owner forced change in strategy.	- Additional time and cost - Time Delays associated with change in strategy	Likely	Moderate	**H-17**	**Eliminate** - Dispose offsite at suitably licensed facility. **Engineering** - Encapsulation of naturally occurring asbestos (NOA) and Saline Soils. - Immobilsaiton of contaminants **Administrative** - Contaminated land consultant engaged to carry out DSI in Areas of Environmental Concern (AEC) to quantify known contamination - Consultant to complete site-wide sampling to identify unknown contamination, based on a risk review - In-situ VENM assessment to pre-categorise soil and minimise ex-situ stockpile sampling and unexpected finds. - If unexpected contamination is identified, all work activities will cease and the Environmental Manager will be notified - Project induction, toolbox talks, training - Property and Community Team to engage with landowners early to manage strategy. Include outcomes in Property Management Plan (PMP)	Likely	Minor	**H-12**		**SC1:** Prior to ground disturbance within areas mapped as moderate to high risk saline soils, an inspection will be undertaken for the presence of saline soils. If salinity is confirmed, excavated soils will be managed in accordance with Book 4 Dryland Salinity: Productive use of Saline Land and Water (NSW DECC, 2008) and the Salinity Training Manual (DPI, 2014) to manage salinity impacts. **SC5**: Detailed design will consider the risk of encountering NOA within the project footprint. Consideration may include movement of footings to areas with less risk of NOA, footing design changes or minimising rock blasting and ripping where practicable. An asbestos management plan will be prepared in accordance with the NSW Government Code of Practice How to manage and control asbestos in the workplace (SafeWork, 2020).
10	Risk	**Contaminated Land - clearing and grubbing / earthworks areas**	Contamitned land in vegetation clearing zones. Additional H&S control required in contaminated areas. I.e. PPE, decontamination, monitoring, contaminated mulch / wood now has to be disposed at a licensed facility.	- Additional time and cost	Likely	Moderate	**H-17**	**Eliminate** - Dispose offsite at suitably licensed facility prior to bulk earthworks and clearing, where possible **Engineering** - Encapsulation of naturally occurring asbestos (NOA) and Saline Soils prior to bulk earthworks. - Immobilsaiton of contaminants - Washdown and treatment of contaminated wood / mulch **Administrative** - Contaminated land consultant engaged to carry out DSI in Areas of Environmental Concern (AEC) to quantify known contamination - Consultant to complete site-wide sampling to identify unknown contamination, based on a risk review - In-situ VENM assessment to pre-categorise soil and minimise ex-situ stockpile sampling. - If unexpected contamination is identified, all work activities will cease and the Environmental Manager will be notified - Project induction, toolbox talks, training	Likely	Minor	**H-12**		**SC2**: Disturbance to AECs identified as having a moderate risk or greater will be avoided or minimised where practicable during construction. Where disturbance cannot be avoided, potential impacts will be minimised during finalisation of the design and construction methodology, where practicable. AECs identified as having a moderate risk that will be disturbed will be further assessed prior to construction. Any remediation required for the project will be undertaken based on a site-specific Remedial Action Plan. The Remedial Action Plan will define remedial goals and objectives, performance criteria for remedial effort and remediation methodology. A validation report will be prepared after remedial effort and be in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Land.
11	Risk	**Contaminated Land - cross contamination (including stockpiles)**	Contaminated material tracked within property and across property boundaries, causing environmental discharge, H&S risk, landowner disputes, potential prosecution. Cross contaminated stockpiles resulting in increased disposal cost	- Additional time and cost	Likely	Major	**E-21**	**Engineering/Isolate** - Encapsulation of naturally occurring asbestos (NOA) and Saline Soils prior to bulk earthworks. - Immobilsaiton of contaminants - Washdown of vehicles exiting - Flagging to isolate contaminated area **Administrative** - Contaminated land consultant engaged to carry out DSI in Areas of Environmental Concern (AEC) to quantify known contamination - Consultant to complete site-wide sampling to identify unknown contamination, based on a risk review - In-situ VENM assessment to pre-categorise soil and minimise ex-situ stockpile sampling. - If unexpected contamination is identified, all work activities will cease and the Environmental Manager will be notified - Stockpile signage - Section 143 notice for spoil movements between properties - Project induction, toolbox talks, training	Possible	Major	**E-18**		**SC6**: The contractor will undertake compliance monitoring, keep a record of waste volumes and waste types and keep a stockpiles register where excavations and stripping of surface soil contamination occurs. The contractor will keep all records during construction for waste disposal and for the importation of materials such as engineering fill and excavated natural materials (ENM) or virgin excavated natural materials (VENM) soils. Engineering fill materials for use on site will be validated to confirm they meet the classification of VENM or ENM prior to being transported to site.
12	Risk	**Failure to report issues and incidents**	Ineffective reporting of incidents on site including spills or plant damage	- Contamination of land could potentially be ignored polluting the site and potentially leading to extra costs for removal in the future. - Potential for chemical runoff from spill - Potential reduction in reputation from stakeholder	Likely	Moderate	**H-17**	**Adminstrative** - Site inductions - incident response procedure - No Blame policy on site for reporting spill and incidents on site - Ensuring sufficient spill kits are distributed around site	Likely	Minor	**H-12**		
13	Risk	**Contaminated Drinking Water**	Contaminated drinking water	- Worker complaints / workforce issues	Likely	Major	**E-21**	**Engineering** - Site office and lunch room procured (supplier to provide full set up) - Plumbed, potable water already available to site **Administrative** - Induction- non- potable water facilities	Unlikely	Major	**H-14**		
		AIR QUALITY											
14	Risk	**Dust generation (incl. Air Quality)**	Management of air quality including dust generated from earthworks - additional mitigations required or community/stakeholder opposition to construction impacts. The generation of dust through a vast array of different types of works or as a result of local weather	- Community impacts and associated complaints - Additional mitigations or changes to construction methods required - Worker complaints / workforce issues - Sedimentation runoff - Reduced community reputation due to impacts - Associated costs with remediating some areas if dust is excessive - Additional costs associated with hiring extra plant to deal with dust mitigation - Contamination of soil and waterways if runoff form weather events	Likely	Minor	**H-12**	**Engineering** - Dust mitigation measures (ie water cart, soil binder, stabilised access track) - Additional monitoring - Minimising sotckpiling material when not needed - Ensuring ERSED control are in place to counteract any dust that may reach waterways **Administrative** - Construction methodology review and monitor weather forecast - Early Community and stakeholder engagement and management of issues raised - Development of EWMS - Development of Air Quality CEMP - Site Inductions	Possible	Minor	**M-8**		**AQ1**: The following measures will be considered and implemented where practicable and appropriate to manage dust: · use water sprays or surfactants as required for dust suppression · ensure adequate water supply on site for dust suppression · locate dust generating activities away from receptors · protect stockpiled materials from wind erosion to minimise dust generation and position stockpiles as far as practicable away from any nearby receptors · implement measures to minimise the tracking of dust generating material onto paved roads · cover the loads of potential dust producing materials · minimise the extent of ground disturbance as far as practicable · stabilise disturbed areas as soon as practicable · plan and schedule vegetation clearance and grubbing activities to minimise areas of open and exposed soil. The effectiveness of the installed controls will be monitored, and additional controls implemented as required to address any performance issues identified.
15	Risk	**Sediment tracking**	Dust that has traveled to local or compound roads can then be tracked by vehicles using these roads	- Sedimentation runoff could potentially become an issue, harming waterways or soils. - Additional costs associated with mitigating dust / tracked sediment	Likely	Minor	**H-12**	**Engineering** - Designated stabilised access points and wash down bays **Administrative** - Ensuring proper ERSED controls are in place, inlcuding stabilsied access - Utilising the correct amount of watercarts and sweepers to ensure waste is removed before tracked onto local roads - Development of Air Quality CEMP's	Possible	Minor	**M-8**		**AQ3**: Dust generation from project-related traffic movements on unsealed roads and access tracks (routes) in proximity to sensitive receivers will be visually monitored. Where dust from project-related traffic movements is impacting or has the potential to impact the sensitive receivers, measures to minimise dust emissions and potential associated amenity impacts will be implemented where practicable and appropriate.
		HERITAGE											
16	Risk	**Unexpected or Unforeseen Heritage Finds / Artefacts**	Additional heritage finds resulting in delays and additional cost	- Survey/salvage works and clearances/approvals delay construction works - Additional costs for greater heritage resources - Stakeholder opposition / reputation impacts if not handled appropriately	Unlikely	Major	**H-14**	**Administrative** - Heritage specialists engaged as part of the team - Review of existing site information - Development of unexpected finds procedure - Engagement with TG and Site personnel on Heritage management approach	Possible	Minor	**M-8**	No Management Approval Required	are inconsistent with approved heritage impacts in Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report), or human remains are discovered, they will be managed in accordance with an unexpected finds protocol that is aligned with the protocol in Attachment 6 of Technical Report 2 – Revised Aboriginal Cultural Heritage Assessment Report. **NAH1**: If at any time during construction, any items of potential historic heritage archaeological significance, or human remains are discovered, they will be managed in accordance with an unexpected finds protocol that is aligned with the protocol in Technical Report 3 – Historic Heritage Impact Assessment Report.
17	Risk	**Damage / Loss of Heritage Artefacts or Human remains**	Risk of damaging / loss of Aboriginal/European artefacts through excavation works	- Loss of reputation in the community and stakeholders - Loss/Damage to historic cultural artifacts and values	Likely	Major	**E-21**	**Isolation** - Geofence sensitive areas. - No Go Areas - On Site Delineation (fencing and signage) **Administrative** - Development of unexpected finds protocol - On-site Induction - Development of CEMP's	Unlikey	Major	**H-14**		**AH6**: Following any stripping and grading works and prior to placement of any fill or road base material for construction of the access track, a site walkover will be completed and any surface artefacts will be recorded and moved off of the track. The artefact locations will be recorded as sites and then entered on the AHIMS database. The recording will include a record of their original location.

18	Risk	**Delay in Heritage Scope of Work**	Potential for work to take longer than expected due to access constraints	- Works could be delayed - Potential to hold up earthworks production	Likely	Moderate	**H-17**	**Administrative** - Engage an industry leading Project Archaeologist with a proven track record of successful engagement with clients and Registered Aboriginal Parties - Assessment of required clearances and timeframes and necessary resources to meet program - Schedule risk assessment - Development of heritage salvage strategy in accordance with HMP - Engagement with Transgrid on Heritage management approach - Implement a hold point system for access to portions of the site once survey and salvage works have been completed (if required)	Possible	Minor	**M-8**		**AH5**: Where detailed design confirms there would be direct impacts from construction in areas with high and moderate archaeological sensitivity that have not been previously subject to test excavations, prior to impact a desktop assessment and site inspection will be completed to determine the level of previous impact from past ground disturbing activities and to determine if the area contains a potential archaeological deposit (PAD). If it is determined that the area contains a PAD and has undergone low previous impact then an archaeological subsurface test excavation program will be carried out in the area of direct impact.
19	Risk	**Late start of Heritage works**	Heritage work starting late or delayed	- Potential for work to be held up on site as heritage work is still being carried out	Likely	Moderate	**H-17**	**Administrative** - Correct planning or approvals - Good communication with client and stakeholders	Possible	Minor	**M-8**		
		NOISE AND VIBRATION											
20	Risk	**Community Disturbance**	Disruption to local community members and/sensitive receptors	- Risk for loss of reputation with the community - Potential for long respite period in these areas if receptors become too sensitive or construction fatigued - Additional costs and time associated with the potentially slower works due to long remediation time. - Additional costs associated with offering some potential community members respite if deemed necessary.	Possible	Minor	**M-8**	**Administrative** - Use of KNOWnoise software to develop models to ensure receptors are not exposed to excessive construction noise - Use of noise monitoring around site - Utilising respite periods throughout long periods of excessive noise - Site inductions - Ensuring good community engagement with receptors and beyond - Planning OOH works, working with standard hours unless approved OOH	Possible	Minor	**L-5**		**NV1**: Where receivers are predicted to be noise affected and near construction compounds or fixed work sites with long durations, path control, such as hoarding or earth bunds will be investigated. Practical measures will be implemented where required. Positioning of site structures will also be considered to act as barriers between noisy work and receivers where practical. **NV2**: An out of hours work protocol that details how the project will identify, assess and approve out of hours work outside standard construction hours that are likely to generate noise levels that exceed the relevant noise management levels at sensitive receivers will be developed and implemented.
21	Risk	**Building Damage**	Damage inflicted on nearby properties	- Risk of loss of reputation with community - Some works may be banned in some areas due to potential to cause harm to structures (Cost and time implication)	Possible	Moderate	**M-8**	**Engineering** - Property dilap reports **Administrative** - Site Induction - Use of vibration monitoring around site - Property dilap report	Possible	Minor	**L-5**		**NV7**: Where vibration intensive work is required within the recommended minimum working distances and is considered likely to exceed the cosmetic damage criteria: · different construction methods with lower source vibration levels will be investigated and implemented, where feasible · vibration monitoring will be undertaken at the start of work to determine actual vibration levels at the receiver · work will be ceased if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria.
22	Risk	**Traffic noise**	Disruption to local community members and/sensitive receptors	- Construction fatigue in community - Potential for complaints and loss of community support for the project	Possible	Minor	**M-8**	**Engineering** Maintain vehicles to ensure good working order **'Administrative** '- Planning access to sites to minimise traffic movements, particularly during OOH periods	Possible	Minor	**L-5**		**NV6**: All construction vehicle movements will adhere to the following measures: · out-of-hours vehicle movements will be minimised where possible · construction delivery vehicles will be fitted with straps rather than chains for unloading, wherever possible · use of engine compression brakes will be avoided at night and in residential areas · site access points and roads/flight paths will be located as far as possible away from sensitive receivers · traffic flow, parking and loading/unloading areas will be planned to minimise reversing movements · construction inductions will include driver behaviour requirements to minimise vehicle noise emissions.
		WASTE & RESOURCES											
23	Risk	**Excessive Waste Materials**	Risk of creating excessive waste materials	- Additional costs associated with the importation of extra materials - Additional costs associated with disposing of contaminated material or material that could potentially be reused. - Additional costs associated with remediation and or EPA reported issues - Loss of time	Possible	Moderate	**H-13**	**Administrative** - Construction water strategy development - Maximise onsite water usage - Use of reuseable materials where possible - Inductions	Possible	Minor	**M-8**		**W1**: The resource management hierarchy principles established under the Waste Avoidance and Resource Recovery Act 2007 (WARR) Act of avoid, reduce, reuse, or recycle with disposal as the last resort will be applied to further development, construction and operation of the project.
24	Risk	**Excessive Waste Generation**	The generation of excessive waste on site	- Water pollution could be caused by excessive site waste - Incorrect waste bins could cause potential cost implication to rectify issues with wrong waste in certain bins	Possible	Moderate	**H-13**	**Administrative** - Construction water strategy development - Maximise onsite resuse - Use of reuseable materials where possible - Inductions	Possible	Minor	**M-8**		**W4**: The reuse of spoil and soils sourced from construction will be considered under an NSW EPA approved resource recovery order where the materials are sourced from within the project footprint and suitable from both a contamination and geotechnical perspective. Where a NSW EPA Resource Recovery Order exists for waste generated by the project, the opportunity to reuse that waste should be considered prior to disposal. The orders will need to be reviewed during construction and operation for validity and applicability.
25	Risk	**The spreading of noxious weeds**	Noxious weeds spreading through other areas of site where the weed was not originally found	- Cost and time implication to constantly remove weeds from the same areas - Potential to be harmful to existing or endangered flora - Risk to biosecurity for properties	Likely	Major	**E-21**	**Engineering** - stockpile segregation - reuse of material in same area where possible **Administrative** - Correct disposal procedures for noxious weeds - Inductions - Ensuring weeding procedure is carried out correctly	Possible	Moderate	**H-13**		**LP4**: Biosecurity controls will be implemented to minimise the risk of off-site transport or spread of disease, pests or weeds. **W2**: Stockpiled wastes, where required, will be: - appropriately segregated to avoid mixing and contamination - appropriately signposted.
26	Risk	**Improper Disposal of waste (inlcuding recyclable material going to landfill)**	Inncorrect disposal of waste Material that could potentially be recycled going to landfill	- Cost implications associated with the incorrect waste in some types of waste bins - Environmental impact - Additional costs associated with some types of waste removal - Possible EPA implications for disposing of material incorrectly	Possible	Moderate	**H-13**	**Administrative** - Correct waste bin types available on site - Ensuring sufficient bins are available on site - Recycling materials or reusing material where possible - Inductions - Ensure compliance with resource recovery orders/exemptions where applicable - Obtain s143 certificates where required.	Possible	Minor	**M-8**		
27	Risk	**Improper Disposal of contaminated waste**	Potential for contaminated to be reused as general fill or disposed of incorrectly	- Contaminated general waste causing additional costs - Possible EPA implications for disposing of material incorrectly	Likely	Moderate	**H-17**	**Administrative** - Correct waste bin types available on site - Ensuring sufficient bins are available on site - Waste testing and tracking - Inductions	Possible	Moderate	**H-13**		
28	Risk	**Improper storage of hazard material or chemicals**	Storing hazardous materials in an incorrect manner or not stored at all	- Chemical or hazardous material runoff into waterways or soil (additional cost) - Site remediation may be needed if runoff occurs - Potential fire risk for some hazardous materials if combined with certain materials or chemicals	Possible	Moderate	**H-13**	**Administrative** - Correct / suffiecient storage facilities on site - Spill Kits availability - Inductions	Possible	Minor	**M-8**		**HR9**: 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. **SC4**: Environmental spill kits containing spill response materials suitable for the work being undertaken will be available with extras available to be carried in vehicles. A spill response procedure will be developed and implemented. All staff will be trained in emergency spill procedures.
29	Risk	**Incorrect waste tracking**	Not tracking where all waste and where it has been disposed too could cause future issues, or reinvestigation of material may need to be carried out	- Additional costs associated with further site investigation when waste tracking is not carried out effectively	Likely	Major	**E-21**	**Administrative** - Development of sufficient tracking sheets to be fille doubt with all waste material leaving site - Site Inductions - stockpile segregation - S-143 Notices to be completed (as required)	Unlikely	Major	**H-14**		**W3**: All waste will be assessed, classified, managed, and disposed of in accordance with the Waste Classification Guidelines. Waste will be appropriately transported, stored and handled according to their waste classification and in a manner that prevents pollution of the surrounding environment. All waste related documentation such as waste classifications, transfer and disposal documentary evidence will be held by the proponent for a minimum of seven years from the date the waste is generated.
30	Risk	**Dumping of illegal materials on site**	Illegal dumping by the local community could pose contamination risks to site	- Additional costs and time to remove dumped waste would be taken on by the JV - could be very costly depending on waste. - Environmental impacts associated with potential runoff from waste or soil contamination.	Likely	Moderate	**H-17**	**Administrative** - Ensuring sufficient measures are brought to site to ensure legal dumping cannot occur on site after work hours (site inspection) - Develop a plan to deal with any on-site illegal dumping	Possible	Moderate	**H-13**		
		BIODIVERSITY											
31	Risk	**Pre-clearing Survey Delay**	Delayed pre-clearing surveys due to property acquisition or weather	- Delayed Clearing surveys affects physical clearing timing and therefore construction timing - Programme delay	Likely	Moderate	**H-17**	**Administrative** - Regular communication with construction and design - Weekly Exempt Development meetings with TG - Progress spreadsheets - Regular site inspections	Unlikely	Moderate	**M-9**		**B20** : Pre-clearing surveys will be completed prior to clearing at each location by a suitability qualified and experienced ecologist. The proposed clearing extents will be marked out on site prior to the pre-clearing surveys.

32	Risk	**Unexpected Flora/Fauna Finds**	Work encounters unexpected flora/flora during clearing/earthworks	- Relocation and additional survey delays construction works - Additional costs for relocation and survey - Stakeholder opposition / reputation impacts if not handled appropriately	Likely	Moderate	**H-17**	**Administrative** - Ecology consultant engaged to carry out survey works and identify any new species outside of EIS - Sensitive Area Plans (SAPs) outline specific biodiversity constraint and no go areas. - If unexpected species are identified, all work activities will cease and the Environmental Manager will be notified - Project induction, toolbox talks, training	Unlikely	Moderate	**M-9**		**B3** : Unexpected species finds protocol to be implemented if threatened ecological communities, flora and fauna species, not assessed in Technical Report 1 – Revised Biodiversity Development Assessment Report, are encountered during pre-clearing inspections.
33	Risk	**Damage to Sensitive Areas**	Workforce entering or clearing sensitive fauna / flora areas and not following SAPs	- Stop works. Time and cost - Additional offset costs for damaged environment - Additional cost for survey and reporting on impacted area - Stakeholder opposition / reputation impacts - Fines	Possible	Major	**E-18**	**Administrative** - Ecology consultant completes pre-clearing survey and reports - Ecologist and survey delineate sensitive areas - Sensitive areas also geofenced on linked site and added to ECMs - Construction team trained and sign on to ECMs - Project induction, toolbox talks, training	Rare	Major	**H-10**		**B1**: Spatial data, threatened species locations and constraints mapping will be provided to the design and construction teams and considered in detailed design. Associated mapping will be included on SAPs and provided to the construction workforce.
34	Risk	**Water Degradation**	Weed overspray or sediment runoff resulting in aquatic habitat damage	- Impact to fauna resulting in fatalities - Additional cost for survey and reporting on impacted area - Loss of usage construction water - Stakeholder opposition / reputation impacts - Fines	Possible	Major	**E-18**	**Administrative** - Certified Professional in Erosion and Sediment Control (CPESC) consultant engaged to develop PESCP, prior to ERSED control implementation on site. - Water quality sampling upstream and downstream to provide data on water quality both prior to, during, and after construction to confirm water quality status - Regular site inspections - Project induction, toolbox talks, training	Rare	Major	**H-10**		**B28** : Micro-siting of infrastructure requiring sub-surface work, such as transmission line structure footings and access tracks, will be undertaken as part of the detailed design stage of the project, to avoid impacts to groundwater dependent ecosystems (GDEs), aquatic habitats and aquifers. **B33** : Pre-construction survey would be completed at those CLASS 1 streams identified as supporting potential habitats for threatened species at the site of proposed new tracks or upgraded tracks.
35	Risk	**Fauna Moving in After Inspection**	Potential for fauna moving into areas already surveyed resulting in injury or fatality	- Impact to fauna resulting in injury / fatalities - Additional cost for survey and reporting on impacted area - Loss of usage construction water - Stakeholder opposition / reputation impacts - Fines	Possible	Major	**E-18**	**Administrative** - Ecology consultant completes pre-clearing survey and reports - Rapid pre-clearing survey is completed within one week of physical clearing - 2-stage clearing is completed to allow species 24hrs to leave site - Fauna spotters and handlers are present during clearing - Project induction, toolbox talks, training	Rare	Major	**H-10**		**B3** : Vegetation clearing procedures for a two staged habitat removal process required for removal of key habitat features (hollow-bearing trees, habitat trees, and bushrock) identified in Technical Report 1 – Revised Biodiversity Development Assessment Report and/or pre-clearing inspection. Including procedures to record the effort and outcomes of the habitat removal process.
36	Risk	**Additional Species Monitoring Survey Delays**	REMMs and CoA will require additional species monitoring to be conducted before construction. Delayed REMMS and CoA will delay surveys and monitoring results, which are currently unknown (not finalised)	- Delay programme. Time and cost - Additional cost for survey and reporting on impacted area	Likely	Moderate	**H-17**	**Administrative** - early consultation with agencies and DPHI - Rapid pre-clearing survey is completed within one week of physical clearing - 2-stage clearing is completed to allow species 24hrs to leave site - Fauna spotters and handlers are present during clearing - Project induction, toolbox talks, training	Unlikely	Moderate	**M-9**		**B4** : Where construction activities are required in areas of native vegetation that have not been previously subject to biodiversity survey, supplementary biodiversity survey will, where possible, be carried out prior to disturbance to inform detailed design and micro-siting opportunities, adherence to clearing limits and biodiversity offsetting requirements. Areas subject to additional survey may include but are not limited to previously inaccessible lands, tracks to access isolated clearing areas and any areas requiring direct impacts outside the existing project footprint.
37	Risk	**Arborist Survey Delay**	Delayed arborist surveys due to property acquisition or weather	- Delay programme. Time and cost - Additional cost for survey and reporting on impacted area	Likely	Moderate	**H-17**	**Administrative** - Completing surveys on all properties with consent to enter. - Regular meetings with design and construction - Staged design?	Unlikely	Moderate	**M-9**		**B21**: Hazard tree inspections would be undertaken by an appropriately qualified arborist prior to the commencement of construction in accordance with Transgrid's Maintenance Plan – Easement and Access Tracks. Opportunities for individually assessing and selectively clearing hazard trees will be considered further during detailed design to minimise impacts.
38	Risk	**Biosecurity - Weed Management**	Spreading of weeds and seeds with spoil and vehicle movements on site.	- Property owner access disputes - Additional cost for managing clean up	Likely	Moderate	**H-17**	**Engineering** - vehicle wash downs between properties with major biosecurity risk. **Administrative** - Ecology consultant completing weed dilpidation surveys on all properties - Biosecuity Management Plan in place - Project induction, toolbox talks, training	Unlikely	Moderate	**M-9**		**B22** : A Biosecurity Management Plan will be developed and will include: • Weed and pest animal management and monitoring requirements would be outlined where relevant. • Locations, timing and methods for removing soil and plant matter from vehicles and machinery and sourcing clean soil and materials free of contaminants for construction work. • Clean down stations (water or air, dependent on the identified biosecurity risk) will be constructed at suitable locations to clean down vehicles and employee shoes to stop the spread of weeds, pathogens and the introduction of new species.
39	Risk	**Wildlife**	Interaction with wildlife	Fauna injury or death - Damage to vehicle - Reputational Damage	Unlikely	Moderate	**M-9**	**Administrative** - Exempt Development Works Induction, Toolbox Talks - Follow road public signage - Follow information to be provided at Project Induction and Pre-Work Briefs - Coordination with farmers, landholders - Workers to remain on designate roads / tracks	Rare	Moderate	**M-6**	No Management Approval Required	**B3**: Education of construction teams regarding the presence of native fauna and risks of vehicle collision, particularly early in the morning and late in the afternoon/at night; implementation of speed limits on sealed and unsealed tracks and roads.

HumeLink West

LIKELIHOOD	CONSEQUENCE LEVEL				
	1	2	3	4	5
ALMOST CERTAIN (≥ 90%; less than "monthly")	D	C	B	A	A
LIKELY (50% TO < 90%; "monthly" to "yearly")	E	D	C	B	A
POSSIBLE (20% TO < 50%; between 2 and 5 years)	E	D	C	C	B
UNLIKELY (2 TO < 20%; between 5 and 50 years)	E	E	D	C	C
RARE (< 2%; once in more than 50 years)	E	E	E	D	D

	PROBABAILTY OR CHANCE	QUALITATIVE ASSESSMENT	RECURRENCE TIMEFRAME
ALMOST CERTAIN	≥ 90%	Almost certain to occur during the project/ contract life/ business plan horizion	Less than "Monthly"
LIKELY	50% to 90%	Considered likely to occur during the project/ contract life/ business plan horizion	"Monthly" to "Yearly"
POSSIBLE	20% to 50%	Considered a possible occurrence during the project/ contract life/ business plan horizion	Between 2 and 5 years
UNLIKELY	2% to 20%	Considered unlikely to occur during the project/ contract life/ business plan horizion	Between 5 and 50 years
RARE	< 2%	Considered a rare occurrence during the project/ contract life/ business plan horizion	Greater than every 50 years

MANAGEMENT RESPONSE TO RESIDUAL RISK RATINGS	
Risk Rating	**Actions to Be Taken**
A- Extreme or B- Very High	**Stop**- Task or activity must not be performed. An alternative solution must be found.
C- High	**Stop**- Re-evaluate controls to determine whether additonal controls can be applied. Work activities with High residual risk must be approved by the Project/Site/Operations Manager. Note: Critical Risk Control Exemptions require approval from Divisional EGM.
D- Moderate	Risk is recorded and assessed in the Project/ Site HSSE Risk register, and controls implemented to reduce risk so far as is reaspnably practicable.
E- Low	Risk is recorded and assessed in the Project/ Site HSSE Risk register, and controls implemented to reduce risk so far as is reaspnably practicable.

Level	1	2	3	4	5
Workplace Health and Safety	**Class 3 incident:** First aid treatment and/ or minor safe working breach unlikely to impact operational activities.	**Class 2 incident:** Medical treatment and/ or moderate safe working breach likely to impact operational activities.	**Class 2 incident:** Serious medical/ hospital treatment resulting in need alternate working or resulting in lost time injury. Significant safe working breach with actual impact on an operation	**Class 2 incident:** Major, reversible injury, requires long term ongoing treatment and rehabilitation. Significant safe work immediate impact on operations at one or more worksites.	**Class 1 incident: -** Single fatality, any type of irreversible disability, Major injury to < 10 people, unable to return to work.
Physical Environment	Low severity environmental impact(s) that are promptly reversible, and affected area is within the site boundary.	Nuisance or low severity environmental impact(s) that are promptly reversible and affected area is outside the site boundary.	Moderate severity environmental impact(s) where the affected area is within the site boundary.	Moderate severity environmental impact(s) where the affected area is outside the site boundary. Terrorist threats.	High severity environmental impact(s) of local scale significance. Terrorist actions with limited impact.
Governance/ Legal/ Regulatory	Very minor technical breach of regulation or policy or code of ethics. No fine/ penalty.	Minor legal issues, non-compliances and breaches of regulation, policy or code of ethics. No criminal prosecution	Moderate breach of regulation, policy or code with investigation or report to authority. Moderate legal proceedings initiated.	Significant breach of regulation, policy or code with fine or other regulatory action. Significant litigation/ legal action. Criminal prosecution.	Major breach of regulation, policy or code with fine. Major litigation. Major investigation by regulatory body.

HumeLink West

UGL | CPB CONTRACTORS

Location Work Area:		Tab 3.9: Under devekoplment, examples only	Company	UGL/ CPB
Date of this Revision:			Contract No.:	3200-0685
Date of last Revision:			Revision No.:	efer to Tab 01 - Register Revision History

IDENTIFICATION							LEGAL REQUIREMENT	ASSESSMENT OF CONTROLS			
No	ACTIVITY	ENVIRONMENTAL ASPECTS	ENVIRONMENTAL IMPACTS	RISK RATING			Is this aspect or potential impact enforceable by law? (Yes or No)	CONTROLS	RESIDUAL RISK		
				RISK Assessment (current)				Refer to section 16 of CEMP for full list of mitigation measures	FINAL RISK Assessment (current)		
				Consequence	Likelihood	Risk Score			Consequence	Likelihood	Risk Rank
By activity											
1	Permitting/ Legal requirements	Infrastructure Approval - non compliance with conditions	-soil, air, water and general environmental contamination -loss of biodiversity in surround areas, flora and fauna death -Harm to workers on-site and surrounding sensitive receptors (homes, businesses) Stop the project	C4-Major	L4-Likely	B	Yes	-Management plans with specific mitigation measures linking back to each condition -Ensure site meets all conditions prior to mobilisation -Monitoring and compliance program in place to ensure all conditions are met - includes weekly inspection tailored to meet conditions	C4-Major	L3-Possible	C
		EPL non compliance	-soil, air, water and general environmental contamination -loss of biodiversity in surround areas, flora and fauna death -Harm to workers on-site and surrounding sensitive receptors (homes, businesses) Stop the project	C4-Major	L4-Likely	B	Yes	-Management plans with specific mitigation measures linking back to each condition -Ensure site meets all conditions prior to mobilisation -Monitoring and compliance program in place to ensure all conditions are met - includes weekly inspection tailored to meet conditions	C4-Major	L3-Possible	C
		EPL Transfer	Stop the project	C4-Major	L4-Likely	B	Yes	UGL to transfer license to from SNL to UGL	C4-Major	L3-Possible	C
2	Site Establishment	Fauna	Injury/ death of fauna	C3-Serious	L2-Unlikely	D	Yes	Pre-inspection prior to clearing. Stop work if injured animal found on site. Report all incidents.	C3-Serious	L2-Unlikely	D
		Biosecurity	-Spread of weeds and seed -introduction of invasive/non native fauna -spread of biosecurity matter (disease, bacteria etc.)	C3-Serious	L2-Unlikely	D	No	-Local Weed and Pest Strategy. '-implement washdown procedure and checklist for items/plant coming to site. -treatment of identified weeds	C3-Serious	L2-Unlikely	D
		Installation of site sheds and amenities	Dust and noise Annoyance to workers and nearby residents	C1-Minor	L2-Unlikely	E	Yes	Suppress dust with water or dust suppressant. Speed limits.	C1-Minor	L1-Rare	E
		Installation of erosion and sediment controls	-Erosion and sediment controls not installed to relevant standards -runoff through area's other then approved sediment basin/release point	C3-Serious	L3-Possible	C	Yes	implementation of site specific ESCP	C3-Serious	L3-Possible	C
3	Vegetation Removal	Biosecurity	-Spread of weeds and seed -introduction of invasive/non native fauna -spread of biosecurity matter (disease, bacteria etc.)	C3-Serious	L2-Unlikely	D	Yes	-Local Weed and Pest Strategy. '-implement washdown procedure and checklist for items/plant coming to site. -treatment of identified weeds	C3-Serious	L2-Unlikely	D
		Fauna	-Injury/ death of fauna -Removal of critical fauna habitat -increase human and fauna interaction	C3-Serious	L2-Unlikely	D	Yes	Pre-inspection prior to clearing. Stop work if injured animal found on site. Report all incidents. Clearing takes place in logical sequence to avoid habitat segregation where possible	C3-Serious	L2-Unlikely	D
		Exposed ground surface	Erosion of soils resulting in impacts to waterways and adjacent environments	C3-Serious	L3-Possible	C	Yes	Install erosion and sediment controls as per ESCP. Vegetation will not be cleared prior to construction activities commencing.	C3-Serious	L3-Possible	C
		Removal of protected vegetation/vegetation outside of work site	-Loss of biodiversity -damage to wildlife breeding habitat	C3-Serious	L2-Unlikely	D	Yes	Trees to be retained will be clearly marked. Direct disturbance to areas of native vegetation will be restricted to those areas for which approval has been obtained by the UGL. Limit off road driving and survey construction site When accessing Construction sites, UGL and Subcontractors will use only approved access tracks/roads.	C3-Serious	L2-Unlikely	D
		Uncovering of heritage items or sites	Damage to unidentified heritage items	C3-Serious	L2-Unlikely	D	Yes	Stop work if unknown heritage found on site and report to Client Immediately	C3-Serious	L2-Unlikely	D
		Generation of dust	Air pollution Annoyance to workers and nearby residents Visible dust emissions leaving site	C2-Moderate	L3-Possible	D	Yes	The area of disturbed land will be kept to a minimum. Existing vegetated areas will be kept intact for as long as Possible prior to clearing. Suppress dust with water or dust suppressant.	C2-Moderate	L3-Possible	D

4	**Trenching/ Excavation/ Footings/Piling**	Generation of noise and vibration	Excessive noise and vibration impacting nearby works may result in complaints	C2-Moderate	L3-Possible	**D**	Yes	Keep equipment well maintained. Noise monitoring if required.	C2-Moderate	L2-Unlikely	**E**
		Cultural Heritage	Damage to unidentified heritage items	C4-Major	L2-Unlikely	**C**	Yes	If Possible human remains are uncovered; all work in the immediate area of the remains will stop immediately. The incident will be immediately reported to the Client who will report to relevant authorities and the State Police. All employees and sub-contractors will be made aware of the areas of potential cultural heritage (if any) during the site induction. Site fencing will restrict all workers from accessing these areas. All workers will be advised on the identification and management of archaeological and heritage issues in site induction program.	C4-Major	L1-Rare	**D**
		Fauna	Injury or death to native or non-native animals	C3-Serious	L2-Unlikely	**D**	Yes	Pre-inspections of all excavations prior to commencing works Report all injured animal to the EA and Supervisor.	C3-Serious	L2-Unlikely	**D**
		Consumption of Fuel	Depletion of natural resources Greenhouse gas emissions Smoky exhaust emissions from plant and machinery causing air pollution and complaints	C1-Minor	L4-Likely	**E**	Yes	Machine and equipment well maintained. Machinery not left idling if not in use.	C1-Minor	L4-Likely	**E**
		Uncovering of contaminated soil/contaminated product and waste	- Unknown Contaminants released to nearby watercourses - Contaminants mix with clean material and stockpile spreading contamination - Airborne contamination exposure for site personnel -Damage to foundations/structures from contamination (i.e. heavy metals)	C3-Serious	L4-Likely	**C**	Yes	-Identify contamination on site through pre work environmental assessment - Onsite monitoring capabilities to identify unknown/un expected contamination -PPE available to site personnel (dust masks, gloves, washdown facilities)	C3-Serious	L3-Possible	**C**
		Accidental Spills/Leaks	Land/ Water/ Groundwater pollution	C2-Moderate	L2-Unlikely	**E**	Yes	-Spill kits on site -Training on spill response procedure -Implementation of PIRMP	C2-Moderate	L2-Unlikely	**E**
5	**Stockpiling of material on UGL site**	Generation of dust	Air pollution. Annoyance to workers and nearby residents. Visible dust emissions leaving site.	C2-Moderate	L4-Likely	**D**	Yes	Stockpiles to be covered, watered or vegetated. Capability for onsite monitoring	C2-Moderate	L4-Likely	**D**
		Inappropriate erosion and sediment controls	-Erosion of stockpiles -Sediment runoff -contamination of surface waters and receiving environment	C2-Moderate	L3-Possible	**D**	Yes	-Sediment controls installed as per ESCP. -Weekly and post rainfall inspections -Monitor and communicate expected rain events	C2-Moderate	L3-Possible	**D**
6	**Concrete Works**	Consumption of fuel by construction vehicles and plant	Depletion of natural resources. Greenhouse gas emissions. Smoky exhaust emissions from plant and machinery causing air pollution and complaints.	C1-Minor	L4-Likely	**E**	Yes	Machine and equipment well maintained. Machinery not left idling if not in use.	C1-Minor	L4-Likely	**E**
		Accidental spills or leaks e.g.: Fuels, Oil and chemicals	Water/ Groundwater pollution contamination Ground pollution. Breach of legislation.	C2-Moderate	L3-Possible	**D**	Yes	Spill kits on site. Equipment well maintained. Drip trays.	C2-Moderate	L3-Possible	**D**
		Spillage of concrete	-Concrete not disposed of appropriately (i.e. washed out onto ground) may pollute nearby waters/groundwater -increased waste generation	C2-Moderate	L3-Possible	**D**	Yes	-Concrete wash out pit (bunded and lined) and disposed of at licensed facility -concrete recycled where possible	C2-Moderate	L3-Possible	**D**
7	**Cranage**	Consumption of fuel by construction vehicles and plant	Depletion of natural resources. Greenhouse gas emissions. Smoky exhaust emissions from plant and machinery causing air pollution and complaints.	C2-Moderate	L4-Likely	**D**	Yes	Machine and equipment well maintained. Machinery not left idling if not in use.	C2-Moderate	L4-Likely	**D**
		Accidental spills or leaks e.g.: Fuels, Oil and chemicals	Land/ Water/ Groundwater pollution	C3-Serious	L2-Unlikely	**D**	Yes	Spill kits on site. Equipment well maintained.	C3-Serious	L2-Unlikely	**D**

8	**Dewatering**	Inappropriate disposal of accumulated surface water	- land/surface water, ground water pollution -Breach of legislation -contamination of "clean areas" is contaminated water released inappropriately	C3-Serious	L2-Unlikely	**D**	Yes	-Discharge in approved areas via use of sediment and erosion controls - Where water is contaminated, discharge through licensed contractor - UGL de-watering permit -Ability to test water onsite for contaminants	C3-Serious	L2-Unlikely	**D**
9	**Maintenance of Equipment**	Accidental spills or leaks e.g.: Fuels, Oil and chemicals	Land/ Water/ Groundwater pollution	C3-Serious	L3-Possible	**C**	Yes	Spills kits on site. Refueling in designated area and away for waterways.	C3-Serious	L3-Possible	**C**
10	**Refueling**	Release of fuel during refueling activities	-Land/ Water/ Groundwater pollution - Site personnel exposed to hazardous substances	C3-Serious	L2-Unlikely	**D**	Yes	Spills kits on site. Refueling in designated area and a minimum of 50 m away from any waterways Area. Fuel to be kept in bunded facility with capacity of 110% of volume	C3-Serious	L2-Unlikely	**D**
		Fire	-Loss of biodiversity. -Air pollution ash/smoke impact surrounding residents/sensitive receptors	C4-Major	L2-Unlikely	**C**	Yes	All flammable materials will be kept in a segregated area and stored in accordance with Work Cover Dangerous Goods license (if applicable) and appropriate storage/separation guidelines. Designated refueling area to be marked on site map. Minor vehicle / equipment servicing and refueling will be undertaken on site in this area. Fire extinguishers Emergency procedures	C4-Major	L2-Unlikely	**C**
11	**Storage, transport and use of chemicals**	Accidental spills or leaks e.g.: Fuels, Oil and chemicals	-Land/ Water/ Groundwater pollution -Exposure to contamination for nearby sensitive receptors	C3-Serious	L3-Possible	**C**	Yes	Spill kits on site Designated refueling area to be marked on site map. Minor vehicle / equipment servicing and refueling will be undertaken on site in this area.	C3-Serious	L3-Possible	**C**
		Fire	Loss of biodiversity. Air pollution.	C4-Major	L2-Unlikely	**C**	Yes	Fire extinguishers. Emergency procedures.	C4-Major	L1-Rare	**D**
12	**Waste Management (incl. removal of redundant material)**	Generation and storage of waste (incl. potentially contaminated waste)	-Depletion of natural resources. -Greenhouse gas emission. -Land pollution. -Non-compliance with OEH's waste guidelines. -Water and air pollution -reduction in air and water quality of nearby sensitive receptors	C4-Major	L3-Possible	**C**	Yes	Manage all waste in accordance with regulative requirements. Provide enough bins and segregate wastes. Recycle waste if feasible. Strategically place signage around the site to inform contractors of the materials separation procedure. Maintain a tidy site and ensure bins are accessible for collection. Include waste management awareness as part of the site induction program and on-going toolbox	C4-Major	L2-Unlikely	**C**
		Transport and disposal of waste	Non-compliance with OEH's waste guidelines. Impact to landfill. Land/ ground and/or surface water pollution. Greenhouse gas emissions Air pollution and contamination of nearby sensitive receptors if waste is contaminated	C3-Serious	L2-Unlikely	**D**	Yes	Licensed contractors for removal and disposal of waste. Waste dockets. All loads leaving site to be covered	C3-Serious	L2-Unlikely	**D**
13	**Restoration Works**	Inadequate/ inappropriate site restoration	Impact on visual amenity Erosion of exposed surfaces leading to sedimentation of nearby waterways Introduction of weeds or other exotic species	C3-Serious	L3-Possible	**C**	Yes	Any rehabilitation areas shall be consistent with surrounding landforms and environmental. Areas will allow nature flow of water across the surface during any rain event, and will prevent pooling not consistent with the area. These areas shall also ensure erosion risk during the rehab period is minimal No vegetation cleared during construction will be removed from site. It will be stockpiled and used for rehabilitation Rehabilitate all disturbed areas as soon as practicable to reduce the potential for erosion. Use native species.	C3-Serious	L3-Possible	**C**
14	**Demobilisation**	Removal of equipment, amenities and vehicles	Visual impact if construction material not removed appropriately Truck movement impacting traffic Contamination from dirty equipment leaving site	C2-Moderate	L2-Unlikely	**E**	No	Remove all construction materials Refer to Traffic Management Plan (TMP) All equipment removed from site to be clean from contamination	C2-Moderate	L2-Unlikely	**E**