Transgrid

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Mount Piper to Wallerawang Transmission Line Upgrade Project

Amendment Report

December 2025

Document preparation history

Revision	Reviewed By	Date
0	Jenny McKinney Greg Marshall	17/12/25 17/12/25

Executive summary

Background

Transgrid proposes to deliver a new 330 kilovolt (kV) transmission line of approximately eight kilometres (km) in length between the Mount Piper and Wallerawang 330 kV substations. Over half of the proposed transmission line would use an existing 132 kV transmission line easement, which would be widened to accommodate both the new and existing transmission lines.

An Environmental Impact Statement (EIS) (Transgrid, 2025a) was prepared to support Transgrid's application for approval of the project. The EIS (SSI-70279722) was placed on public exhibition by the NSW Department of Planning, Housing and Infrastructure (DPHI – Planning) from 27 August 2025 to 24 September 2025.

Transgrid is proposing amendments to the project described in the EIS (Transgrid, 2025a) to reflect changes from further design, construction planning and in response to stakeholder feedback.

Approvals process

The project is subject to approval by the NSW Minister for Planning and Public Spaces under Part 5, Division 5.2 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act). The project was determined to be a controlled action under the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) and, consequently, also requires approval from the Commonwealth Minister for the Environment and Water.

In accordance with section 179(2) of the Environmental Planning and Assessment Regulation (EP&A Regulation), an applicant may, with the approval of the Planning Secretary, amend the application at any time before the application is determined. This Amendment Report describes the proposed amendments to the project and provides an assessment of the potential environmental, social and economic impacts of the amendments and outlines any additional or revised mitigation measures that may be required.

Following public exhibition of the EIS (Transgrid, 2025a), a Submissions Report (Transgrid, 2025b) has been prepared to consider and respond to the issues raised in submissions. The Submissions Report (Transgrid, 2025b) will be submitted to DPHI – Planning at the same time as this Amendment Report. The Amendment Report should be read in conjunction with the Submissions Report (Transgrid, 2025b), which contains a revised Biodiversity Development Assessment Report (GHD, 2025a), a revised Traffic and Transport Assessment (GHD, 2025b) and mitigation measures, all of which consider the proposed amendments.

Proposed amendments and consultation

The categories of amendments include:

- changes to access tracks, including provision or adjustment of culverts along access tracks
- changes to a laydown area, brake and winch site and construction compound
- changes to construction traffic volumes and distribution
- exclusion of impact piling as a construction method.

There are no changes to the design or location of the transmission line and the associated easement.

Engagement on the proposed amendments included consultation with stakeholders, landowners, and State and Commonwealth agencies. This involved briefings and requests for feedback with the following stakeholders and landowners:

- Department of Planning, Housing and Infrastructure (DPHI – Planning)
- Conservation Programs, Heritage and Regulation Group (CPHR)
- Commonwealth Department of Climate Change, Environment, Energy and Water (Commonwealth DCCEEW)
- NSW Environment Protection Authority (NSW EPA)
- Heritage NSW
- National Parks and Wildlife Service (NPWS)
- Transport for NSW (TfNSW)
- WaterNSW
- Centennial Coal
- EnergyAustralia
- Landowner of the former Wallerawang Power Station site.

Lithgow City Council was offered a briefing to discuss Council's submission and the proposed amendments. Council requested information to be provided by email. Consultation with the wider community was not undertaken in relation to the amendments, as they were considered minor in nature and their impacts were generally unchanged or limited to land associated with the stakeholders or landowners that were consulted.

Strategic context

The project is a crucial component of the NSW Transmission Infrastructure Strategy, enabling the Central-West Orana Renewable Energy Zone, and increasing transmission capacity for renewable energy in NSW. It will support affordable and reliable energy, and the NSW Government energy policies and Australia's net-zero emission targets.

Key environmental, social and economic impacts of the amendments

Potential changes to environmental impacts associated with the amended project would primarily occur during construction and are mostly related to biodiversity and heritage and summarised as:

- a reduction in direct impacts on native vegetation by 0.35 hectares (ha) compared to the exhibited project.
- exclusion of the Lidsdale 2 PAD Extension (AHIMS 45-1-2994) Aboriginal cultural heritage site from the project footprint
- minimising potential impacts on the Springvale Colliery (AHIMS 45-1-0237) Aboriginal cultural heritage site by removing the previously proposed access track that traversed the site
- reduction of worst-case noise and vibration impacts on residential sensitive receivers and the State heritage listed Wallerawang Rail Bridges over Coxs River (SHR no. 01064), respectively, by adopting a bored piling method and avoiding impact piling during construction.

Justification

The project has been assessed in accordance with the EP&A Act, the EPBC Act, and the SEARs. The amended project results in potential impacts that are consistent with the conclusions of the EIS (Transgrid, 2025a) for the exhibited project. The proposed amendments show Transgrid's commitment to improving project outcomes, including the avoidance and minimisation of potential impacts, particularly for Aboriginal and historic heritage, noise and vibration, and biodiversity.

On balance, the project is justified. Potential impacts would be further minimised by implementing the recommended mitigation measures provided in Appendix B of the Submissions Report (Transgrid, 2025b). Residual impacts on biodiversity will be offset in accordance with relevant State and Commonwealth statutory requirements.

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Abbreviations and glossary of terms

Term	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BC Act	NSW *Biodiversity Conservation Act 2016*
CNMLs	Construction Noise Management Levels
Conductor	The material that conducts electricity and in relation to overhead transmission lines is often referred to as 'wires' that are suspended between the structures.
Construction footprint	Direct ground disturbance footprint proposed by construction activities.
CSSI	Critical State Significant Infrastructure
Cth	Commonwealth
CWO REZ	The Central-West Orana Renewable Energy Zone Renewable Energy Zones combine new renewable energy infrastructure, including generators (such as solar and wind farms) with storage (such as batteries and pumped hydro) and high-voltage transmission infrastructure.
Commonwealth DCCEEW	Australian Government Department of Climate Change, Energy, the Environment and Water. The Department administering the EPBC Act.
CPHR	Conservation Programs, Heritage and Regulation Group
dB(A)	decibel, A-weighted
DPE	The former NSW Department of Planning and Environment (now known as the Department of Planning, Housing and Infrastructure).
DPHI	NSW Department of Planning, Housing and Infrastructure
Easement	An area surrounding the transmission line which is a 'legal right of way' and allows for the development, ongoing access and maintenance of the transmission line.
EIS	Environmental Impact Statement
Energised	An electricity line that is carrying electricity
EnergyCo	Energy Corporation of NSW
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
NSW EPA	NSW Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999 (Cth)*
ISP	Integrated System Plan. The Australian Energy Market Operator's whole-of-system plan for the efficient development of the National Electricity Market power system that achieves power system needs for a planning horizon of at least 20 years for the long-term interests of the consumers of electricity.
km	kilometre
kV	kilovolt, one thousand volts
LGA	Local Government Area
m	metre
MNES	Matters of National Environmental Significance

Term	Definition
NEM	National Electricity Market The connected electricity transmission grid of Queensland, New South Wales, Australian Capital Territory, Victoria, Tasmania and South Australia.
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water. The Department administers a range of NSW environment legislation including the BC Act and POEO Act.
Outage	An event where electricity supply is interrupted and electricity is not being supplied along an electrical cable, either scheduled in advance or otherwise.
Outage recall or recall	Where a scheduled outage has commenced, but transmission network capacity requires the transmission line to be re-energised at short notice by Transgrid to meet network demands.
PAD	Potential archaeological deposit
PCT	Plant Community Type
POEO Act	NSW *Protection of the Environment Operations Act 1997*
SCA	State Conservation Area
SEARs	Secretary's environmental assessment requirements
SoHI	Statement of Heritage Impact
TfNSW	Transport for NSW
the project	Construction and operation of a new 330 kV transmission line between existing substations at Mount Piper and Wallerawang.
the project footprint	Includes the easement and route of the proposed transmission line, transmission structures, a widened easement, substations, potential access tracks to/from the easement, temporary construction compounds, and laydown areas within the easement. Access tracks and construction compound sites are indicative and subject to design changes and further investigation.
Transgrid	The manager and operator of the high voltage electricity transmission network in New South Wales and the Australian Capital Territory with connections to Victoria and Queensland. Transgrid manages the network that is the backbone of the National Electricity Market, which enables energy trading between Australia's three largest states along the east coast.

1. Introduction

This section provides the background to the project, a description of the key features of the project as described in the Environmental Impact Statement (EIS) (Transgrid, 2025a), the proposed amendments and refinements made to the project and outlines the purpose and structure of this report.

1.1. Background

The Australian and New South Wales (NSW) governments have both established targets of net-zero emissions by 2050. To achieve this, the energy landscape is transitioning to a greater mix of low-emission renewable energy sources, such as wind and solar. The NSW Government is developing five Renewable Energy Zones (REZs), starting with the Central-West Orana REZ (CWO REZ). The REZs will increase renewable energy generation, reduce carbon emissions, and help deliver lower wholesale electricity costs to consumers.

The NSW Network Infrastructure Strategy (EnergyCo 2023) has identified the need for additional transmission capacity between the Mount Piper 330 kV and Wallerawang 330 kV substations to enable the transmission of the forecast output from renewable generators in the CWO REZ. Transgrid proposes to deliver a new 330 kilovolt (kV) transmission line of approximately eight kilometres (km) in length between the Mount Piper and Wallerawang 330 kV substations (referred to as 'the project'). The project would support the delivery of 4,500 megawatt (MW) of renewable energy generation from the CWO REZ to consumers.

An Environmental Impact Statement (EIS) (Transgrid, 2025a) was prepared for the project in accordance with the requirements of Part 5, Division 5.2 of the *NSW Environmental Planning and Assessment Act, 1999* (EP&A Act). The EIS for the project was placed on public exhibition by DPHI – Planning from 27 August 2025 to 24 September 2025.

The project as described and assessed in the EIS (Transgrid, 2025a) is referred to herein as the 'exhibited project'. The project with the proposed amendments described in this Amendment Report is referred to as the 'amended project'.

1.2. Key features of the exhibited project

The exhibited project would involve the construction and operation of approximately 8 km of new 330 kilovolt (kV) transmission line between the Mount Piper and Wallerawang 330 kV substations. Approximately 5.3 km would involve upgrading transmission structures on a widened, existing easement while about 2.7 km would be new construction within a new easement. The key features of the exhibited project include:

- widening of approximately 0.5 km of existing easements in the vicinity of the Mount Piper 330 kV substation by up to 40 metres (m) to accommodate the new 330 kV transmission line and adjustments to existing 132 kV and 330 kV transmission lines
- widening of the existing 132 kV easement from 45 m to 60 m for 4.8 km to accommodate double circuit transmission structures for the existing 132 kV transmission line and the new 330 kV transmission line
- installation of two 132 kV pole structures where the existing 132 kV transmission line would be restrung onto new double circuit transmission structures
- construction of 1.2 km of new transmission line from the existing 132 kV transmission line south-east to the intersection of Main Street and the Castlereagh Highway on a 60 m easement

- construction of 1.5 km of new 330 kV transmission line on a 40 m easement running parallel to existing 330 kV transmission lines for approximately 1.1 km and then diverging and widening to 60 m for the remaining 0.4 km to the Wallerawang 330 kV substation.

1.3. Overview of the proposed amendments

Transgrid has identified several proposed amendments to the exhibited project. These amendments reflect functional improvements to the construction methodology and improved project information. The amendments have been made in response to:

- ongoing design development, including the results of field investigations
- detailed construction planning activities by the construction contractor
- stakeholder and landowner consultation undertaken during and following public exhibition of the EIS.

The proposed amendments result in changes to the project description in the EIS (Transgrid, 2025a), and approval is sought for these changes. A total of 12 amendments are proposed in the following categories:

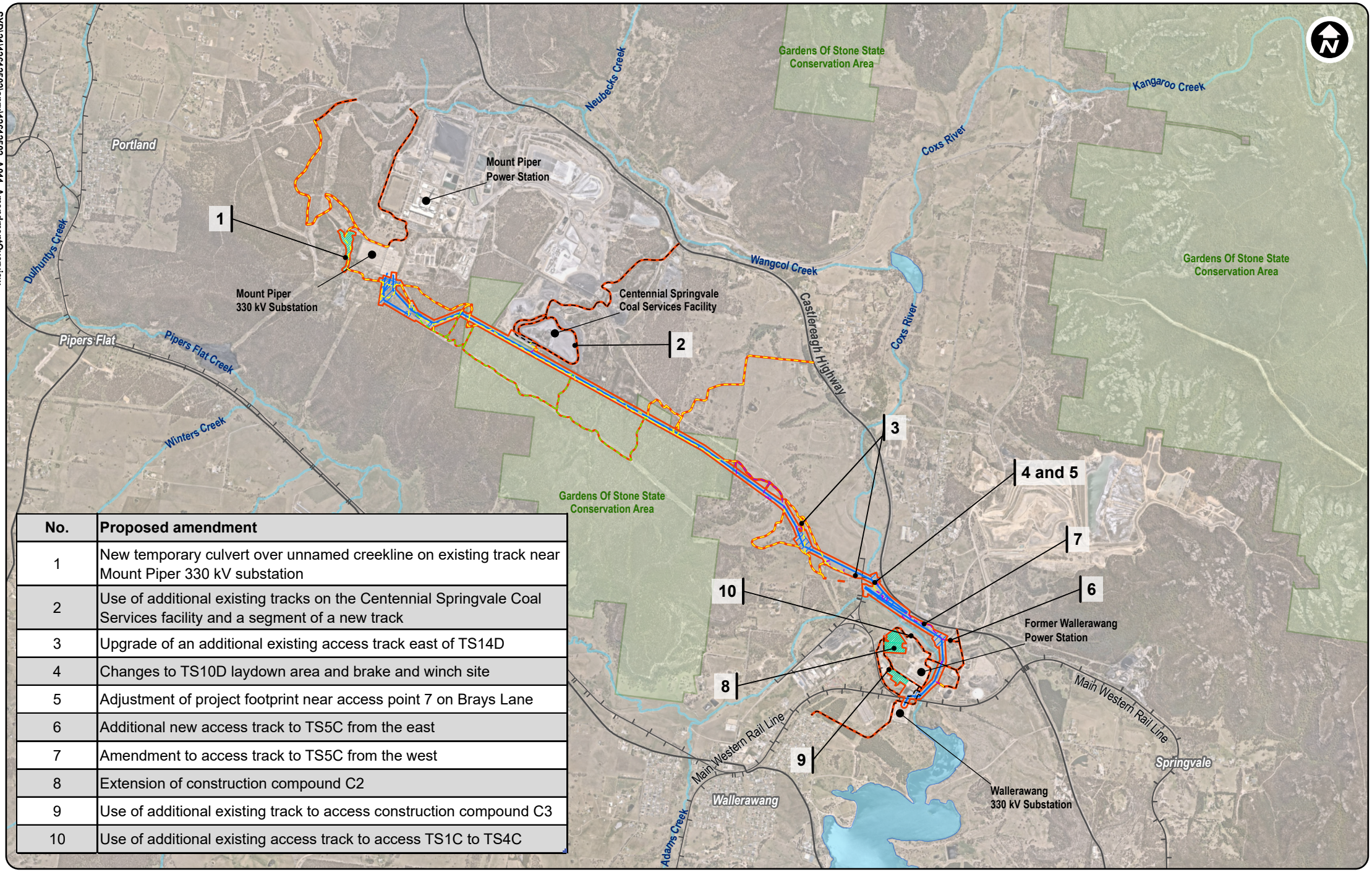
- changes to access tracks, including provision or adjustment of culverts along access tracks
- changes to a laydown area, brake and winch site and construction compound
- changes to construction traffic volumes and distribution
- exclusion of impact piling as a construction method.

Figure 1.1 shows the location of the amended project and the location of the proposed amendments.

Section 2 (Description of the amended project) provides further details and figures of each of the proposed amendments. An updated project description which includes the proposed amendments is provided in Appendix A (Updated project description).

1.4. The proponent

The project proponent is NSW Electricity Networks Operations Pty Ltd as a trustee for NSW Electricity Operations Trust (referred to as Transgrid). Transgrid is the operator and manager of the high voltage transmission network in NSW and the Australian Capital Territory (ACT) and is the Authorised Network Operator for the purpose of an electricity transmission or distribution network under the provisions of the *Electricity Network Assets (Authorised Transactions) Act 2015*.



No.	Proposed amendment
1	New temporary culvert over unnamed creekline on existing track near Mount Piper 330 kV substation
2	Use of additional existing tracks on the Centennial Springvale Coal Services facility and a segment of a new track
3	Upgrade of an additional existing access track east of TS14D
4	Changes to TS10D laydown area and brake and winch site
5	Adjustment of project footprint near access point 7 on Brays Lane
6	Additional new access track to TS5C from the east
7	Amendment to access track to TS5C from the west
8	Extension of construction compound C2
9	Use of additional existing track to access construction compound C3
10	Use of additional existing access track to access TS1C to TS4C

Project components
- Amended project footprint
- New and adjusted transmission line
- Construction compound
- Access tracks – existing, no upgrade
- Access tracks – minor upgrades as required (light vehicles only)
- Access tracks – new
- Access tracks – upgrade and widen

Existing environment
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

Figure 1.1 - Amended project location and regional context

0 500 1,000
Metres
Grid: GDA2020 MGA Zone 56

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1.5. Purpose and structure of the report

This Amendment Report has been prepared in accordance with sections 179(2) and (3) of the NSW Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and the State significant infrastructure guidelines – preparing an amendment report (DPIE, 2022). This report describes the proposed amendments, the impacts and benefits of the amendments, and any revised environmental management measures. The structure of this report is as follows:

- Section 1 Introduction – outlines the background to the project, key features of the exhibited project and an overview of the proposed amendments
- Section 2 Description of the amendments – summarises the proposed amendments
- Section 3 Strategic and statutory context – key legislative requirements and policy guidelines
- Section 4 Engagement – summarises the stakeholder engagement undertaken in relation to the amendments
- Section 5 Assessment of impacts – potential impacts associated with the proposed amendments
- Section 6 Mitigation measures – revised and additional mitigation and management measures
- Section 7 Justification and conclusion – an evaluation of the justification and conclusion of the amended project
- Section 8 References – the key information sources that informed this report.

Transgrid has prepared a Submissions Report (Transgrid, 2025b) to respond to submissions received during public exhibition of the EIS. Revised biodiversity and traffic and transport technical reports (GHD, 2025a; 2025b) have been prepared to address submissions, and these revised technical reports are attached to the Submissions Report (Transgrid, 2025b). Any biodiversity and traffic and transport impacts associated with the proposed amendments have also been included in the revised technical reports.

This Amendment Report should be read in conjunction with the Submissions Report (Transgrid, 2025b).

2. Description of the amended project

This section describes the proposed amendments to the project following public exhibition of the EIS (Transgrid, 2025a).

2.1. Overview of proposed amendments

Twelve (12) amendments to the exhibited project are proposed as a result of changes to the construction methodology, and improved project information. Table 2.1. provides a comparison between the exhibited project described in the EIS (Transgrid, 2025a) and the proposed amendments. An updated version of the project description, as outlined in Chapter 3 (Project description) of the EIS (Transgrid, 2025a) is provided in Appendix A (Revised project description). Details of all the proposed amendments are described in section 2.2.

Table 2.1. Summary of the exhibited project and proposed amendments

Project aspect	Exhibited project	Summary of proposed amendments
Project footprint	Approximately 86.5 hectares (ha)	Approximately 90.4 hectares
Design		
Transmission line and easements	Approximately 8 km of new 330 kV transmission line between the existing Mount Piper 330 kV and Wallerawang 330 kV substations.	No change
Transmission structures	Transmission structures for the project include approximately 28 new steel lattice towers and four steel and/or concrete pole structures with heights ranging from approximately 14 to 60 m, subject to detailed design. Towers would generally be spaced between 100 m to 550 m apart, while pole structures would be about 30 m to 50 m apart. New conductors, earth wires and optical ground wires (OPGW) would be installed on the new transmission structures for the new 330 kV and existing 132 kV lines. Local adjustment of existing transmission structures would be required in the vicinity of the Mount Piper 330 kV substation to minimise crossover of transmission lines. Redundant transmission structures, including the gantry immediately north of the Main Western Rail Line, would be removed and recycled, where possible	No change
Construction		
Construction hours	The proposed project construction hours are 7am to 6pm Monday to Sunday with use of the construction compounds from 6pm to 7pm Monday to Friday. Non-standard hours are also required under planned outages for safety purposes. Some works may need to be undertaken between 6pm and 7am Monday to Sunday or on public holidays due to safety constraints.	No change
Construction workforce	Expected to peak at about 150 workers, with an average of about 60 workers.	No change

Project aspect	Exhibited project	Summary of proposed amendments
Ancillary infrastructure	Ancillary and temporary infrastructure would include three construction compounds, laydown areas and brake and winch sites for stringing conductors.	Construction compound C2 expanded (Amendment 8). Laydown area for transmission structure (TS) 10D expanded for more efficient assembly (Amendment 4). Brake and winch site near TS10D relocated to avoid heritage impacts (Amendment 4).
Access	To facilitate efficient construction access, the following is required: • upgrading and widening of approximately 25 km of existing access tracks to at least 6 m, with some sections widened up to 10 m due to local topography • construction of approximately 2 km of new 6 m wide access tracks. In addition to the above, approximately 4 km of existing tracks would be used only by light vehicles. The light vehicle tracks may require minor repairs (for example, filling potholes) but would not be graded or widened. The project footprint would be accessed from public roads at 13 access points, with the majority of these being existing property access points. Existing access tracks would be used in preference to new tracks wherever possible. Access track upgrades and widening would include required drainage.	An increase to the total length of existing access tracks designated for upgrade and widening by approximately 0.5 km (Amendments 2, 3 and 6). An increase to the total length of new access tracks by approximately 0.3 km (Amendments 2, 3 and 7). Removal of access point 5 reducing the total number of access points to 12 access points (Amendment 3). An increase to the total length of existing tracks (no upgrade required) for light vehicles and/or heavy vehicles by approximately 2 km (Amendments 2, 6, 9 and 10).
Construction duration and timing	Subject to receiving necessary approvals, construction would commence in mid-2026 and be undertaken over a period of approximately 20 months.	Construction would commence in late-2026.
Operation and maintenance		
Operational workforce	Managed as part of existing operations with no additional staff requirements.	No change
Design life	Approximately 50 years.	No change
Access	Nine access points used for the construction phase will be retained, and those not required for future operation and maintenance activities would be returned to pre-construction conditions, subject to agreement (or as agreed) with landowners.	No change
Maintenance	All project infrastructure would require regular maintenance to maintain serviceability and maximise its operational life. Maintenance activities would include transmission structure monitoring, annual aerial inspection, routine vegetation management on the easement and in the hazard tree zone and access tracks would be maintained in a trafficable condition.	No change

2.2. Description of proposed amendments

A total of 12 amendments are proposed involving:

- changes to access tracks, including provision or adjustment of culverts along access tracks
- changes to a laydown area, brake and winch site and construction compound
- changes to construction traffic volumes and distribution
- exclusion of impact piling as a construction method.

Each amendment is described in detail in Table 2.3.

2.2.1. Access tracks

Amendments 2, 3, 6, 7, 9 and 10 involve changes to access tracks. These amendments result in the following change to the access tracks as shown in Table 2.2.

Table 2.2. Summary of access track changes from proposed amendments

Relevant amendment	Additional existing access tracks (no upgrade) (km)	Additional existing access tracks requiring upgrade and widening (km)	Additional new access tracks (km)
2: Additional existing access tracks on Centennial Springvale Coal Services facility	1.2	0.2	0.1
3: Upgrade existing access track	-	0.2	minus 0.2 (track removed)
6: Additional new access track	0.1	0.1	-
7: Amendment to access track	-	-	0.4
9: Additional existing track to compound C3	0.1	-	-
10: Additional existing track to structures	0.6	-	-
Total	**2**	**0.5**	**0.3**

The Submissions Report (Transgrid, 2025b) also describes corrections made to access tracks designated for upgrade and widening. These corrections and the proposed amendments result in the following overall change to access tracks as described in Chapter 3 of the EIS (Transgrid, 2025a):

- The total length of existing access tracks:
  - to be upgraded and widened would reduce by 5 km, from approximately 25 km to 20 km
  - to be used in existing condition for light vehicles only, with only minor repairs, would remain unchanged from the proposed amendments, but due to calculation rounding would increase by 0.3 km, from 4 km to 4.3 km
  - to be used in existing condition for light vehicles and/or heavy vehicles, not requiring upgrade works, would increase by 2 km, from approximately 10 km to 12 km, noting this total length was not previously calculated for the EIS (Transgrid, 2025a).
- The total length of new tracks required would increase by 0.5 km, from approximately 2 km to 2.5 km.

These overall changes to the access tracks for the amended project are described in a revised Chapter 3 (Project description) provided in Appendix A.

Table 2.3. Description of proposed amendments

No.	Proposed amendment	EIS description	Amendment description	Reason for amendment	Figure reference
1	New temporary culvert over unnamed creekline on existing track near Mount Piper 330 kV substation.	Widening of existing access track to 6 m at this location, with no proposed culvert over unnamed creekline.	A temporary culvert would be installed across the existing track where it crosses an unnamed creekline. The temporary culvert would comprise dual 600 mm pipes covered with approximately 300 mm of engineered fill. The culvert and fill would be removed following completion of construction. All works would be within the project footprint outlined in the EIS (Transgrid, 2025a).	The temporary culvert is required to facilitate heavy vehicle movements safely across this low point in the topography and maintain uninterrupted streamflow (when flowing).	Figure 2.1
2	Use of additional existing tracks on the Centennial Springvale Coal Services facility and a segment of a new track.	Using existing tracks around the northwest side of Centennial Coal's reject emplacement area to gain access to the existing easement in the vicinity of TS24D.	To facilitate access to the proposed easement in the vicinity of TS24D, it is proposed to: • use an existing Centennial Coal track within the reject emplacement area • upgrade and widen an existing Centennial Coal track located between the reject emplacement area and the easement • construct a new 6 m wide access track from the abovementioned track south of the reject emplacement area to the easement. A section of track proposed in the EIS (Transgrid, 2025a) would no longer be required.	Centennial Coal has requested the potential use of specific additional tracks to minimise disruption to their operations. During construction, the identification of which tracks will be used would be decided in consultation with Centennial Coal based on their operations at the time. Changes to the access track south of the reject emplacement area is the result of further construction planning and consideration of specific topographical constraints.	Figure 2.2

No.	Proposed amendment	EIS description	Amendment description	Reason for amendment	Figure reference
3	Upgrade of an additional existing access track east of TS14D	TS11D and 12D would be accessed via access point 5, on Brays Lane, and a new 6 m wide track that crosses the Springvale Colliery Aboriginal heritage site (AHIMS 45-1-0237). This track includes a new culvert over an existing waterbody, the unnamed tributary (oxbow) of Coxs River.	An existing track east of TS14D would be upgraded and widened to connect tracks included in the EIS project footprint. This would provide access to TS11D and TS12D from the west, passing under the existing Centennial Coal overland conveyor. The track would be widened to 6 m, and to 8 m wide under the coal conveyor to accommodate heavy vehicle turn paths. No tree clearing would be required and the existing farm dam would not be impacted. Use of this upgraded track would eliminate the need for construction of the new track between access point 5 and TS11D, including the proposed culvert. The need for access point 5 would also be removed with movements to utilise access point 4 instead. A portion of the project footprint has been removed, as it was originally included to facilitate construction of the access track that is no longer required.	Changes to these access tracks are the result of ongoing construction planning activities to enable: • further avoidance and minimisation of the risk of impacts on the Springvale Colliery Aboriginal heritage site (AHIMS 45-1-0237) • efficiencies in construction and reduction of impacts by removing the need for a new culvert and a new access point.	Figure 2.3
4	Changes to TS10D laydown area and brake and winch site	The project footprint included a brake and winch site and laydown area north and east of TS10D. The ACHAR identified the Lidsdale 2 PAD Extension Aboriginal heritage site (AHIMS 45-1-2994) within this area. The EIS (Transgrid, 2025a) included mitigation measure H2 to avoid ground disturbance within the PAD area.	The Lidsdale 2 PAD Extension would be excluded from the footprint, and the brake and winch site would be limited to the area south of the Lidsdale 2 PAD Extension within the project footprint. The laydown area for TS10D would be extended approximately 17 m to the east. The vegetation in the extended footprint to the east is non-native and no tree clearing would be required.	The exclusion of Lidsdale 2 PAD Extension from the project footprint reflects ongoing construction planning and avoidance of impacts on Aboriginal heritage in accordance with mitigation measure H2 in the EIS (Transgrid, 2025a). The extension of the laydown area would facilitate more efficient construction of TS10D and decrease the duration of construction by several days in this location, thereby reducing potential impacts on sensitive receivers.	Figure 2.5
5	Adjustment of project footprint near access point 7 on Brays Lane	About 10 m of existing track (from access point 7) was not captured in the EIS project footprint.	A minor adjustment to the project footprint is required to include the full access track from access point 7 beneath the existing Centennial Coal overland conveyor.	The change is required to ensure all required access tracks are included in the project footprint.	Figure 2.5

No.	Proposed amendment	EIS description	Amendment description	Reason for amendment	Figure reference
6	Additional new access track to TS5C from the east	Access to TS5C was proposed via an access track from the west via access point 9 which also provided access to TS6C. This new track included a new culvert over the permanently wet area located between TS5C and TS6C.	An additional new access track to TS5C is proposed from the east. The new track would be accessed from the proposed track at access point 10. The new access track would require construction of about 120 m of new track, 6 m in width, and use about 60 m of existing tracks/ hardstand areas. Construction of the new section of track would involve the removal of two trees consisting of one planted native (*Eucalyptus viminalis*) and one planted exotic (pine tree).	The additional new access track would avoid the low lying and wet area located between TS5C and TS6C.	Figure 2.6
7	Amendment to access track to TS5C from the west	Access to TS5C was proposed via an access track from the west via access point 9 which also provided access to TS6C. This track included a new culvert over the ephemeral drainage line located between TS5C and TS6C.	About 80 m of track would be shifted south to better position the proposed culvert location. The access track and the culvert would remain within the EIS project footprint. No tree clearing would be required.	The amended alignment would avoid the low lying and wettest area west of TS5C.	Figure 2.7
8	Extension of construction compound C2	Construction compound C2 located adjacent to and south of Main Street, occupying an approximate area of 1.8 ha.	Construction compound C2 would be expanded to the south requiring about 2 ha of additional land. The expanded area includes existing grass and hardstand areas, some trees and demountable structures. The grass would be removed and re-instated post-construction. No tree clearing would be required and the demountable structures would be retained for use.	Construction compound C2 has been expanded to allow for the option of using only construction compound C2 rather than both construction compounds C2 and C3. The shift to a single compound would minimise vehicle movements through the property, which was raised as a concern by the landowner.	Figure 2.8
9	Use of additional existing track to access construction compound C3	Construction compound C3 was proposed to be accessed from the existing internal access track along the northern boundary of the compound.	An additional access point at the western boundary to construction compound C3 is proposed, via an existing access track. The track would not require upgrades.	This change is the result of outcomes from further landowner consultation and review of construction efficiencies relating to compound use and access.	Figure 2.9

No.	Proposed amendment	EIS description	Amendment description	Reason for amendment	Figure reference
10	Use of additional existing access track to access TS1C to TS4C	TS1C to TS4C would be accessed via a track running from access point 11 along the northern edge of construction compound C3.	Use of an additional existing track is proposed between the northern end of construction compound C2 and the existing track network near TS4C. No upgrades are required to this track. The track included in the EIS (Transgrid, 2025a) has been retained in the footprint to allow for a flexible response to the landowner's traffic management requirements.	The use of the additional track would address security concerns raised by the landowner and minimise traffic noise at a site office.	Figure 2.10
11	Changes to construction traffic volumes	Vehicle movements assumed workers arrive at the project site at the start of the day and depart at the end of the day. The specific daily and peak hour vehicle movements were summarised in Table 5.10 and Table 5.11 of the EIS, respectively (Transgrid, 2025a). The distribution of the peak hour movements was outlined in Figure 5.1 and Figure 5.2 of the EIS (Transgrid, 2025a) for the AM and PM peak hours respectively.	Vehicle volumes have been revised to account for an underestimate of vehicles coming to site during peak construction periods as well as to account for movements between portions of the project footprint. The amended daily and peak hour vehicle movements are summarised in Table 5.10 and Table 5.11 respectively. The distribution of the amended peak hour movements is outlined in Figure 5.1 and Figure 5.2 for the AM and PM peak hours respectively.	Ongoing construction planning activities have provided a more detailed understanding of vehicle movements required to enable construction. This includes total heavy vehicle movements during peak construction and the traffic movements to the construction compound for pre-start meetings, and onwards to work areas across the project footprint.	N/A
12	Use of preferred bored piling construction method and exclusion of impact piling	The EIS (Transgrid, 2025a) considered the use of both impact and bored piling as part of Technical Report 10 – Noise and Vibration Assessment.	Impact piling is no longer required. Bored piling is the preferred construction method.	Ongoing geotechnical work and construction planning have progressed and identified that ground conditions do not require impact piling. Bored piling, which has lower noise and vibration impacts, is considered suitable for all transmission structure foundation locations.	N/A

SYD\21\12612502\aprx\12612502_A001_Amendment1

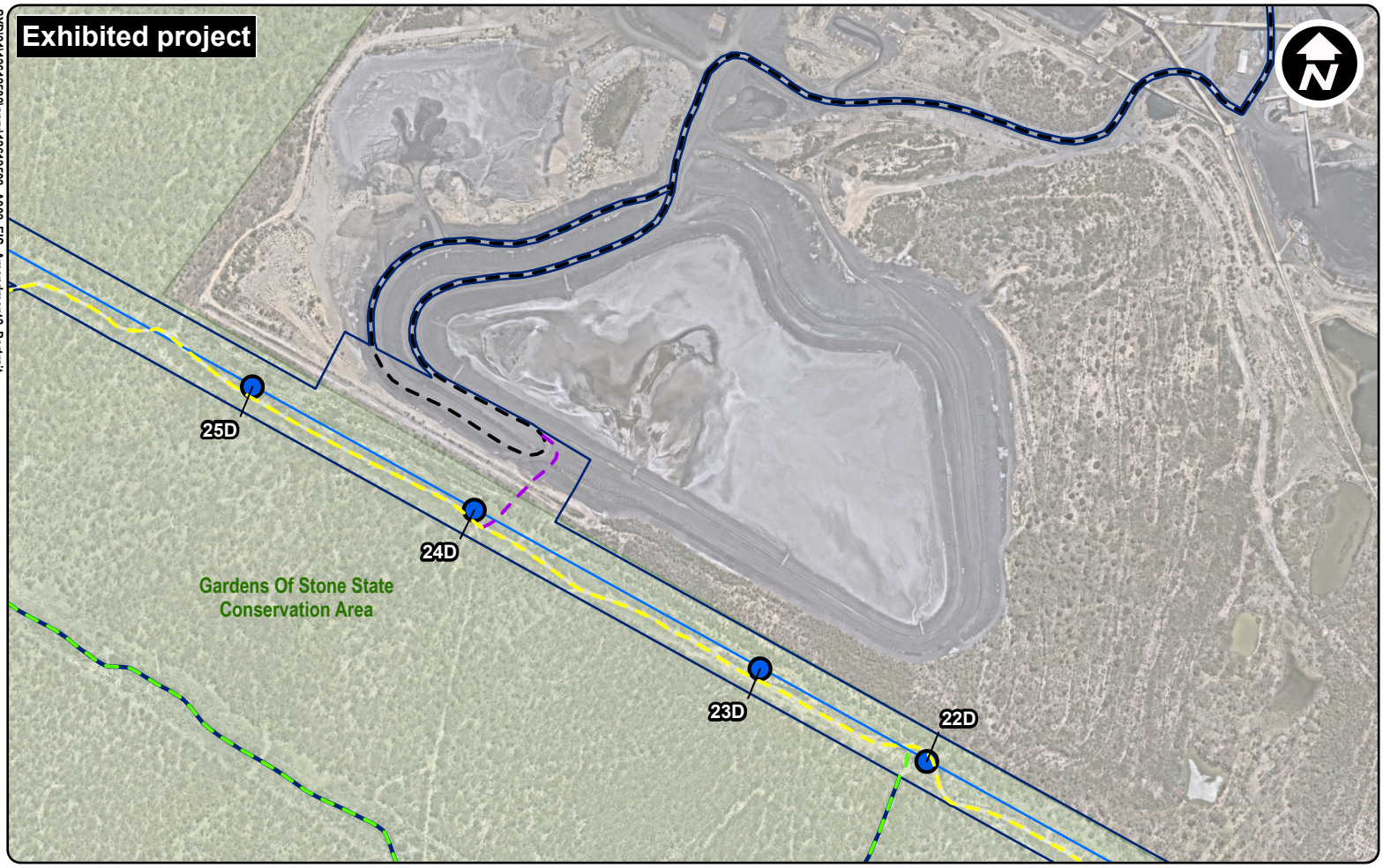
Project components
- EIS Project footprint
- Construction compound
- New temporary culvert crossing for access
- Tracks

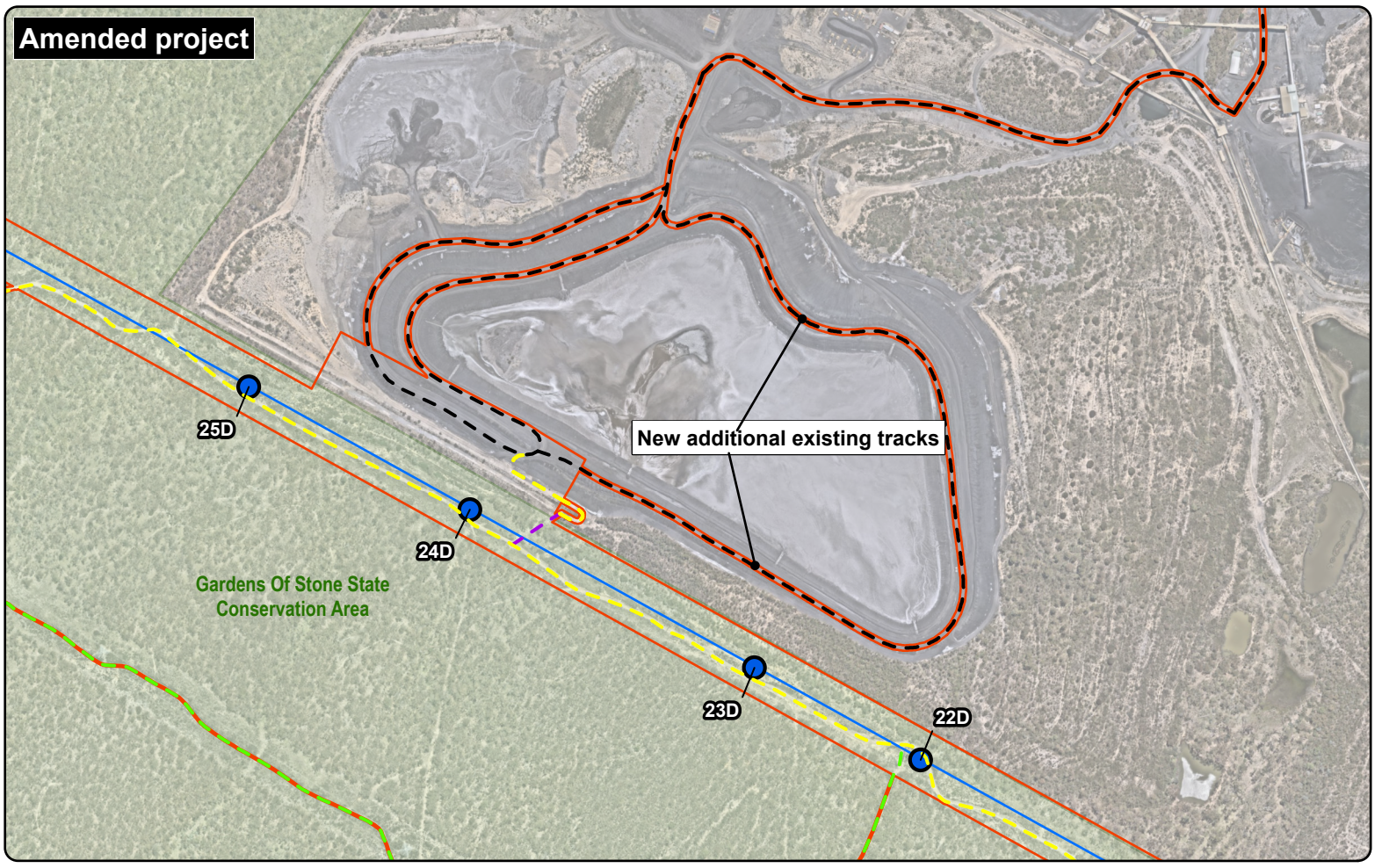
Figure 2.7 Amendment 1 - New temporary culvert

0 100 200
Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\aprx\12612502_A002_EIS_Amendment2_Portrait





Project components

- EIS project footprint
- Amended project footprint
- New and adjusted transmission line (no change from EIS)
- Transmission structure (no change from EIS)
- Access tracks – existing, no upgrade
- Access tracks – minor upgrades as required (light vehicles only)
- Access tracks – new
- Access tracks – upgrade and widen

Existing environment

- Gardens of Stone SCA

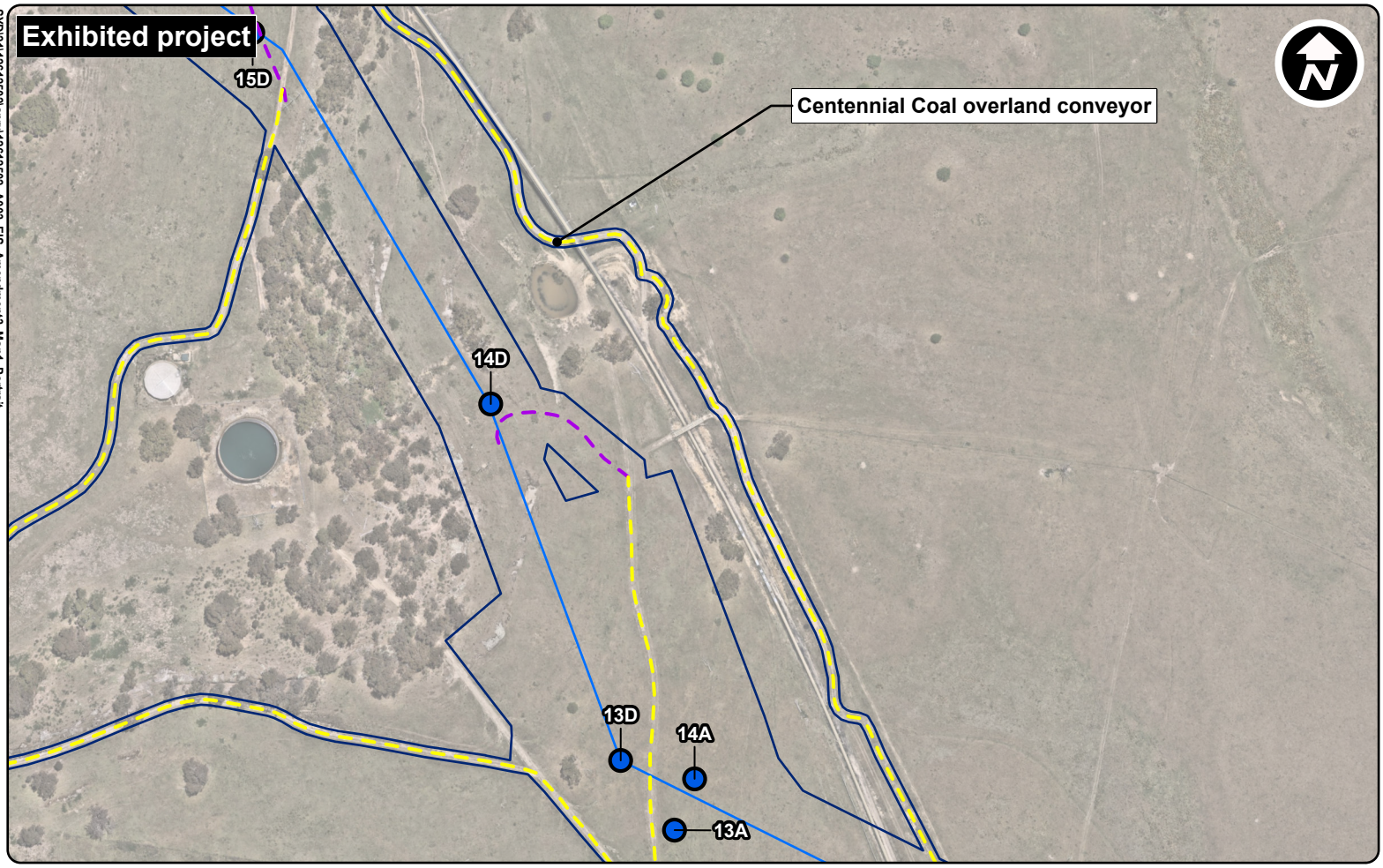
Figure 2.2 Amendment 2 - Use of additional existing tracks on the Centennial Springvale Coal Services facility and a segment of a new track

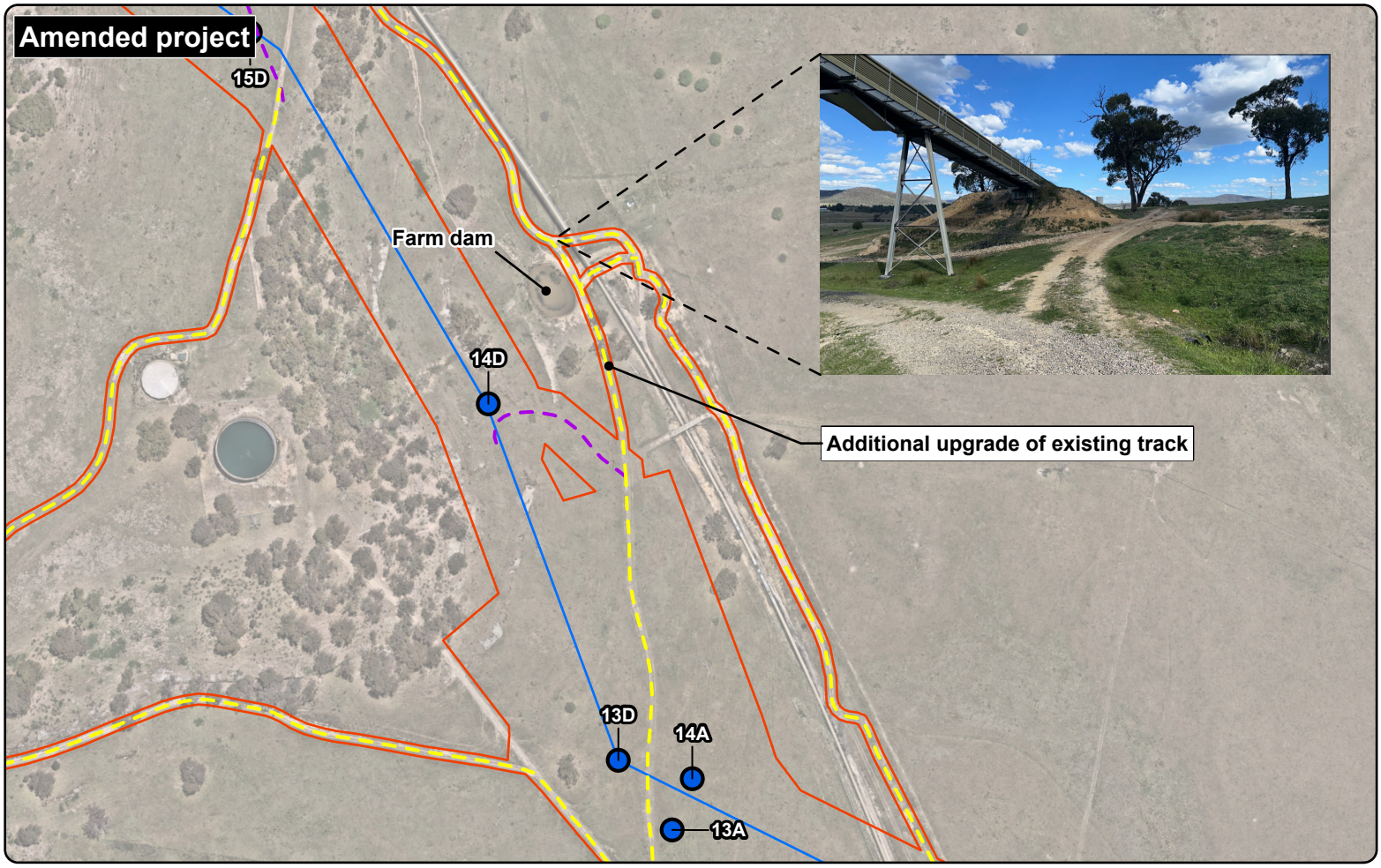
0 50 100

Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\aprx\12612502_A003_EIS_Amendment3_Map1_Portrait





Project components

- EIS project footprint
- Amended project footprint
- New and adjusted transmission line (no change from EIS)
- Transmission structure (no change from EIS)
- Access tracks – new
- Access tracks – upgrade and widen

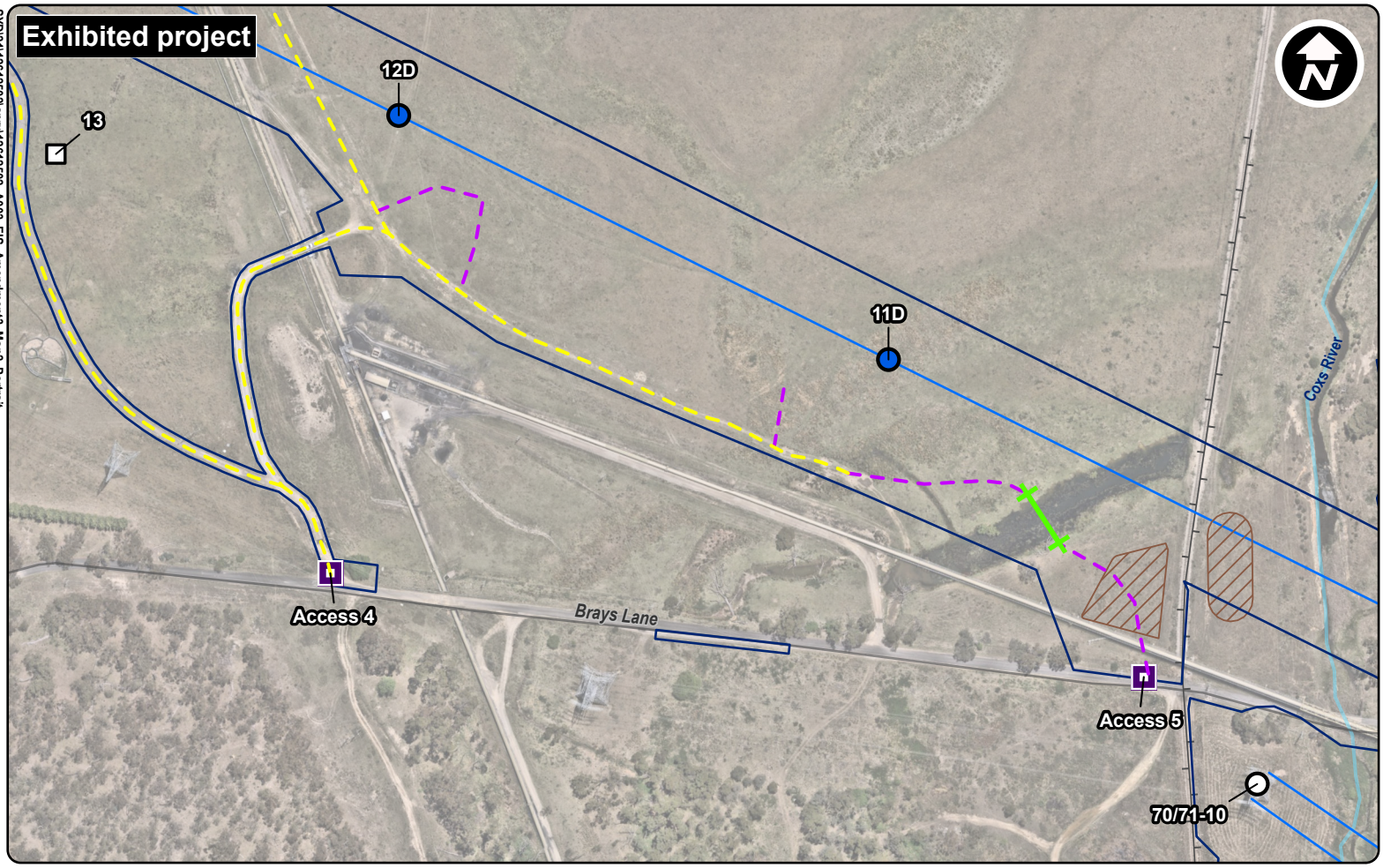
Figure 2.3 Amendment 3 - Upgrade of an additional existing access track east of TS14D – map 1

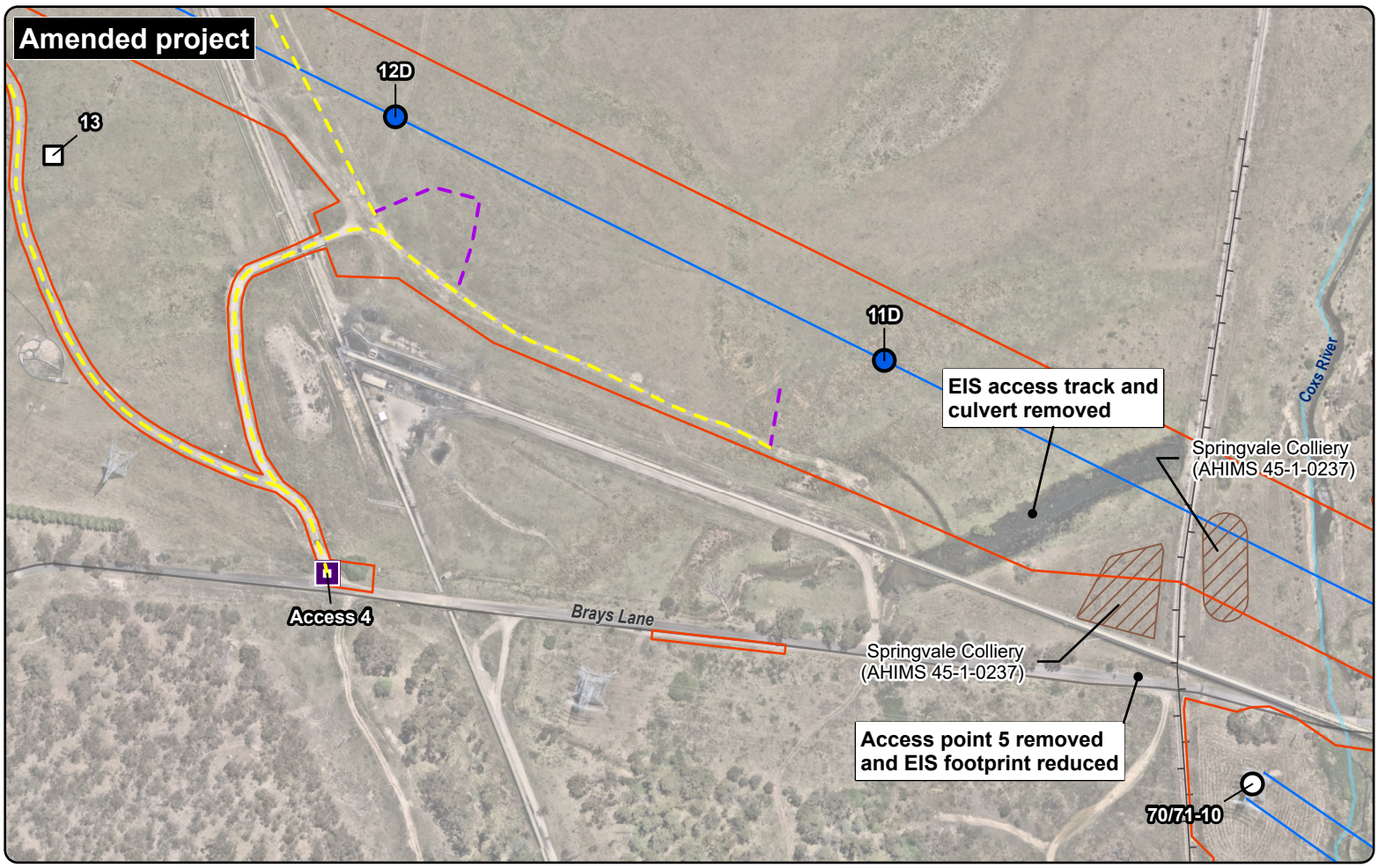
0 50 100

Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\gprx\12612502_A003_EIS_Amendment3_Map2_Portrait





Project components

- EIS project footprint
- Amended project footprint
- Aboriginal heritage site
- New and adjusted transmission line (no change from EIS)
- Access point
- Transmission structure (no change from EIS)
- Existing transmission structure to be reused
- Retained transmission structure
- Access tracks – new
- Access tracks – upgrade and widen
- New culvert
- Roads
- Railway
- Watercourse

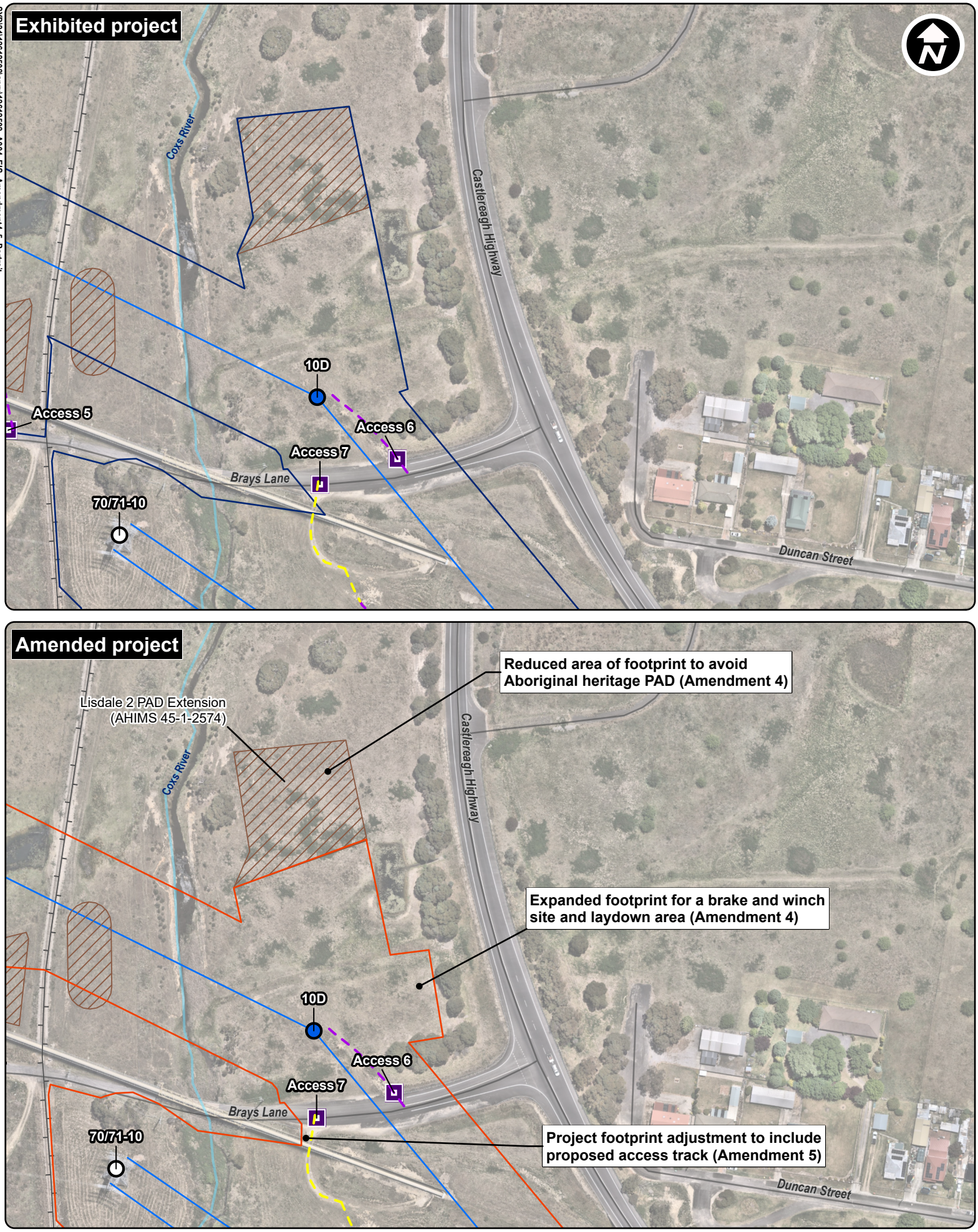
Figure 2.4 Amendment 3 - Upgrade of an additional existing access track east of TS14D – map 2

0 50 100

Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\gis\mxd\12612502_A004_EIS_Amendment4_5_Portrait



Project components

- EIS project footprint
- Amended project footprint
- Aboriginal heritage site
- New and adjusted transmission line (no change from EIS)
- Access point
- Transmission structure (no change from EIS)
- Existing transmission structure to be reused
- Access tracks – new
- Access tracks – upgrade and widen
- Roads
- Railway
- Watercourse

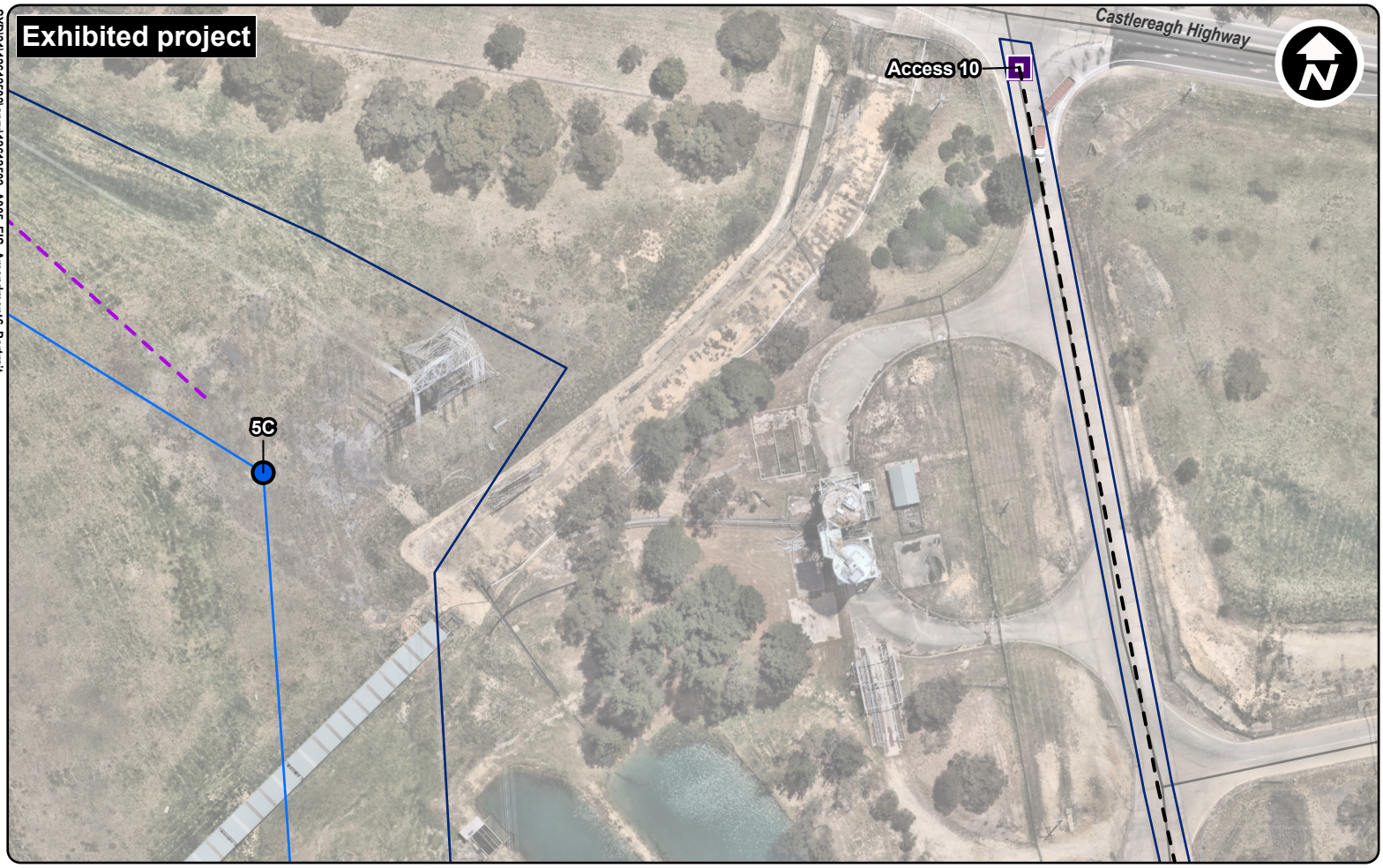
Figure 2.5 Amendment 4 and 5 – Changes to TS 10D laydown area and brake and winch site and adjustment of project footprint near access point 7 on Brays Lane

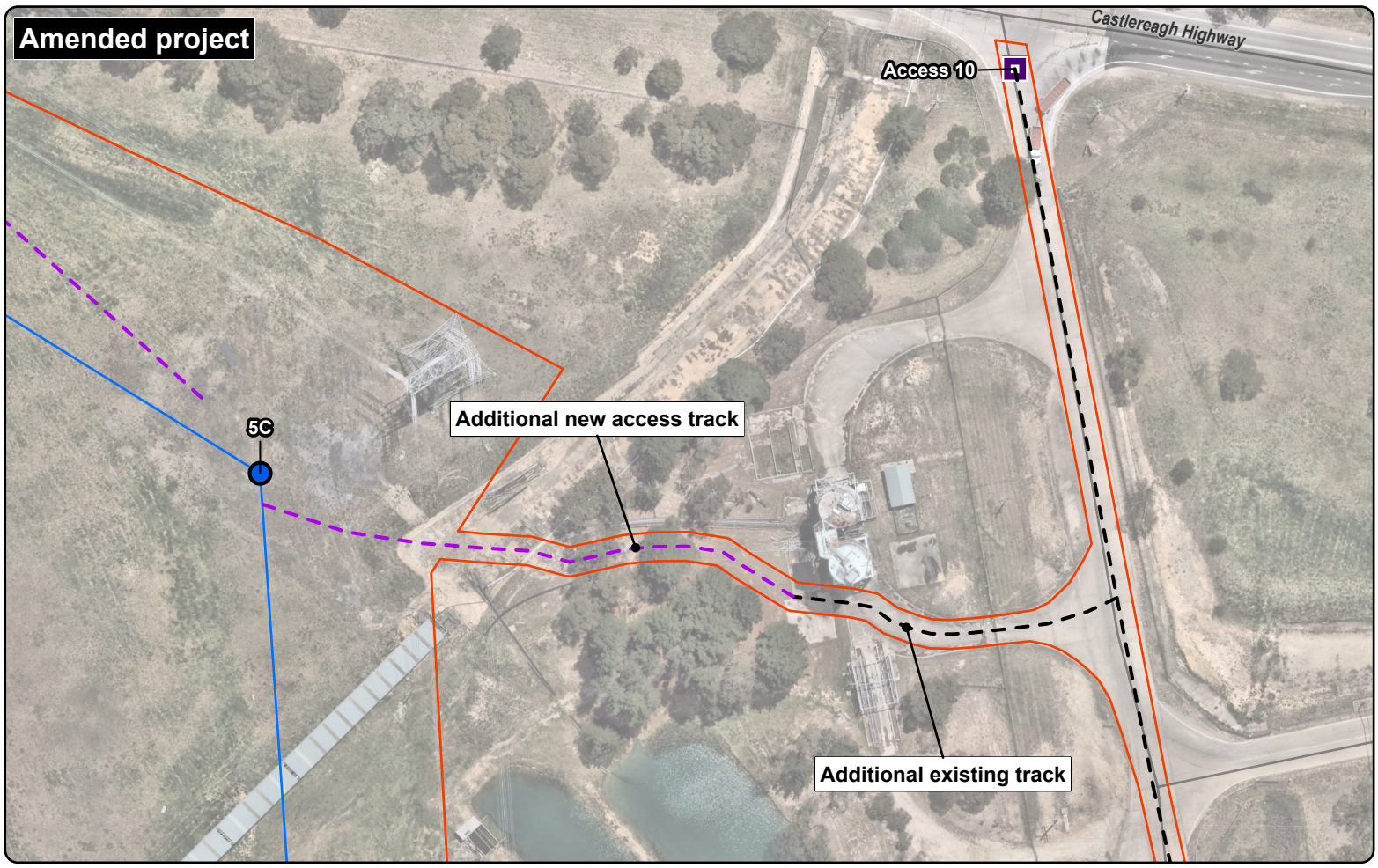
0 50 100

Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\gprx\12612502_A005_EIS_Amendment6_Portrait





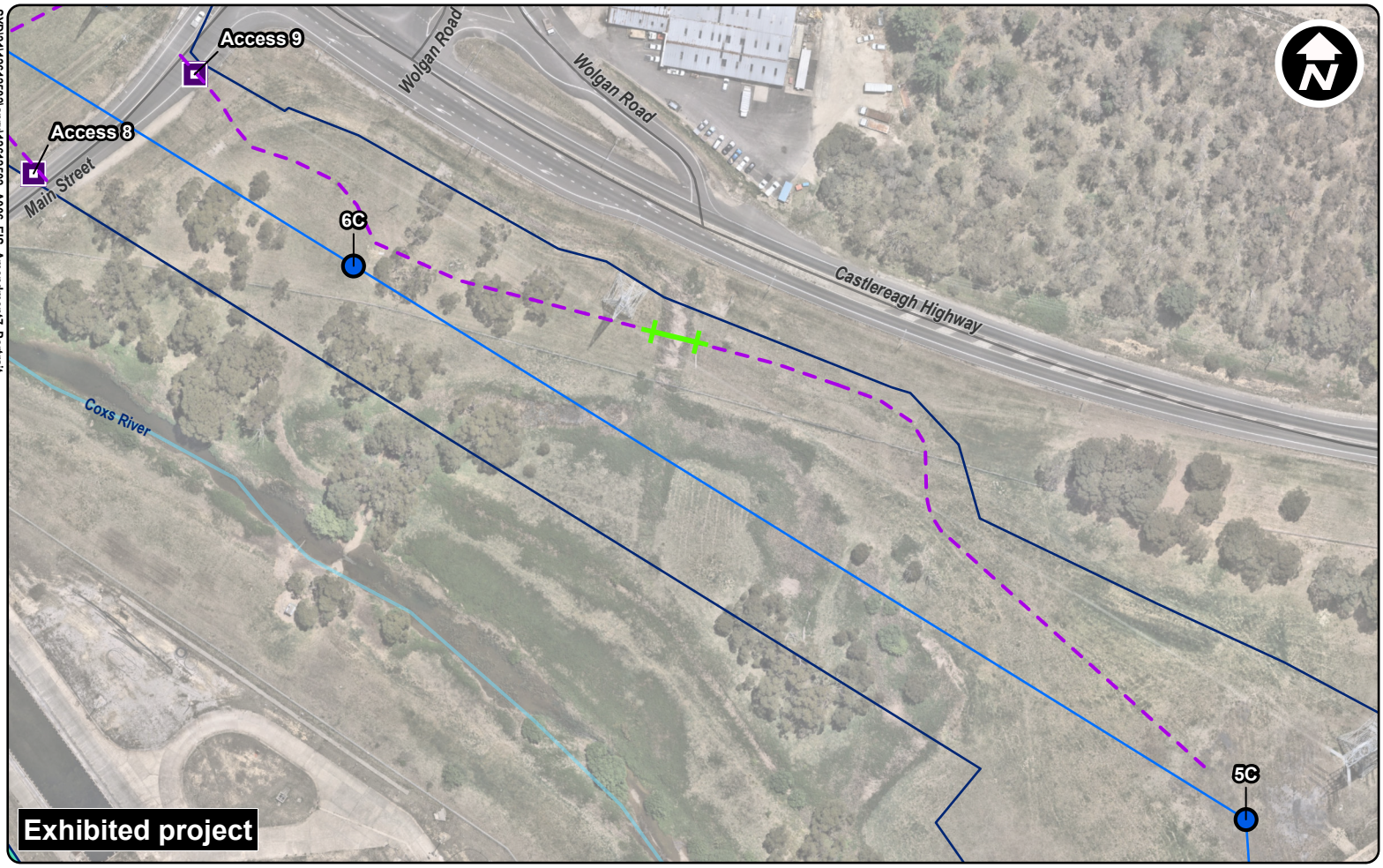
Project components
- EIS project footprint
- Amended project footprint
- New and adjusted transmission line (no change from EIS)
- Access point
- Transmission structure (no change from EIS)
- Access tracks – existing, no upgrade
- Access tracks – new
- Roads

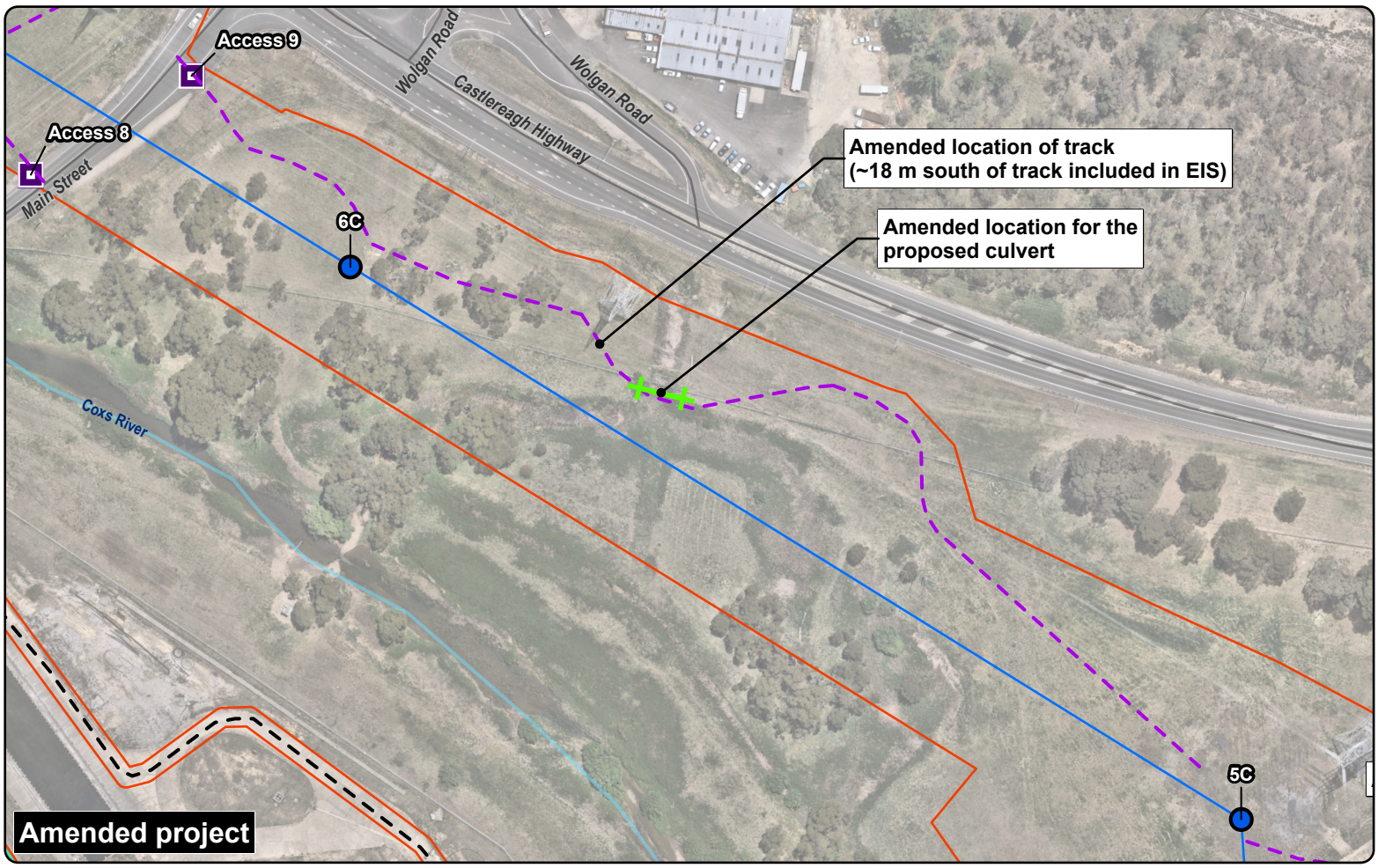
Figure 2.6 Amendment 6 - Additional new access track to TS5C from the east

0 50 100
Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\aprx\12612502_A006_EIS_Amendment7_Portrait





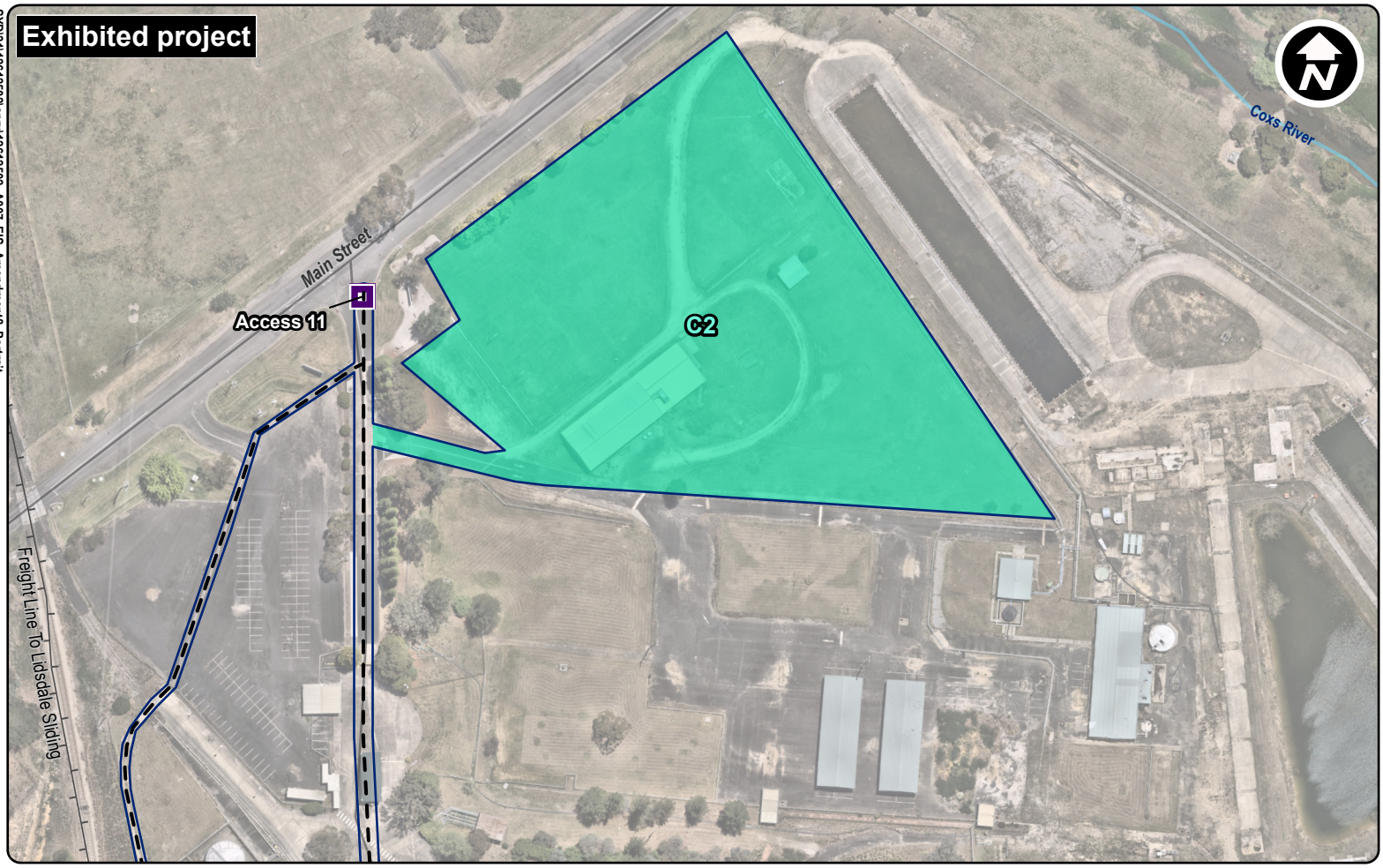
Project components
- EIS project footprint
- Amended project footprint
- New and adjusted transmission line (no change from EIS)
- Access point
- Transmission structure (no change from EIS)
- Construction compound
- Access tracks – existing, no upgrade
- Access tracks – new
- New culvert
- Roads
- Watercourse

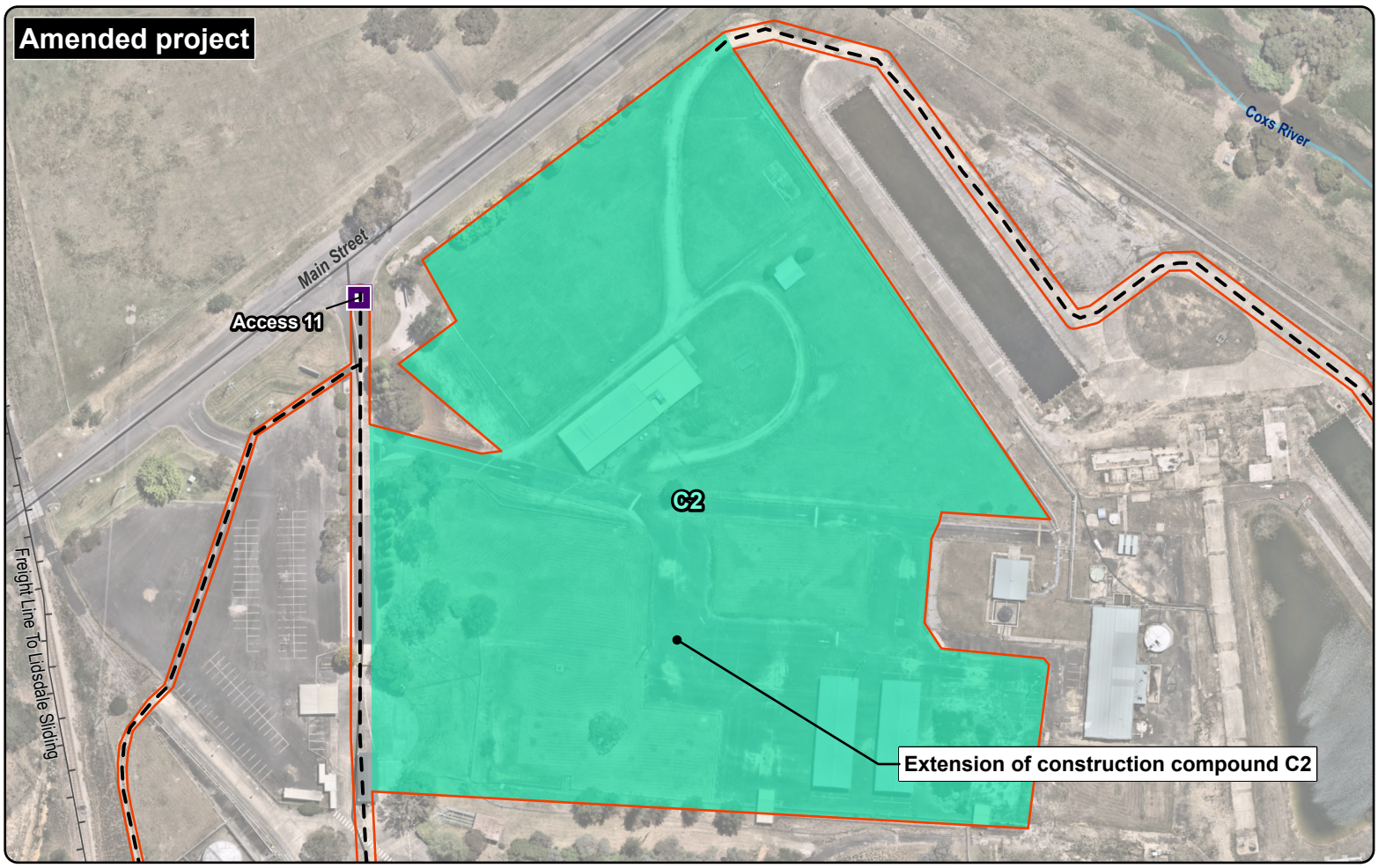
Figure 2.7 Amendment 7 - Amendment to access track to TS5C from the west

0 50 100
Metres

Grid: GDA2020 MGA Zone 56

SYD21\12612502\aprx\12612502_A007_EIS_Amendment8_Portrait





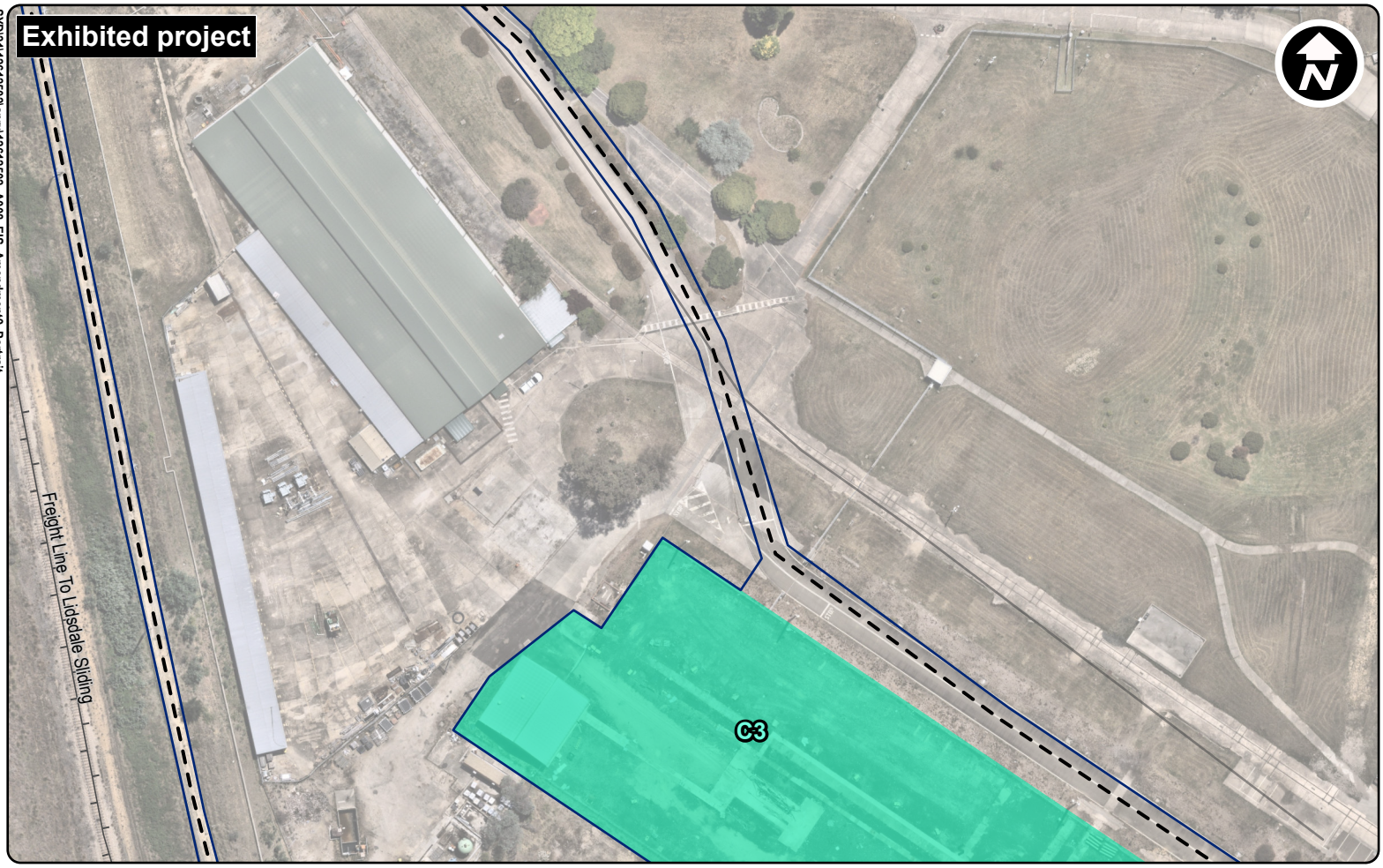
Project components
- EIS project footprint
- Amended project footprint
- Access point
- Construction compound
- Access tracks – existing, no upgrade
- Roads
- Railway
- Watercourse

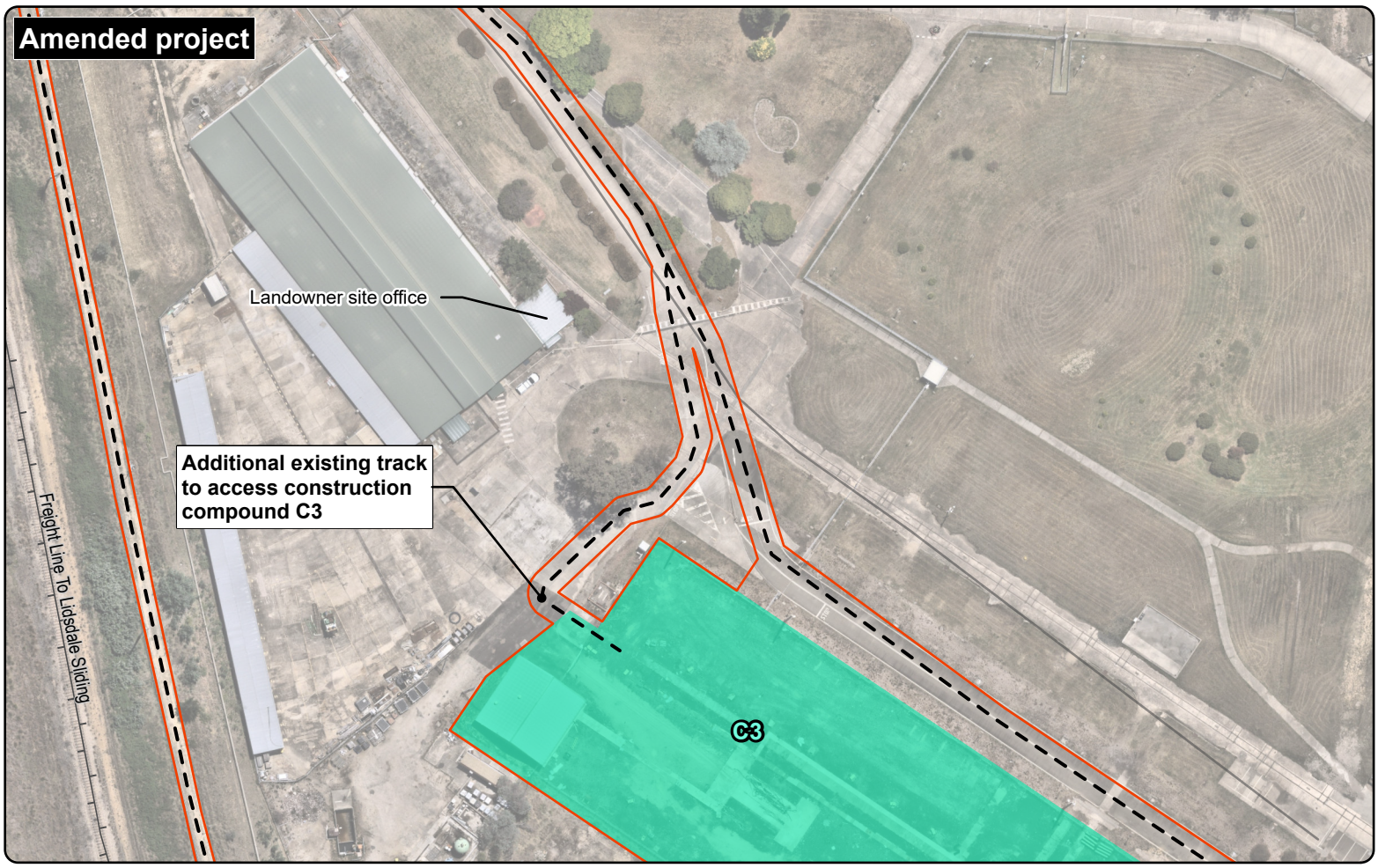
Figure 2.8 Amendment 8 - Extension of construction compound C2

0 50 100
Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_A008_EIS_Amendment9_Portrait





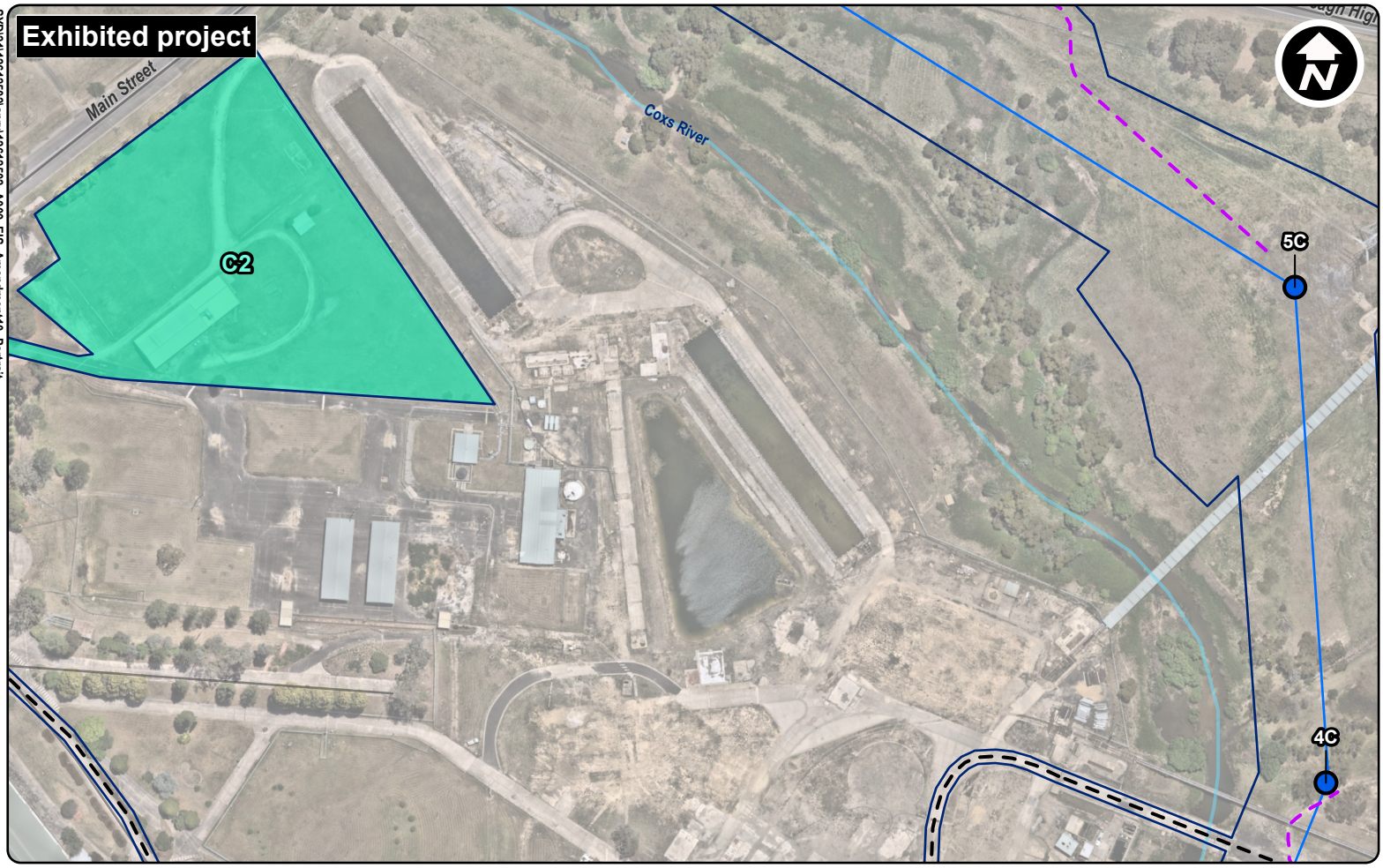
Project components
EIS project footprint
Amended project footprint
Construction compound
Access tracks – existing, no upgrade
Roads
Railway

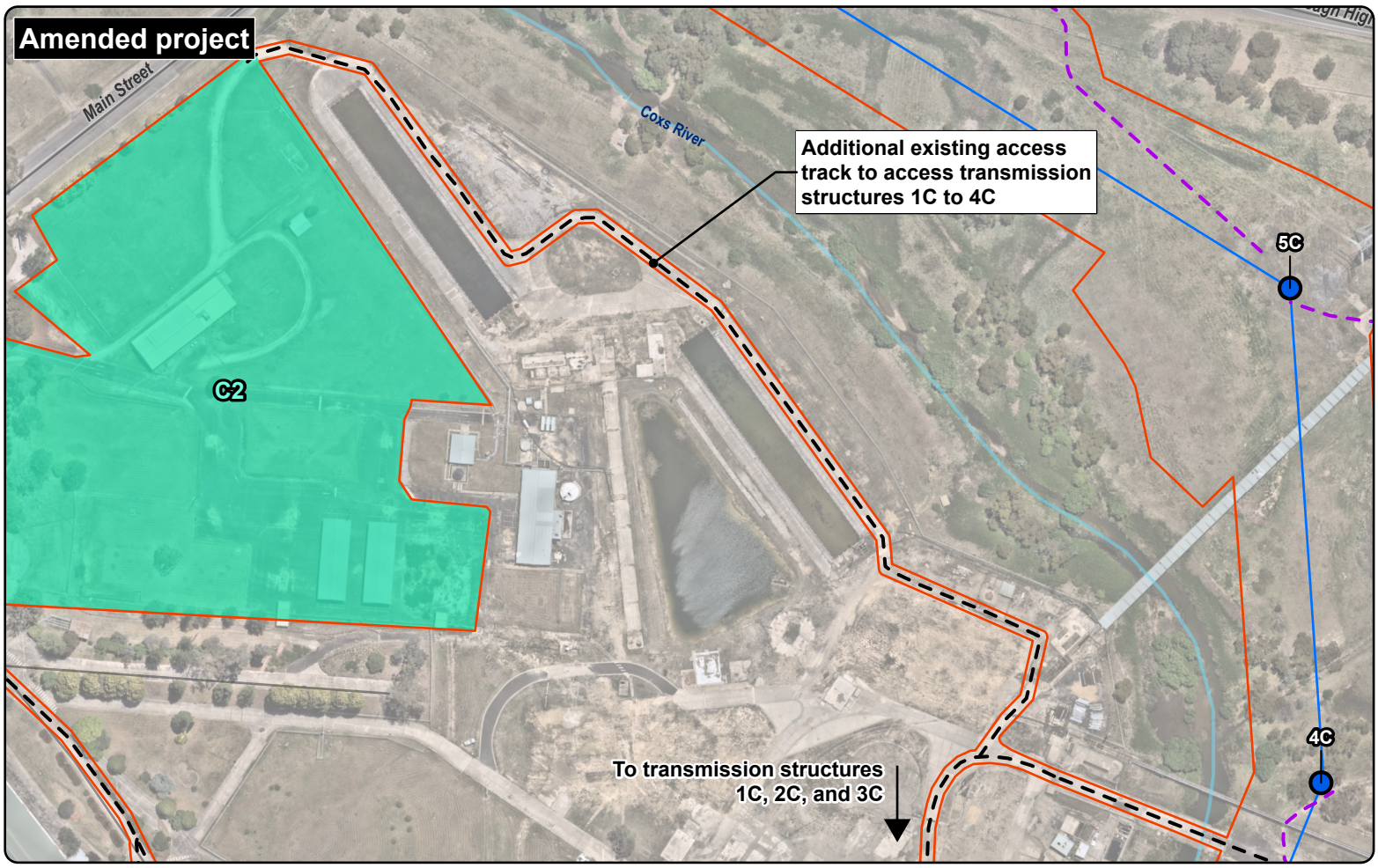
Figure 2.9 Amendment 9 - Use of additional existing track to access construction compound C3

0 50 100
Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_A009_EIS_Amendment10_Portrait





Project components
- EIS project footprint
- Amended project footprint
- New and adjusted transmission line (no change from EIS)
- Transmission structure (no change from EIS)
- Construction compound
- Access tracks – existing, no upgrade
- Access tracks – new
- Roads
- Watercourse

Figure 2.10 Amendment 10 - Use of additional existing access track to access TS1C to TS4C

0 50 100
Metres

Grid: GDA2020 MGA Zone 56

2.2.2. Amendments subject to ongoing consultation

The potential impacts resulting from all the amendments in this Amendment Report have been assessed. Transgrid is seeking approval for all amendments. Consultation with landowners is ongoing as part of construction planning to finalise details of the construction footprint. The following proposed amendments will be subject to outcomes of ongoing consultation:

- Either Amendment 6 or Amendment 7, relating to access tracks, would be constructed.
- If the expansion of construction compound C2 (Amendment 8) is agreed with the landowner:
  - proposed construction compound C3 would not be established
  - the use of the additional existing access track (Amendment 9) would not be required.
- If the expansion of construction compound C2 is not agreed with the landowner:
  - proposed construction compound C2 as described in the EIS (Transgrid, 2025a) would be established
  - proposed construction compound C3 and the use of additional existing access track (Amendment 9) would be required
  - the use of the additional existing access track (Amendment 10) would not be required.

Section 5 provides the assessment of impacts of the above Amendments 6, 7, 8, 9 and 10.

3. Strategic and statutory context

This section outlines the strategic and statutory context relevant to the amendments. As there is no change to the strategic or statutory context from those identified in section 2 and 4 of the EIS (Transgrid, 2025a), this section provides a summary of that content.

The project was declared CSSI on 3 July 2024, in accordance with section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and consequently identified in schedule 5, section 38 of State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP). The Minister for Planning and Public Spaces is the consent authority, and the project is to be assessed in accordance with section 5.16 of the EP&A Act. The project was determined to be a controlled action on 2 August 2024 under the *Environment Protection and Biodiversity Conservation Act* 1999 (Cth) (EPBC Act) and, consequently, also requires approval from the Australian Government Minister for the Environment and Water.

In accordance with section 179(2) of the EP&A Regulation, an application may, with the approval of the Planning Secretary, be amended at any time before the application is determined. Transgrid is proposing amendments to the project described in the EIS (Transgrid, 2025a) to reflect changes proposed as a result of further design and construction planning and in response to community and stakeholder feedback.

The key objective of the project is to support the NSW Government's delivery of the CWO REZ and the State's energy policies and strategies, including Australia's greenhouse gas emission targets. The Mount Piper to Wallerawang Transmission Line Upgrade Project would provide the additional capacity required to reliably transmit power from the Central West Orana REZ to demand centres that are predominantly located along the eastern, coastal regions of the State.

4. Engagement

This section outlines the ongoing engagement activities undertaken during the development of this Amendment Report. It demonstrates how stakeholders have been provided opportunities to give feedback on the proposed project amendments. Section 5.5 of the EIS (Transgrid, 2025a) outlines *stakeholder engagement and consultation undertaken to support the preparation of the EIS.*

4.1. Engagement for the proposed amendments

Engagement for the proposed amendments has included consultation with stakeholders, landowners, and State and Commonwealth agencies. Table 4.1 provides a summary of meetings and briefings with stakeholders, landowners and agencies and key feedback raised during consultation.

Consultation with the wider community on the proposed amendments was not undertaken as the amendments are considered minor in nature and the impacts are generally unchanged or limited to the affected landowners and other stakeholders. Transgrid has consulted landowners and stakeholders as outlined in Table 4.1. Following approval of the project, consultation would be ongoing during the construction phase as outlined in section 5.6 of the EIS (Transgrid, 2025a).

Table 4.1. Summary of engagement activities for the proposed amendments

Stakeholder	Key feedback from stakeholders	Transgrid response
Agencies and public authorities		
NSW Department of Planning, Housing and Infrastructure (DPHI – Planning)	DPHI – Planning requested an amendment report be prepared to address potential impacts of the proposed changes.	A letter advising of intent to lodge an amendment report was submitted on 5 November 2025. Agency briefings have been held, and the feedback summarised in this table.
NSW Department of Climate Change, Environment, Energy and Water – Conservation Programs, Heritage and Regulation Group (CPHR)	CPHR had no further comment on the proposed amendments and noted the amendments are considered to have a negligible impact.	Not applicable
Commonwealth Department of Climate Change, Environment, Energy and Water (Cth DCCEEW)	Cth DCCEEW noted that a formal request for project amendments must be submitted in accordance with the *Environment Protection and Biodiversity Conservation Regulation 2000* (EPBC Regulations). Additional information was requested for threatened species, including Gang-gang Cockatoo (*Callocephalon fimbriatum*), Black Gum (*Eucalyptus aggregata*) and Brown Treecreeper (south-eastern) (*Climacteris picumnus victoriae*).	A formal request has been submitted in accordance with the EPBC Regulation. A revised Biodiversity Development Assessment Report (Revised BDAR) is appended to the Submissions Report (Transgrid, 2025b) and provides an updated assessment of potential biodiversity impacts for the amended project. A summary of the impacts associated with the amendments is discussed in section 5.2. The project amendments do not change the outcomes of the assessment for MNES.
NSW Environment Protection Authority (EPA)	EPA had no further comments on the proposed amendments.	Not applicable

Stakeholder	Key feedback from stakeholders	Transgrid response
Heritage NSW	Heritage NSW sought confirmation that the potential for the occurrence of Aboriginal heritage items in areas added to the footprint had been considered.	The areas added have been surveyed or are hardstand or highly disturbed. These areas have very low potential for the occurrence of Aboriginal heritage items. Section 5.5 of this Amendment Report provides an updated assessment of potential heritage impacts.
NSW National Parks and Wildlife Service (NPWS)	NPWS asked if the section of track from Centennial Coal to the Gardens of Stone SCA would be rehabilitated.	Transgrid confirmed that tracks not required during operation would be returned to pre-construction conditions.
Transport for NSW (TfNSW)	TfNSW were concerned with how changes to construction traffic volumes would impact the State road network.	The changes to construction traffic volumes were considered as part of the revised Traffic and Transport Impact Assessment (appended to the Submissions Report (Transgrid, 2025b). The revised assessment indicated that the increase in construction traffic did not result in impacts on the State road network, including queuing on the Castlereagh Highway.
Lithgow City Council	A meeting to discuss the amendments was offered however not accepted. Council requested information to be provided by email. Information on proposed amendments was provided to Council by email. No feedback has been received.	Not applicable.
Landowners		
Centennial Coal	Centennial Coal identified the potential need to consider alternative access tracks through the Springvale Coal Services facility.	The project has been amended to include an alternative access track on land owned by Centennial Coal.
EnergyAustralia	EnergyAustralia had no further comments on the proposed amendments, including the installation of the culvert (Amendment 1) located on their land.	Not applicable
Landowner of former Wallerawang Power Station site	The landowner identified the need for changes to the construction compound and access tracks (Amendments 8, 9 and 10) to better suit their operation of the site during construction.	Amendments have been proposed to address the feedback, including an extension of construction compound (C2) and access tracks changes.
WaterNSW	WaterNSW sought confirmation that none of the amendments would affect WaterNSW assets.	The amendments would not affect WaterNSW assets.

5. Assessment of impacts

This section provides a summary of the additional environmental assessments undertaken to assess the proposed amendments to the project. All proposed amendments to the project outlined in section 2 (Description of the proposed amendments) have been assessed against each of the key issues in the project and supplementary SEARs (22 May 2025 and 4 October 2024 respectively).

5.1. Screening of proposed amendments

A screening assessment of the potential environmental impacts of each proposed amendment was undertaken compared to the impacts described in the EIS (Transgrid, 2025a) and is presented in Table 5.1. Where additional assessment was identified to be required, these are marked with a tick (✓) in Table 5.1. Where no material change in impact was identified relative to the EIS, the environmental issue was not considered further, and these are marked with a cross (×) in Table 5.1. No new environmental issues (i.e. additional to those considered by the EIS (Transgrid, 2025a) were identified as part of the screening assessment undertaken.

The screening assessment also considered cumulative impacts from surrounding projects and developments. One additional project, the Mount Lambie Wind Farm located approximately at 17 km southwest of the project has been recently proposed and is in the early planning approval stages. Given construction is expected to commence in early 2030, construction timeframes will not overlap and no cumulative impacts from this project are anticipated.

The assessment of potential cumulative impacts for the amended project, including changes to the footprint and the amended traffic volumes is provided in the revised BDAR and the revised Traffic and Transport Assessment, which are appended to the Submissions Report (Transgrid, 2025b). The cumulative impact assessment of the proposed amendments indicates no substantial change to the impacts presented in the EIS (Transgrid, 2025a).

The identified environmental issues are assessed in sections 5.2 to 5.9. The overall approach to avoidance and management of impacts remains consistent with the approach provided in the EIS (Transgrid, 2025a). The proposed amendments do not require revision of any mitigation measures or addition of any new measures.

Table 5.1. Screening assessment of the proposed amendments

Amendment	Biodiversity	Noise and vibration	Traffic and transport	Landscape character and visual amenity	Aboriginal heritage	Historic heritage	Land use and agriculture	Water resources	Hazards and risks	Soils, geology and contamination	Economic	Social	Air quality	Waste
1: New temporary culvert	✓	×	×	×	×	×	×	✓	×	×	×	×	×	×
2: Additional existing access tracks on Centennial Springvale Coal Services facility	✓	×	×	×	×	×	×	×	×	×	×	×	×	×
3: Upgrade existing access track	✓	✓	✓	×	✓	×	✓	✓	×	×	×	×	×	×
4: Changes to laydown area and brake and winch site	✓	✓	×	×	✓	×	✓	×	×	×	×	×	×	×
5: Project footprint adjustment	✓	×	×	×	✓	×	✓	×	×	×	×	×	×	×
6: Additional new access track	✓	✓	×	×	✓	×	✓	×	×	×	×	×	×	×
7: Amendment to access track	✓	✓	×	×	×	×	✓	✓	×	×	×	×	×	×
8: Extension of compound C2	✓	✓	×	×	✓	×	✓	×	✓	×	×	×	×	×
9: Additional existing track to compound C3	×	✓	×	×	×	×	✓	×	×	×	×	×	×	×
10: Additional existing track to structures	✓	✓	×	×	×	×	✓	×	×	×	×	×	×	×
11: Change to construction traffic volumes	×	✓	✓	×	×	×	×	×	×	×	×	×	×	×
12: Preferred bored piling construction method and exclusion of impact piling	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×

Note: A tick (✓) indicates additional assessment has been undertaken and a cross (×) indicates no further assessment is required.

5.2. Biodiversity

5.2.1. Approach to assessment

Technical Report 2 – Revised Biodiversity Development Assessment Report (Revised BDAR) (GHD, 2025a) provides an assessment of the proposed amendments and also addresses submissions received during the EIS exhibition. The Revised BDAR is located in Appendix C of Submissions Report (Transgrid, 2025b) and supersedes the technical report in the EIS (Transgrid, 2025a).

Section 2 of the Revised BDAR (GHD, 2025a) outlines the assessment approach and methodology for the proposed amendments which involved the following:

- a review of proposed Amendments 1 to 8, and 10, and identifying changes to the project footprint with reference to vegetation community mapping and location of threatened species records identified in the EIS (Transgrid, 2025a)
- targeted inspection of areas where footprint changes are proposed, including additional flora and fauna surveys in October 2025 for the Purple Copper Butterfly that was required to address an agency submission
- a review and confirmation of candidate species credit species list from the Biodiversity Assessment Method Credit Calculator (BAM-C) based on the amended project footprint
- revision of impact area as a result of Amendments 2 to 10 and credit species calculations
- revision of impact assessment findings, where relevant.

5.2.2. Assessment of the amended project

5.2.2.1. Direct impacts – vegetation communities and habitat

Table 5.2 summarises the impacts on native and non-native vegetation for the amended project.

The amended project would result in direct impacts on native vegetation and associated threatened species habitat through the removal or modification of up to 55.08 ha of native vegetation during construction. These include habitat associated with large mature trees, understorey vegetation and shelter substrate such as fallen timber, leaf litter, and grasses.

The area of direct impact on native vegetation has reduced by 0.35 ha from 55.43 ha to 55.08 ha as a result of the proposed amendments. The area of impact on non-native vegetation has increased by 3.25 ha, from 29.96 ha to 33.21 ha, mainly due to changes to a laydown area and extension of a construction compound (Amendments 4 and 8) and a new access track (Amendment 6). Construction of the new section of track would involve the removal of two trees consisting of one planted native (*Eucalyptus viminalis)* and one planted exotic (pine tree). These minor changes in impact areas do not change the conclusions of the biodiversity assessment presented in the EIS (Transgrid, 2025a).

Table 5.2. Summary of residual direct impacts of the amended project

Vegetation zone	Exhibited project impact (from EIS) [1] (ha)	Amended project impact [2] (ha)
3369_Good_Central Tableland Ranges Peppermint-Gum Grassy Forest	1.47	1.43
3369_Shrubland_Central Tableland Ranges Peppermint-Gum Grassy Forest	5.48	5.52
3385_Good_Southern Tableland Creekflat Swamp Woodland	2.59	2.57
3385_Moderate_Southern Tableland Creekflat Swamp Woodland	0.83	0.83

Vegetation zone	Exhibited project impact (from EIS) [1] (ha)	Amended project impact [2] (ha)
3385_Paddock trees_Southern Tableland Creekflat Swamp Woodland	0.61	0.62
3385_Poor_Southern Tableland Creekflat Swamp Woodland	6.94	6.53
3735_Good_Central Tableland Peppermint Shrub-Grass Forest	1.69	1.69
3735_Shrubland_Central Tableland Peppermint Shrub-Grass Forest	7.53	7.53
3747_Good_Southern Tableland Western Hills Scribbly Gum Forest	4.65	4.57
3747_Poor_Southern Tableland Western Hills Scribbly Gum Forest	5.96	5.96
3747_Shrubland_Southern Tableland Western Hills Scribbly Gum Forest	12.30	12.45
3749_Good_Western Blue Mountains Scribbly Gum Forest	1.64	1.64
3749_Shrubland_Western Blue Mountains Scribbly Gum Forest	1.35	1.35
3932_Moderate_Central and Southern Tableland Swamp Meadow Complex	2.38	2.39
Total clearing of native vegetation	**55.43**	**55.08**
Non-native vegetation	29.96	33.21
Planted native vegetation	0.27	0.27
Waterbody	0.78	0.78
Total vegetation clearing	**86.45**	**89.34**

Notes: 1. Transgrid (2025a)
2. GHD (2025a)

In the EIS (Transgrid, 2025a), 180 hollow-bearing trees were identified as needing to be removed within the project footprint. As a result of further review of EIS field survey data, the impact of the amended project would result in the removal of 179 hollow-bearing trees, with one count of a hollow-bearing tree being erroneously included in the EIS.

A comparison of the residual direct impacts on fauna habitat types within the EIS project footprint against the amended project footprint are summarised in Table 5.3.

Table 5.3. Summary of residual direct impacts on fauna habitat types from the amended project

Habitat type	Extent in EIS project footprint [1, 2] (ha)	Extent in amended project footprint [1, 3] (ha)
Dry shrubby sclerophyll forest and woodland	9.46	9.33
Paddock trees	0.61	0.62
Riparian woodland	3.42	2.57
Poor condition shrubland and grassland	39.56	40.17
Wetland	2.38	2.39
Total	**55.42**	**55.08**

Notes: 1. The project footprint in the BDAR is identified as the 'subject land' as required by the NSW biodiversity assessment method (BAM). The project footprint and subject land are one and the same for the purposes of the EIS and this Amendment Report.
2. Transgrid (2025a).
3. GHD (2025a).

5.2.2.2. Direct impacts – threatened species

The revised BDAR notes that the amended project would result in the removal of 142 individuals of Capertree Stringybark and 276 individuals of Black Gum (including up to 60 seedlings and resprouting saplings within an existing maintained electricity easement) (GHD, 2025a). The number of Capertree Stringybark individuals remain unchanged compared to the EIS (Transgrid, 2025a). The Revised BDAR identifies two more Black Gums in the area of the proposed expansion of construction compound C2 (Amendment 8), increasing the number in the EIS by two. While the two Black Gum trees have been counted (and assumed to be removed in the revised BDAR, for offsetting purposes), impacts to these trees will be avoided during construction by establishing tree protection zones (mitigation measure B06 in the EIS (Transgrid, 2025a).

Surveys conducted in October 2025 confirmed the presence of the Little Eagle (*Hieraeetus morphnoides*) (GHD, 2025a), a threatened fauna species listed under the NSW *Biodiversity Conservation Act 2016*. Despite targeted seasonal surveys undertaken in accordance with the BAM, this species was not recorded during surveys for the EIS (Transgrid, 2025a). The identification of this individual does not affect the conclusions of the BDAR which indicated no impact on this species, however, there would be minor impacts to foraging habitat of this species due to vegetation clearance for the project.

5.2.2.3. Indirect impacts

Indirect impacts on biodiversity values from construction activities are described in section 7.4.12 of the EIS (Transgrid, 2025a) and may include:

- edge effects – moderate to low residual indirect impact
- introduction and spread of weeds, pests and pathogens – low residual indirect impact
- noise and light impacts on fauna – low residual indirect impact
- erosion and sediment – low residual indirect impact
- dust – low residual indirect impact
- fire – low residual indirect impact.

The magnitude of these impacts has not changed as a result of the project amendments described in section 2.2.

The area of indirect impacts on threatened fauna species have reduced as a result of the amendments to the project footprint (GHD, 2025a) compared to the EIS (Transgrid, 2025a) shown in Table 5.4.

Table 5.4. Indirect impact areas on threatened fauna species

Common name	Scientific name	Indirect impact area EIS [1] (ha)	Indirect impact area amended project [2, 3] (ha)
Barking Owl	*Ninox connivens*	0.52	0.0[1]
Gang-gang Cockatoo	*Callocephalon fimbriatum*	0.52	0.52
Large-eared Pied Bat	*Chalinolobus dwyeri*	1.08	1.07
Powerful Owl	*Ninox strenua*	0.52	0.46
Southern Myotis	*Myotis macropus*	0.95	0.94
Squirrel Glider	*Petaurus norfolcensis*	0.52	0.52

Notes:
1. Transgrid (2025a).
2. Remapping of species polygons in line with the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025), as raised in a submission, resulted in no specific polygons within indirect impact area for the amended project.
3. GHD (2025a).

5.2.2.4. Summary of prescribed impacts

Table 7.16 of the EIS (Transgrid, 2025a) summarises the assessment of prescribed impacts. The project amendments do not result in any increase of prescribed impacts and therefore impacts are considered to be consistent with the EIS and no significant residual impacts are likely.

5.2.2.5. Serious and irreversible impacts

The Large-eared Pied Bat is listed as a Serious and Irreversible Impact (SAII) entity under principle 4 (i.e., the impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity, and therefore its members are not replaceable). The amended project would result in a 0.35 ha reduction in the direct impact of foraging habitat for the Large-eared Pied Bat with a total of 55.08 ha of foraging habitat to be impacted (GHD, 2025a).

5.2.2.6. Impacts on the Gardens of Stone SCA

Section 7.4.1.3 of the EIS (Transgrid, 2025a) describes the potential impacts on the Gardens of Stone SCA. The amended project would not change the area of direct impact of 17.54 ha or any other impacts on the Gardens of Stone SCA outlined in the EIS (GHD, 2025a; Transgrid, 2025a). Biodiversity impacts on the Gardens of Stone SCA are outlined in the revised BDAR (GHD, 2025a) attached to the Submissions Report (Transgrid, 2025b).

5.2.2.7. Impacts on Matters of National Environmental Significance (MNES)

Section 7.4.3 and Table 7.18 of the EIS (Transgrid, 2025a) described potential significant impacts on Black Gum and the Gang-gang cockatoo. The amended project does not introduce new or additional impacts to threatened species or communities. The proposed amendments would reduce the direct impacts on Gang-gang Cockatoo foraging and breeding habitat by 0.12 ha, from 10.39 ha to 10.27 ha. Indirect impact areas for the Gang-gang Cockatoo remain unchanged at 0.52 ha.

While the revised BDAR (GHD, 2025a) has counted two additional Black Gums as removed, as noted in section 5.2.2.2, impacts will be avoided.

The amount of habitat removal for three EPBC Act-listed threatened species, unlikely to be significantly affected by the amended project, has changed as follows from the exhibited project (GHD, 2025a):

- Brown Treecreeper and Glossy Black Cockatoo – removal of up to 40.20 ha of potential foraging habitat with minimal impacts on connectivity, an increase of 0.05 ha from 40.15 ha assessed in the EIS (Transgrid, 2025a).
- Large-eared Pied Bat – removal of up to 55.08 ha of occupied foraging habitat, with no direct impacts on breeding habitat, a reduction of 0.35 ha from 55.43 ha assessed in the EIS (Transgrid, 2025a).

5.2.3. Updated offset requirements

The Biodiversity Assessment Methodology (BAM) sets out how biodiversity values should be addressed and prescribes requirements to avoid and minimise impacts. The EIS (Transgrid, 2025a) previously identified that a total of 6,088 credits (combined ecosystem credits and species credits for direct, indirect and prescribed impacts) would be required under the BC Act, and a total of 968 species credits would be required under the EPBC Act.

The Revised BDAR (GHD, 2025a) identifies a reduction of 329 credits to 5,759 (combined ecosystem credits and species credits for direct, indirect and prescribed impacts) under the BC Act, and an increase of 22 credits to total of 990 species credits, under the EPBC Act.

The Biodiversity Offset Strategy for the amended project remains unchanged from that described in the EIS (Transgrid, 2025a) and the BDAR (GHD, 2025), which accompanied the EIS. The revised BDAR (attached to the Submissions Report (GHD, 2025a; Transgrid, 2025b) provides further detail on the offset requirements including an update of the offset measures following further consultation with relevant NSW Government agencies.

5.3. Noise and vibration

5.3.1. Approach to assessment

A review of the amendments was undertaken to identify changes to the noise and vibration impacts in the EIS (Transgrid, 2025a). The following tasks were undertaken:

- Review of the revised construction traffic volumes outlined in section 5.4.2 (Amendment 11) and development of a detailed breakdown of movements on key access roads (refer Table 5.6) for traffic noise calculations
- Review of construction footprint changes from access tracks and the TS10 laydown area (Amendments 3, 4, 6 7, 9 and 10) and the extension of construction compound C2 (Amendment 8) to identify any changes to construction noise impacts
- Traffic noise calculations using the Transport for NSW Construction Noise Estimator tool to assess whether there would be any changes in construction traffic noise.
- Review of changes to noise and vibration impacts from the adoption of bored piling as the preferred construction method and exclusion of impact piling (Amendment 12).

5.3.2. Assessment of the amended project

5.3.2.1. Construction noise

Since EIS exhibition, it has been confirmed that impact piling is no longer proposed (Amendment 12). The EIS (Transgrid, 2025a) (Technical Report 10 – Noise and Vibration Impact Assessment (GHD, 2025c)) assessed impact and bored piling methods and bored piling (construction scenario 6B) has been confirmed to be the preferred method. The EIS (Transgrid, 2025a) showed that impact piling resulted in more exceedances of the Construction Noise Management Levels (CNMLs) at residential receivers than bored piling. As a result of this proposed amendment, the noise impacts would be less than previously predicted in the EIS (Transgrid, 2025a), and the predicted impacts from impact piling would not occur. Table 5.5 identifies the reduction in the number of sensitive receivers impacted by noise level exceedances by adopting a bored piling method instead of impact piling. A reduction of up to 283 and 605 impacted sensitive receivers during standard and outside of standard hours (Period 1 Day) would be achieved from Amendment 12.

Table 5.5. Reduction in number of noise exceedances by adopting bored piling as the preferred method for construction (scenario 6 in the Noise and Vibration impact Assessment – structure footing construction)

	Noise level above construction noise management levels (CNMLs)	No. of sensitive receivers – impact piling	No. of sensitive receivers – bored piling	Reduction in no. of sensitive receivers impacted by noise level exceedances
Standard hours				
Total number of exceedances		450	167	283
Number of residential sensitive receivers per perception category	1 to 10 dBA	396	143	253
	10 to 20 dBA	39	19	20
	>20 dBA	15	5	10
Number of highly affected residential sensitive receivers		2	0	2
Outside of standard hours – Period 1 Day				
Tota number of exceedances		939	334	605
Number of residential sensitive receivers per perception category	1 to 5 dBA	383	141	242
	5 to 15 dBA	475	168	307
	15 to 25 dBA	64	18	46
	>25 dBA	17	7	10

The worst-case noise impact results in Technical Report 10 – Noise and Vibration Impact Assessment (GHD, 2025c) remain unchanged for all other construction scenarios.

The proposed expansion of construction compound C2 (Amendment 8) is expected to result in construction scenario 2 (construction compounds) being positioned closer to three receivers, one residential (RES0699), one place of worship (PLA0003) and one industrial (IN0017). All three receivers would be expected to have an increased level of noise impact. It is expected that only the noise impacts at RES0699 and PLA003 would result in an exceedance of the relevant noise CNMLs for construction scenario 2. Both of these receivers were predicted to experience noise levels exceeding the relevant CNMLs in the EIS (Transgrid, 2025a). Basic noise propagation/distance relationship calculations were undertaken for these receivers to identify what the potential increase in exceedance of the CNMLs may be, with the results as follows:

- RES0699 to potentially experience an increase in the exceedance of the criteria of less than 1 dBA
- PLA0003 potentially experience an increase in the exceedance of the criteria by about 2.5 dBA.

The remaining amendments outlined in section 2 are not expected to result in any changes to the worst-case noise impacts outlined in the EIS (Transgrid, 2025a), for the following reasons:

- Where amendments result in minor changes to the project footprint, the nearest point of the amended project footprint would not be any closer to any residential sensitive receivers, compared to the exhibited project footprint. Therefore, worst-case predicted noise impacts would not change. While there is a small change to the amended project footprint for a laydown area (Amendment 4) there are other construction scenarios within the project footprint that remain closer to Duncan Street residents. Other construction scenarios (site establishment (CS01), access track upgrades (CS03), vegetation clearing (CS04) and stringing the transmission line (CS08)) contribute to the predicted worst case noise levels at these residential sensitive receivers (GHD, 2025c).

- Where amendments result in a change in the project footprint and no physical works are proposed. For example, use of additional existing access tracks where no upgrades are required (Amendments 9 and 10).
- Where amendments result in no changes to the project footprint (Amendments 7, 11 and 12), the construction scenarios would not be any closer to residential sensitive receivers. As a result, this would not change the worst case predicted noise impacts.

In accordance with mitigation measure NV1, an updated construction noise and vibration assessment based on final construction staging, selected equipment types and proposed OOHW periods will be undertaken as part of the Construction Noise and Vibration Management Plan.

5.3.2.2. Construction traffic noise

A revised construction traffic noise assessment has been undertaken for the revised construction vehicle movements outlined in Amendment 11. Details of these construction traffic changes are provided in section 5.4.2. A summary of the revised construction traffic volumes and existing traffic volumes on key access roads is provided in Table 5.6.

Table 5.6. Expected traffic movements for key construction access roads (including construction traffic and existing background traffic)

Road	Posted speed	Vehicles per hour AM peak	AM heavy vehicle percent	Vehicles per hour PM peak	PM heavy vehicle percent	Day (15 hr) number of vehicles	Night (9 hr) number of vehicles	15 hr/9 hr heavy vehicle per cent
Castlereagh Highway north of Boulder Road	100	138	12.2%	233	19.0%	1,974	346	15.6%
Boulder Road	60	245	10.0%	207	16.0%	Not relevant for local road		
Castlereagh Highway north of Karawatha Drive	100	381	12.0%	425	13.1%	4,401	771	12.6%
Karawatha Drive	60	48	37.3%	47	38.2%	Not relevant for local road		
Castlereagh Highway north of Brays Lane	100	402	8.3%	459	8.4%	4,692	822	8.3%
Brays Lane	50	47	38.2%	52	38.2%	Not relevant for local road		
Castlereagh Highway north of Main Street	80	410	8.3%	477	9.8%	4,830	846	9.0%
Main Street	50	311	8.6%	279	6.3%	Not relevant for local road		
Castlereagh Highway south of Main Street	100	413	9.2%	537	8.5%	5,140	901	8.9%

Table 5.7 presents the results of the revised construction traffic noise assessment based on the revised traffic volumes and distribution on the road network. The noise level predictions in the EIS (Transgrid, 2025a) are also stated in Table 5.7 for direct comparison.

Table 5.7. Revised construction traffic noise assessment

Road	Road type	L_{Aeq} Assessment period	Increase in noise levels due to construction traffic dB $L_{Aeq\ (period)}$ (EIS noise level increase in brackets)		Criteria dB $L_{Aeq\ (period)}$		Is the change >2 dB?	
			Day	Night	Day	Night	Day	Night
Castlereagh Highway north of Boulder Road	Arterial	15 hr (day) 9 hr (night)	0.2 (0.2)	0.2 (0.2)	60	55	No	No
Boulder Road	Local road	1 hr day/night	2.1 (2.3)	2.5 (2.9)	55	50	Yes	Yes
Castlereagh Highway north of Karawatha Drive	Arterial	15 hr (day) 9 hr (night)	1.5 (1.1)	1.5 (1.1)	60	55	No	No
Karawatha Drive	Local road	1 hr day/night	19.7 (20.1)	17.9 (18.3)	55	50	Yes	Yes
Castlereagh Highway north of Brays Lane	Arterial	15 hr (day) 9 hr (night)	1.1 (0.4)	1.1 (0.4)	60	55	No	No
Brays Lane	Local road	1 hr day/night	9.6 (10.0)	20.2 (20.7)	55	50	Yes	Yes
Castlereagh Highway north of Main Street	Arterial	15 hr (day) 9 hr (night))	1.4 (0.8)	1.4 (0.8)	60	55	No	No
Main Street	Local road	1 hr day/night	2.9 (3.2)	2.8 (2.8)	55	50	Yes	Yes
Castlereagh Highway south of Main Street	Arterial	15 hr (day) 9 hr (night)	0.7 (0.9)	0.7 (0.9)	60	55	No	No

The assessment shows no change to the key outcomes reported in the EIS (Transgrid, 2025a). Construction traffic using Castlereagh Highway is still not expected to increase noise levels by more than 2 dB. However, other local roads, e.g., Boulder Road, Karawatha Drive, Brays Lane and Main Street would still experience a change of more than 2 dB from construction traffic. The revised traffic volumes result in these local roads experiencing a minor additional increase in noise of between 0.2 dB and 0.5 dB compared to the predictions made in the EIS (Table 5.7) (Transgrid, 2025a). Therefore, mitigation measures recommended in the EIS (Transgrid, 2025a) remain applicable for the amended project. Table 5.8 presents the number of potentially impacted residential receivers near the local roads as a result of changes to the construction traffic volumes (Amendment 11). The change in the number of vehicles accessing the project footprint at Brays Lane and Karawatha Drive means that one less receiver is predicted to be impacted during the night time compared to the EIS assessment.

Table 5.8. Construction traffic noise – number of potentially impacted residential receivers near local roads compared to the EIS (Transgrid, 2025a)

Road used for construction traffic	Buffer distance, Day[1] (m)	Buffer distance, Night[1] (m)	Number of receivers within buffer distance, Day[1]	Number of receivers within buffer distance, Night[1]	Location of receivers within buffer distance
Boulder Road	135 (140)	435 (474)	1 (1)	1 (1)	Boulder Road
Karawatha Drive	66 (72)	227 (246)	2 (2)	5 (6)	Karawatha Drive and around the intersection with Castlereagh Highway
Brays Lane	66 (71)	205 (223)	0 (0)	4 (5)	Duncan Street
Main Street	105 (110)	432 (435)	0 (0)	20 (20)	Duncan Street Wolgan Road

Note: 1. EIS numbers provided in brackets, e.g. (numbers).

5.3.2.3. Construction vibration

As described in section 5.3.2.1, impact piling is no longer proposed. Bored piling would be adopted resulting in lower vibration at sensitive receivers, including structures and heritage structures. Minimum vibration working distances for impact piling and bored piling are shown below.

Table 5.9. Comparison of minimum working distances for impact and bored piling (GHD, 2025c)

Equipment	Minimum working distance		
	Cosmetic damage (BS 7385)	Human comfort (OH&E Vibration Guideline)	Heritage building/structure DIN 4150-3 criteria (3.0 mm/s)
Impact piling (no longer proposed)	15 m	50 m	180 m
Bored piling	2 m (nominal)	4 m	35 m

The proposed change in piling method would not change the outcomes outlined in sections 6.2.1 and 6.2.3 of Technical Report 10 – Noise and Vibration Impact Assessment (GHD, 2025c) for cosmetic damage and human comfort. The EIS (Transgrid, 2025a) did not identify cosmetic damage or human comfort vibration impacts at receivers with the more vibration intensive impact piling, as vibration minimum working distances would be achieved. Bored piling would also not result in cosmetic damage or human comfort vibration impacts as it has lower vibration risks and minimum working distances would also be achieved.

The use of bored piling would reduce vibration impacts outlined in section 6.2.2 of Technical Report 10 – Noise and Vibration Impact Assessment (GHD, 2025c) on heritage structures, such as the Wallerawang rail bridges over Coxs River. Bored piling at TS2C, may have the potential for vibration impacts at the rail bridges heritage item. The centre point of TS2C is about 37 m from the rail bridges. A portion of TS2C falls within the minimum working distance of 35 m for bored piling. The minimum working distance is an indicative guide and will vary depending on the selected plant and equipment, local geotechnical conditions and frequency of construction vibration levels (Transport for NSW, 2024). Reasonable and feasible mitigation measures will be implemented to minimise vibration impacts on the heritage item (refer to mitigation measure NV6 in the Submissions Report (Transgrid, 2025b)).

The establishment of construction benches could include vibration-generating equipment, such as an excavator, dozer and a 15-tonne vibratory roller. These equipment have minimum working distances for heritage structures of 24 m, 15 m and 35 m respectively (refer to Table 8.7 in the EIS (Transgrid, 2025a). However, the construction bench at TS2C is currently designed to be cut only and would not need a significant amount of compaction. The use of a 15-tonne vibratory roller is therefore considered unlikely. The selection of equipment items would also be considered when implementing mitigation measure NV6. The assessment of historic heritage impacts is described further in section 5.6.2.

5.4. Traffic and transport

5.4.1. Approach to assessment

Technical Report 8 – Revised Traffic and Transport Assessment (GHD, 2025b) provides an assessment of the proposed amendments including changes to construction traffic volumes and distribution (Amendment 11), removal of access point 5 (Amendment 3), and addresses submissions received during the EIS exhibition. The Revised Traffic and Transport Assessment is included as Appendix D of the Submissions Report (Transgrid, 2025b) and supersedes the technical report in the EIS (Transgrid, 2025a).

The Revised Traffic and Transport Assessment (GHD, 2025b) (revised TTA) describes the assessment approach and methodology which included:

- review of the proposed changes to traffic volumes and distribution (Amendments 3 and 11) and identification of the key intersections and access points for assessment
- modelling of intersection performance, using SIDRA 10 software, at key intersections affected by the amended project and other existing and proposed developments for the 2028 horizon year
- review of warrants for potential intersection treatments
- review of the mid-block assessment for the local and state road network
- review of mitigation measures to address any substantive changes to potential traffic and transport impacts.

The amendments only result in changes to the construction traffic and transport impacts and do not affect the operational impacts described in the EIS (Transgrid, 2025a).

5.4.2. Amended traffic generation and distribution

Table 5.10 outlines the amended total daily vehicle movements during construction including a comparison with vehicle movements documented in section 9.4.1.1 of the EIS (Transgrid, 2025a). This is based on an estimated 90 light vehicles and 10 heavy vehicles accessing the project footprint at the start and end of each work day during the peak construction period. The number of movements includes the trips taken to and from the project and trips between construction areas using the public road network.

Table 5.10. Estimated total number of daily vehicle movements – exhibited project and amended project

Vehicle type	Exhibited project (from the EIS[1])	Amended project (from the revised TTA[2])
Light vehicles	80	350
Heavy vehicles	60	150

Notes: 1. Transgrid (2025a)
2. GHD (2025b)

Table 5.11 outlines the amended estimates of peak hour movements during the AM and PM peak periods, including a comparison of the movements assessed in section 9.4.1 of the EIS (Transgrid, 2025a). Movements during the peak hours have been assumed to include both vehicle movements to and from the project footprint but also movements required between sections of the project footprint.

Figure 5.1 and Figure 5.2 provide a schematic illustration of the distribution of vehicle movements outlined in Table 5.11 for the AM and PM peak respectively, for both the exhibited project and the amended project. The movements in Figure 5.1 and Figure 5.2 are the maximum number of movements representative of peak construction period traffic generation in the Revised Traffic and Transport Assessment.

Table 5.11. Estimated peak construction traffic generation

Vehicle type	Peak hour vehicle movements – Exhibited project [6]	Peak hour vehicle movements – Amended project [7]
Heavy vehicles	AM: 20 (20 arrivals[1], 0 departures[2]) PM: 20 (0 arrivals[3], 20 departures[4])	AM: 15 (10 arrivals[1], 5 departures[2]) PM: 15 (5 arrivals[3], 10 departures[4])[5]
Light vehicles	AM: 30 (30 arrivals[1], 0 departures[2]) PM: 30 (0 arrivals[3], 30 departures[4])	AM: 160 (90 arrivals[1], 70 departures[2]) PM: 135 (45 arrivals[3], 90 departures[4])[5]

Notes:
1. AM “arrival” – trips arriving at the project from home
2. AM “departure” – trips departing construction compounds C2 or C3 to a construction work area
3. PM “arrival” – trips arriving at construction compounds C2 or C3 from a construction work area
4. PM “departure” – trips departing the project to return home
5. Assessment report assumes that 5 heavy vehicles and 25 light vehicles go straight home from work areas rather than returning to the construction compound before return home
6. Transgrid (2025a)
7. GHD (2025b)

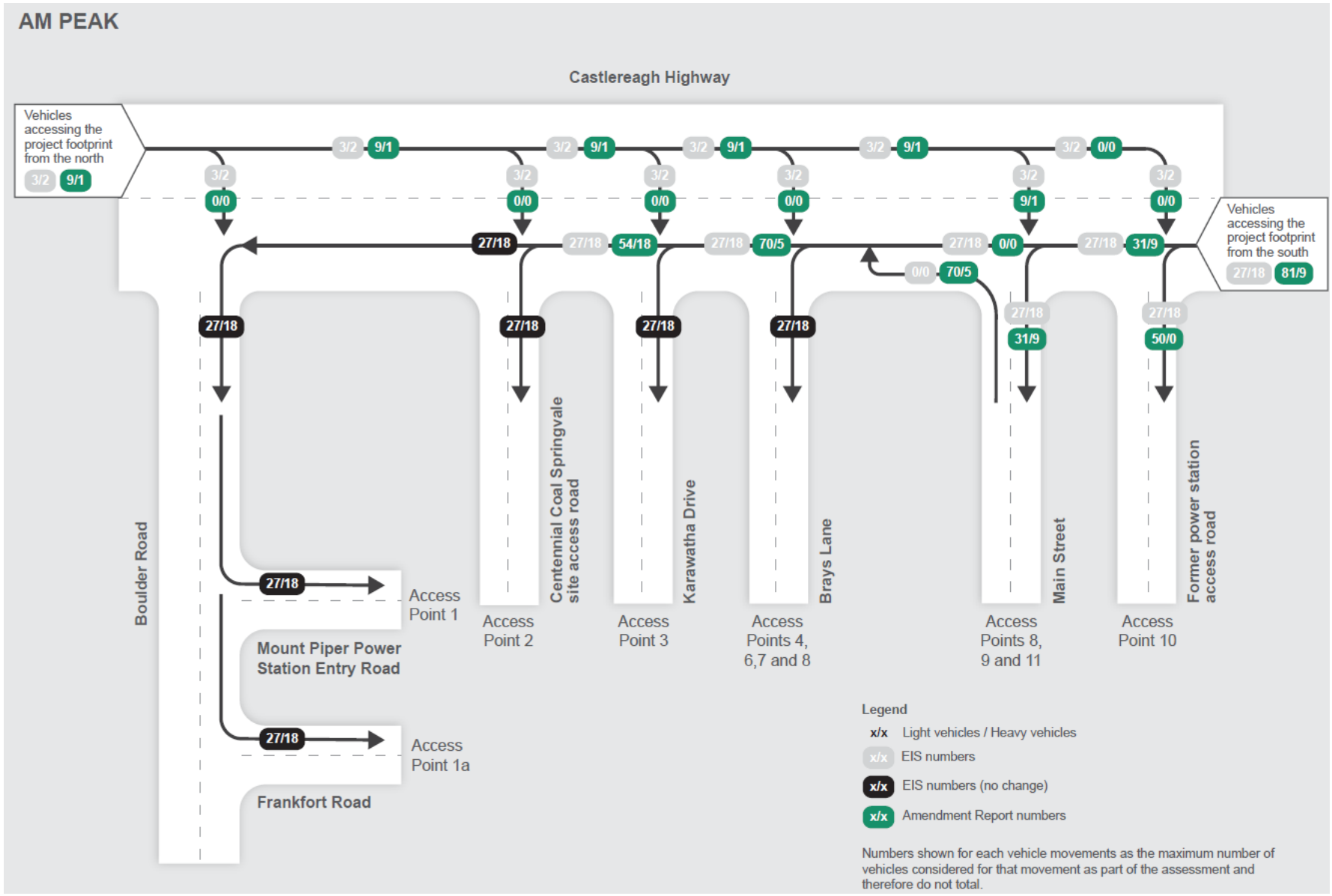


Figure 5.1. Distribution of vehicle movements during the AM peak

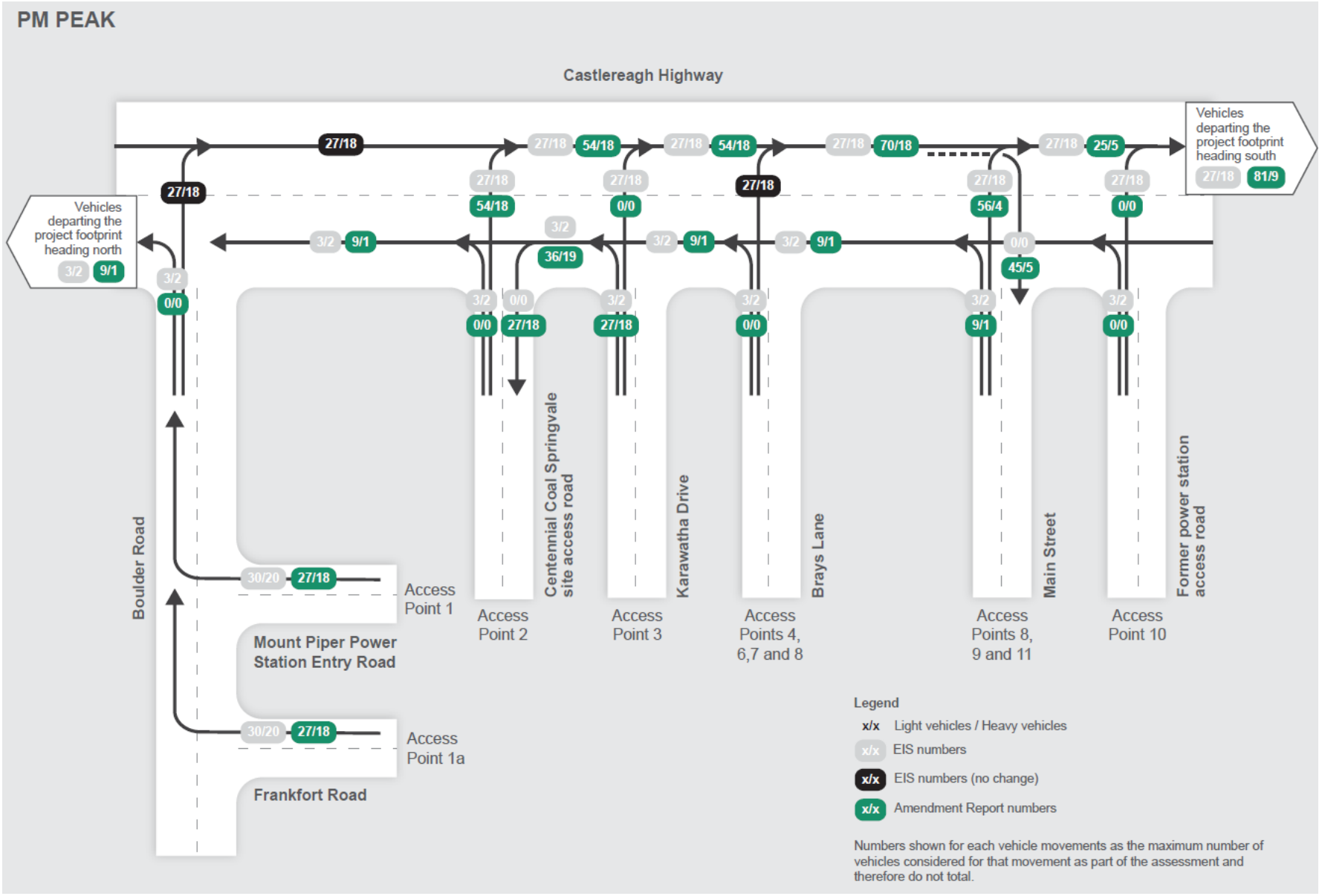


Figure 5.2. Distribution of vehicle movements during the PM peak

5.4.3. Assessment of the amended project

5.4.3.1. Operation of key intersections

Intersection performance modelling was undertaken for three key intersections where an impact might reasonably be anticipated based on the project's amended traffic volumes and distribution. These intersections included:

- Boulder Road / Castlereagh Highway including potential cumulative traffic volumes from the Mount Piper Battery Energy Storage System (BESS) project
- Brays Lane / Castlereagh Highway including potential cumulative traffic volumes from the Great Western BESS project
- Main Street / Castlereagh Highway including potential cumulative traffic volumes from the Great Western BESS project.

All three intersections were found to maintain a good level of service (Level of Service 'A'), operating within their existing capacity for the modelled year 2028. The results also indicated traffic increases would not result in queue lengths exceeding existing turning lane capacities, and therefore traffic flow along the Castlereagh Highway would not be affected. A summary of the key intersection performance indicators is provided in Table 5.12. Detailed results are provided in section 6.2 of the Revised Traffic and Transport Assessment (Appendix D of the Submissions Report (GHD, 2025b; Transgrid, 2025b).

Table 5.12. Predicted intersection performance in year 2028 (GHD, 2025b)

Peak period	Intersection	Average delay (sec)[1]	Level of Service[1,2]	Queue length (m) (95th percentile)[1]
AM	Boulder Road/ Castlereagh Highway	8.8	A	10.4
PM	Boulder Road/ Castlereagh Highway	11	A	13.2
AM	Brays Lane/ Castlereagh Highway	7.8	A	0
PM	Brays Lane/ Castlereagh Highway	7.2	A	3.3
AM	Main Street/ Castlereagh Highway	7.7	A	5.3
PM	Main Street/ Castlereagh Highway	7.6	A	5.3

Notes: 1. Average delay, level of service and the 95th percentile queue length represents the worst-performing turning movement for that intersection i.e. the turning movement that results in the highest average delay and queue length.
2. The level of service (LoS) is evaluated based on the calculated delay to traffic movements, which is a representation of driver frustration, fuel consumption and increased travel time. See Table 2.2 of the Revised Traffic and Transport Assessment (GHD, 2025b).

5.4.3.2. Mid-block capacity and intersection warrants

The mid-block capacity and the turn warrants assessments for the exhibited project were reviewed with reference to the traffic volume changes and distributions associated with the amendments. Due to the proposed small increases in vehicle volumes, the outcomes of these assessments did not change. All locations are expected to operate well within capacity in 2028 during the peak construction period and the Brays Lane/ Castlereagh Highway intersection still remains close to the requirement for an auxiliary left turn lane as outlined in the EIS (Transgrid, 2025a).

5.5. Aboriginal heritage

5.5.1. Approach to assessment

A review of each of the amendments was undertaken to identify the potential for changes to Aboriginal heritage impacts outlined in Technical Report 5 - Aboriginal Cultural Heritage Assessment Report (OzArk, 2025a) in the EIS (Transgrid, 2025a) including:

- review of pedestrian survey coverage to identify any gaps in survey coverage for any new areas of the amended project footprint (Amendments 3 to 6, and 8)
- review of the location of Aboriginal heritage sites to identify any changes to impacts on these sites.

5.5.2. Assessment of the amended project

There are no changes to Aboriginal heritage impacts from the amendments. A summary of the amendments and relevant Aboriginal heritage sites are outlined below.

Lidsdale 2 PAD Extension/ AHIMS 45-1-2994

The EIS (Transgrid, 2025a) noted that the PAD area may be used as a brake and winch site, however ground disturbance within the PAD would not be required and therefore there would be no impact to this site. The amended project footprint has excluded the recorded site Lidsdale 2 PAD Extension/ AHIMS 45-1-2994 and would therefore remove the risk of this site being impacted. The amended brake and winch location would be limited to the area south of the Lidsdale 2 PAD Extension within the footprint. To enable avoidance of the Lidsdale 2 PAD Extension/ AHIMS 45-1-2994 site, it is proposed to extend the project footprint by 0.07 ha to provide space for the laydown area (refer Figure 2.5).

The area of the expansion was previously traversed for the surveys conducted for the EIS (OzArk, 2025a; Transgrid, 2025a). The pedestrian transects from the survey are shown in Figures 5.1 to 5.3 of the Submissions Report (Transgrid, 2025b). No items of cultural heritage were recorded within the area.

Springvale Colliery/ AHIMS 45-1-0237

Technical Report 5 – Aboriginal Cultural Heritage Assessment Report (OzArk, 2025a) in the EIS (Transgrid, 2025a) noted that an access track would be constructed across Springvale Colliery/ AHIMS 45-1-0237. Impacts to the site would be avoided by covering the ground surface with fill and the access track built up, in accordance with mitigation measure H2 in the EIS (Transgrid, 2025a). Amendment 3 removes the proposed access track through this site and the project footprint has been reduced in this area. A portion of this PAD area is no longer in the project footprint. Amendment 3 results in no impacts to Springvale Colliery/ AHIMS 45-1-0237, therefore maintaining the same outcome as described in the EIS (Transgrid, 2025a).

5.6. Non-Aboriginal heritage

5.6.1. Approach to assessment

A review of each of the amendments was undertaken to identify the potential for changes to non-Aboriginal heritage impacts outlined in Technical Report 6 – Historic Heritage Assessment and Statement of Heritage Impact (OzArk, 2025b) in the EIS (Transgrid, 2025a). The following tasks were undertaken:

- Review of non-Aboriginal heritage items to confirm any changes to impacts on these sites as a result of changes to the project footprint (Amendments 3 to 8, and 10).

- Review of identified vibration impacts outlined in Technical Report 10 – Noise and Vibration Impact Assessment (GHD, 2025c) to identify any reduction in vibration impacts on the State Heritage Register listed Wallerawang Rail Bridges over Coxs River (SHR no. 01064) by using the preferred bored piling method instead of impact piling (Amendment 12).

5.6.2. Assessment of the amended project

5.6.2.1. Wallerawang Rail bridges over Coxs River (SHR no. 01064)

Section 8.4.1.2 of the EIS (Transgrid, 2025a) identified the Wallerawang Rail Bridges over Coxs River as the only heritage listed item within the minimum vibration working distance for impact piling (<180 m).

With the confirmation of the use of bored piling methods (Amendment 12), the risk of vibration impacts outlined in the EIS (Transgrid, 2025a) would be reduced. As noted in section 5.3.2.3, a portion of TS2C would be within the vibration minimum working distance of 35 m for bored piling. Vibration levels would be dependent on the selected equipment, local geotechnical conditions and the frequency of construction vibration levels (see section 5.3.2.3). Equipment used for establishing the construction benches around TS2C would also generate vibration, as described in section 5.3.2.3. A 15-tonne vibratory roller has the same vibration minimum working distance of 35 m, however, as noted in section 5.3.2.3, the current bench design does not require significant compaction or use of a 15-tonne vibratory roller. Reasonable and feasible mitigation measures will be implemented to minimise vibration impacts on the heritage item (refer to mitigation measure NV6 in the Submissions Report (Transgrid, 2025b).

5.6.2.2. St John the Evangelist Church (SHR no. 01702)

The St John the Evangelist Church is located outside of the project footprint. The Historic Heritage Assessment and Statement of Heritage Impact (OzArk, 2025b) in the EIS (Transgrid, 2025a) indicated that no direct impacts or vibration impacts to any significant fabric of the church would occur as the minimum vibration working distances would be achieved. The western boundary of construction compound C2 in the EIS (Transgrid, 2025a) was about 185 m from the heritage listed church structure.

The proposed extension of construction compound C2 (Amendment 8) results in the western boundary of the compound being about 50 m closer (about 130 m from the church structure). However, the minimum working distances for construction activities are still achieved and therefore no impacts are expected.

Access track changes as part of the amended project do not involve any changes to the tracks closest to the St John the Evangelist Church. The potential vibration impacts to the church from access tracks therefore remain unchanged from those presented in the EIS (Transgrid, 2025a).

5.7. Land use and agriculture

5.7.1. Approach to assessment

A review of each of the amendments was undertaken to identify the potential for changes to land use and agricultural impacts outlined in Technical Report 4 – Land Use and Agriculture Assessment (GHD, 2025d) in the EIS (Transgrid, 2025a). The following were undertaken:

- review of changes to the project footprint (Amendments 3 to 10) and land use mapping to identify the land uses affected
- analysis to evaluate if potential impacts are likely from the amendments and the magnitude of such impacts.

5.7.2. Assessment of impacts

Amendments 3 to 10 would result in an overall increase of the project footprint by about 3.9 ha, to 90.4 ha.

Impacts on agricultural land

The impacts on agricultural land from the amended project would reduce from approximately 38.2 ha to 37.6 ha, representing a minor reduction of 0.6 ha. This reduction is mainly from the removal of portions of the project footprint by Amendments 5 and 6, which offset areas of the project footprint that have increased on agricultural land for Amendments 3 and 7.

With the overall minor reduction of agricultural land impacts during construction and applying information presented in Table 13.9 of the EIS (Transgrid, 2025a), the proposed amendments would reduce the economic loss of agricultural land impact by $108 per annum, from $8,290 per annum to $8,182 per annum during the construction period. This represents 0.03% of the gross value of production within the study area as described in the EIS (Transgrid, 2025a).

Impacts on utility land uses

The proposed amendments would result in an increase in impacts on utility land uses[1] by about 2.5 ha with the additional impacts limited to the former Wallerawang Power Station site. These impact would be a result of the expansion of construction compound C2 (Amendment 8) and the use of additional existing access tracks within the property (Amendments 6, 9 and 10). Impacts within the former Wallerawang Power Station site are considered minor as they have been developed in response to landowner feedback (refer section 4.1) and would be limited to the construction period only.

Impacts on mining operations

Impacts on mining operations during construction would be negligible as Amendment 2 was requested by the landowner to ensure operations of the Springvale Coal facility are not impacted by the amended project.

Impacts during operation

Impacts during operation of the project on the former Wallerawang Power Station site and agricultural land would be consistent with those described in the EIS (Transgrid, 2025a). Disturbed land and access tracks not required during operation would be returned to pre-construction condition, subject to agreement with landowners.

5.8. Water resources

5.8.1. Approach to assessment

A review of each of the amendments was undertaken to identify the potential for changes to water resource impacts outlined in Technical Report 1 – Water Impact Assessment (GHD, 2025e) in the EIS (Transgrid, 2025a). The following tasks were undertaken:

- review of watercourse data to identify any impacts not considered as part of the EIS (Transgrid, 2025a)
- review of controlled activities, as defined by the *Water Management Act 2000* to confirm any changes as a result of the proposed amendments (Amendments 1, 3 and 7).

[1] Based on most current data available being NSW Department of Planning and Environment (DPE) land use mapping of 2017. Greenspot Wallerawang Pty Ltd, is currently in the process of lodging a planning proposal seeking to rezone the site to SP4 Enterprise.

5.8.2. Assessment of impacts

Amendment 1 would involve installation of a piped culvert on a third order ephemeral stream located west of the Mount Piper 330kV substation. The inclusion of the culvert would potentially result in minor, local changes to hydrology. When flowing, the culvert is unlikely to impede flows and will enable unobstructed stream flows and stabilised access for light and heavy vehicles. Due to the position of the culvert at the headwaters of a small catchment, the potential impacts to hydrology and water quality are considered to be minimal. The culvert would be temporary and removed following construction; therefore, any potential impacts would be limited to the construction period only.

Amendment 3 would include the removal of the proposed culvert over the unnamed first order tributary (oxbow) of the Coxs River. Removing the culvert would also remove the need to dewater the tributary and means that associated water access licences are no longer required and the impacts outlined in section 14.4.1 of the EIS (Transgrid, 2025a) would not occur.

The proposed relocation of a culvert (Amendment 7) is not expected to result in any additional impacts on water resources. The culvert will be shifted south, by about 18 m, on the same watercourse. The new position remains within a similarly low-lying wetland area characterised by dense wetland rushes; however, it experiences less frequent water ponding than the original location.

5.9. Hazard and risk – bushfire

5.9.1. Approach to assessment

A review of each of the amendments was undertaken to identify the potential changes to bushfire risks outlined in Appendix C Bushfire Risk Assessment of Technical Report 9 – Hazards and Risk Assessment (GHD, 2025f) in the EIS (Transgrid, 2025a), including:

- a review of the asset protection zone (APZ) requirements for the expanded construction compound C2 (Amendment 8) with reference to Planning for Bushfire Protection (RFS, 2019)
- a review of 2024 satellite imagery from Nearmap, accessed on 20 November 2025.

5.9.2. Assessment of impacts

As described in the EIS (Transgrid, 2025a), areas at risk during construction include construction compounds that would support various uses such as temporary storage of construction materials and equipment and workforce parking. For construction compound C2, which is likely to support project/site office temporary portable buildings or where combustible goods are stored, the establishment and maintenance of Asset Protection Zones (APZs) are required.

Section 15.4.1.3 of the EIS (Transgrid, 2025a) describes APZ's in detail. The proposed APZs for each aspect of construction compound C2 as outlined in the EIS (Transgrid, 2025a) is provided in Table 5.13. The relevant bushfire attack level (BAL) that has been applied in the EIS is BAL-29 categorised with a radiant heat exposure of 29 kW/m^2 (Transgrid, 2025a). The expansion of construction compound C2 does not result in any changes to the APZ requirements for the construction compound.

Table 5.13. APZ requirements for construction compound C2 for the exhibited project and the amended project

Aspect	Vegetation	Slope Class (degrees)	BAL-29 APZ requirement (m)	Changes to APZ due to amendments
North	Grassland	0 – 5 downslope	11	No change to APZ requirements. The north aspect/ north boundary remains unchanged with a mixture of hardstand areas and predominately managed grassed areas.
East	Grassland	0 – 5 downslope	11	No change to APZ requirements. The east aspect extends further south. Vegetation is similar grassland and the slope class remains unchanged.
South	Grassland	Upslope/ flat	10	No change to APZ requirements. The south aspect/ south boundary has moved further south. The new boundary borders an area of similar managed grassed areas and hardstand with some scattered trees. The slope class remains unchanged.
West	Grassland	Upslope/ flat	10	No change to APZ requirements. The west aspect/ boundary extends south and abuts the main sealed internal access road of the property. It has managed grassed areas and hardstand areas with some scattered trees. The slope class remains unchanged.

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6. Mitigation measures

The proposed amendments do not result in potential impacts requiring new or revised mitigation measures. The overall approach to avoidance and management of impacts remains consistent with the approach provided in the EIS (Transgrid, 2025a).

Separate to this Amendment Report, the mitigation measures have been updated following community and stakeholder feedback on the EIS. The revised mitigation measures are provided in Appendix B of the Submissions Report (Transgrid, 2025b) and are also applicable to the proposed amendments.

7. Justification and conclusion

The proposed amendments have been assessed in accordance with the SEARs issued for the EIS.

The amended project described in section 2 and Appendix A, results in potential construction impacts that are consistent with the conclusions of the EIS (Transgrid, 2025a). In some cases, e.g., where construction methods have been revised, amendments have resulted in a reduction of impacts (e.g., Aboriginal and historic heritage, noise and vibration, agricultural land use and biodiversity). The identified changes to potential impacts vary from additional negative minor impacts to reducing impacts from that described in the EIS (Transgrid, 2025a) (e.g., avoiding impacts on Aboriginal heritage, minimising loss of native vegetation and substantially reducing the number of noise level exceedances at residential receivers during piling activities). These changes do not result in new or substantial impacts that require new or revised mitigation measures. Therefore, no changes to the mitigation measures outlined in the EIS (Transgrid, 2025a) are proposed as a result of the amendments.

The justification and evaluation of the project provided in chapter 23 of the EIS (Transgrid, 2025a) remains current and applicable to the amended project. The key adverse residual impacts for the project relate to biodiversity and Aboriginal heritage. Other issues include traffic, noise and water resources impacts.

The project remains critical in supporting the NSW Transmission Infrastructure Strategy by enabling the Central-West Orana Renewable Energy Zone (CWO REZ) and providing essential additional transmission capacity to support renewable generation for NSW consumers. The project has undergone comprehensive assessment in line with the EP&A Act and EPBC Act. The project has been developed following a robust and iterative process that has involved comprehensive options analysis, design integration, environmental assessment and stakeholder engagement. Where feasible and reasonable, the project has aimed to avoid and minimise environmental, social, and economic impacts.

The project will facilitate greater access to reliable, and affordable renewable electricity, particularly in regional NSW and the Lithgow LGA. With mitigation and management measures in place, impacts are considered acceptable and manageable, and the project is justified as a key enabler of the energy transition, delivering long-term benefits to the National Energy Market and the broader public interest.

8. References

Department of Planning, Industry and Environment (DPIE) (2020) *The Electricity Infrastructure Roadmap*.

Department of Planning, Industry and Environment (DPIE) (2022) *State significant infrastructure guidelines – preparing an amendment report*.

EnergyCo (2023), *NSW Network Infrastructure Strategy*.

GHD (2025a) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 2 – Revised Biodiversity Development Assessment Report. December 2025. Prepared for Transgrid.

GHD (2025b) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 8 – Revised Traffic and Transport Assessment. December 2025. Prepared for Transgrid.

GHD (2025c) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 10 – Noise and Vibration Impact Assessment. August 2025. Prepared for Transgrid.

GHD (2025d) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 4 – Land Use and Agriculture Assessment. August 2025. Prepared for Transgrid.

GHD (2025e) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 1 – Water Impact Assessment. August 2025. Prepared for Transgrid.

GHD (2025f) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 9 – Hazard and Risk Assessment. August 2025. Prepared for Transgrid.

NSW DCCEEW (2025) *Threatened Biodiversity Data Collection*. Accessed at: environment.nsw.gov.au/AtlasApp/UI_Modules/TSM_/Default.aspx?a=1

OzArk Environment and Heritage (2025a) Mount Piper to Wallerawang Transmission Line Upgrade Project. Technical Report 5 – Aboriginal Cultural Heritage Assessment Report. Lithgow Local Government Area. August 2025. Prepared for Transgrid.

OzArk Environment and Heritage (2025b) Mount Piper to Wallerawang Transmission Line Upgrade Project. Historic Heritage Assessment and Statement of Heritage Impact Report. Lithgow Local Government Area. August 2025. Prepared for Transgrid.

Rural Fire Service (RFS) (2019) *Planning for Bushfire Protection*.

Transgrid (2025a) Mount Piper to Wallerawang Transmission Line Upgrade Project – Environmental Impact Statement.

Transgrid (2025b) Mount Piper to Wallerawang Transmission Line Upgrade Project - Submissions Report.

Appendix A Revised Project Description

Transgrid

People. Power. Possibilities.

Mount Piper to Wallerawang Transmission Line Upgrade Project

Amendment Report | Appendix A – Updated project description

December 2025

Document preparation history

Revision	Reviewed By	Date
0	Greg Marshall/Ben James	12/12/2025

Guide to Appendix A – Updated project description

State significant infrastructure guidelines – preparing an amendment report (DPE, 2022a) provides information on the form and content requirements for amendment reports. These guidelines require that a consolidated, detailed description of the amended project is included in the appendices of the amendment report.

This appendix provides an updated and consolidated detailed description of the amended project. It updates and supersedes the project description provided in Chapter 3 of the EIS to reflect the amendments to the project. To illustrate the changes to the project description between the EIS and the amended project, project elements that have been removed are shown in **~~strike through~~** and new elements and/or details that are added in **bold green coloured** text. For references in this appendix, refer to Chapter 24 (References) of the EIS. This updated project description can be read as the amended project and the project footprint as the amended project footprint.

Contents

3 Updated project description

This chapter provides a description of the key project components, including the proposed transmission line, transmission structures, connection to existing substations and ancillary development. It also describes how the project would be constructed and maintained. The description of the project is based on the ***preliminary detailed design, which is an update to the EIS concept design*** ~~*current concept design*~~*.*

Assessments of the potential environmental impacts from the project's proposed amendments are provided in Chapter 5 (Assessment of impacts) of the Amendment Report and in the supporting technical reports. *Some elements of the project may continue to be refined as part of the detailed design following project approval, informed by a range of factors including geotechnical conditions, ongoing consultation with landowners, and the construction methods of the construction contractor.*

3.1 Project overview

The project includes the construction, operation and maintenance of approximately 8 km of new 330 kV transmission line between the Mount Piper 330 kV and Wallerawang 330 kV substations, replacement of transmission structures, partial adjustment of existing transmission lines, permanent and temporary access tracks and roads, and ancillary facilities. An overview of the project is provided in Table 3.1 and shown in Figure 3.1(a-d).

Table 3.1. Overview of the project

Project aspect	Description
Project location	Central West and Orana region of NSW. City of Lithgow LGA. Mount Piper and Wallerawang 330 kV substations are located in Portland and Wallerawang respectively, approximately 7.5 km apart and about 14 km northwest of Lithgow.
Project footprint	The area that would be directly impacted by the project during construction and operation. The project footprint is approximately **90.4** ~~86.5~~ hectares.
Land use	The project footprint traverses land used for agriculture, industry and conservation (part of the Gardens of Stone SCA).
Design	
Transmission line and easements	Approximately 8 km of new 330 kV transmission line between the existing Mount Piper 330 kV and Wallerawang 330 kV substations that would include (from northwest to southeast): • widening of approximately 0.5 km of existing easements in the vicinity of the Mount Piper 330 kV substation by up to 40 m to accommodate the new 330 kV transmission line and adjustments to existing 132 kV and 330 kV transmission lines • widening of the existing 132 kV easement from 45 m to 60 m for 4.8 km to accommodate double circuit transmission structures for the existing 132 kV transmission line and the new 330 kV transmission line • installation of two 132 kV pole structures where the existing 132 kV transmission line is restrung onto the new double circuit transmission structures • construction of 1.2 km of new 330 kV transmission line from the existing 132 kV transmission line southeast to the intersection of Main Street and the Castlereagh Highway on a 60 m easement • construction of 1.5 km of new 330 kV transmission line on a 40 m easement running parallel to existing 330 kV transmission lines for approximately 1.1 km and then diverging and widening to 60 m for the remaining 0.4 km to the Wallerawang 330 kV substation.

Project aspect	Description
	The standard easement widths for 132 kV and 330 kV transmission lines are 45 m and 60 m respectively. However, easements may vary in width where multiple transmission lines converge/diverge or where they overlap with an existing easement.
Transmission structures	Transmission structures for the project include approximately 28 new steel lattice towers and four steel and/or concrete pole structures. Transmission structures would range in height from approximately 14 to 60 m, however these heights would be subject to detailed design. Maximum heights of the different types of transmission structures are shown in Figure 3.3. The steel lattice towers would generally be spaced between 100 m to 550 m apart and the pole structures spaced about 30 m to 50 m apart. New conductors, earth wires and optical ground wire (OPGW) would be installed on the new transmission structures for the new 330 kV and existing 132 kV lines. Local adjustment of existing transmission structures would be required in the vicinity of the Mount Piper 330 kV substation to minimise crossover of transmission lines. Redundant transmission structures, including the gantry immediately north of the Main Western Rail Line, would be removed and recycled, where possible.
Construction	
Construction hours	The proposed project construction hours are 7am to 6pm Monday to Sunday with use of the construction compounds from 6pm to 7pm Monday to Friday. Non-standard hours are required because much of the works would need to be conducted under outage for safety purposes, due to the proximity to existing transmission lines. Some works may need to be undertaken between 6pm and 7am Monday to Sunday or on public holidays due to safety constraints such as work in rail and local road corridors, work during outage recalls where the project is given a set time limit to re-instate the transmission line before it is re-energised.
Construction workforce	Expected to peak at about 150 workers, with an average workforce of about 60 workers.
Ancillary infrastructure	• construction compounds • laydown areas • brake and winch sites for stringing conductors.
Access	To facilitate efficient construction access, the following is required: • upgrading and widening of approximately **20** ~~25~~ km of existing access tracks to at least 6 m, with some sections widened up to 10 m due to local topography • construction of approximately 2**.5** km of new 6 m wide access tracks • **use of approximately 12 kilometres of existing track not requiring upgrades.** In addition to the above, approximately 4**.3** km of existing tracks would be used only by light vehicles. The light vehicle tracks may require minor repairs (for example, filling potholes), but would not be graded or widened. The project footprint would be accessed from public roads at **12** ~~13~~ access points, with the majority of these being existing property access points. Existing access tracks would be used in preference to new tracks wherever possible. Access track upgrades and widening would include required drainage.
Construction duration and timing	Subject to receiving necessary approvals, construction would commence in ~~mid~~ **September**-2026 and be undertaken over a period of approximately 20 months.
Operation and maintenance	
Operational workforce	Managed as part of existing operations with no additional staff requirements.
Design life	Approximately 50 years.
Access	Nine access points used for the construction phase will be retained for maintenance and operation purposes. Access points and access tracks not required for future operation and maintenance activities would be returned to pre-construction conditions, subject to agreement (or as agreed) with landowners.

Project aspect	Description
Maintenance	All project infrastructure would require regular maintenance to maintain serviceability and maximise its operational life. Maintenance activities would include: • transmission structure monitoring • annual aerial inspection • routine vegetation management on the easement and in the hazard tree zone • access tracks would be maintained in a trafficable condition. Should any irregularities be identified following routine inspections, a work crew would be dispatched from existing Transgrid maintenance depots to rectify any defects found. Periodic inspection and maintenance work would be managed by Transgrid as part of existing operations, with no additional staff requirements.

SYD\21\12612502\aprx\12612502_E4_EIS-Alignment_A3

Date: 20/11/2025 Rev: A 1:8,485 @ A3

Boulder Road

Frankfort Road

Castlereagh Highway

Wangcol Creek

Mount Piper
132kV Substation

Mount Piper
Power Station

Mount Piper
330kV Substation

C1

70-M

7G-M

71-M

70-30

70-29

70-28

71-25

25C

34

Gardens Of Stone State
Conservation Area

1

2

3

4

Project components
- Project footprint
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- New culvert crossing for access

Construction compound;
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure

Existing environment
- Gardens of Stone SCA
- Roads
- Watercourse

Figure 3.1a - Project footprint and location of transmission lines and structures

0 200 400

Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E4_EIS-Alignment_A3

Mount Piper
330kV Substation

70-M
7G-M
71-M
70-30
70-29
70-28
71-25
25C
34
33A
28D
70/71-24
27D
26D
25D
24D
23D
22D
21D
20D
19D
18D

Centennial Springvale
Coal Services facility

Castlereagh Highway

Gardens Of Stone State
Conservation Area

Gardens Of Stone State
Conservation Area

1
2
3
4

Date: 20/11/2025 Rev: A 1:8,485 @ A3

Project components
- Project footprint
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained

- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure

Existing environment
- Gardens of Stone SCA
- Roads
- Watercourse

Figure 3.1b - Project footprint and location of transmission lines and structures

0 200 400
Metres
Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E4_EIS-Alignment_A3

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21D
20D
19D
18D
17D
16D
15D
14D
14A
13D
13A
13
12D
11D

Gardens Of Stone State Conservation Area

Coxs River

Castlereagh Highway

Wolgan Road

1
2
3
4

Project components
- Project footprint
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained
- Upgraded culvert crossing
- Transmission structure
- Retained transmission structure

Existing environment
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

Figure 3.1c - Project footprint and location of transmission lines and structures

0 200 400
Metres
Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E4_EIS-Alignment_A3

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13A
13
12D
11D
10D
70/71-10
9D
70/71-9
8C
70/71-8
7C
6C
5C
4C
3C
2C
1C
7G-W
Wallerawang 330kV Substation
C2
C3
Former Wallerawang Power Station
Proposed passing bay on Brays Lane
Brays Lane
Pipers Flat Creek
Coxs River
Wolgan Road
Castlereagh Highway
Main Western Rail Line
Main Street
Lake Wallace

1
2
3
4

Project components
- Project footprint
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained
- New culvert crossing for access
- Construction compound;
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure
- Roads
- Railway
- Watercourse

Figure 3.1d - Project footprint and location of transmission lines and structures

0 200 400
Metres
Grid: GDA2020 MGA Zone 56

3.2 Transmission lines

3.2.1 New transmission lines and adjustments to existing transmission lines

There are currently two 330 kV transmission lines (TL70 and TL71) between the Mount Piper 330 kV substation and the Wallerawang 330 kV substation on double circuit transmission structures (Figure 3.1). There is also a single circuit 132 kV transmission line (TL94E) that runs between the Mount Piper 132 kV substation and the Wallerawang 132 kV substation. Some sections of these existing transmission lines would be retained and some sections would be replaced (Figure 3.1 and Figure 3.2a) by stringing new conductors onto new transmission structures as part of the project (Figure 3.2b and Figure 3.3).

The proposed changes to the transmission lines are summarised in Table 3.2 commencing from Wallerawang to Mount Piper. While information regarding the transmission lines is generally presented from west to east in the EIS, the descriptions in Table 3.3 are presented from east to west because transmission structures are numbered in this direction. Graphic illustration of the proposed changes is shown in Figure 3.2a and Figure 3.2b.

Table 3.2. Proposed changes to the transmission lines

Post-construction transmission line numbers	Voltage	Description of works
TL94E	132 kV	• restring from transmission structure (TS) 13 (existing) onto new single circuit structures (TS13A and TS14A) and then onto double circuit structures (TS13D to TS28D) shared with new sections of TL71 (Figure 3.2b) • TL94E deviates from TL71 at the shared structure TS28D (new), then connects to TS33A (new), and then follows the existing route to the Wallerawang 132 kV substation (Figure 3.2b) • remove all structures from TS14 to TS33
TL7G (reuses some of the existing TL70 infrastructure)	330 kV	• build new structures TS1C to TS8C on a new easement running parallel to the existing TL70/71 easement, connect to existing line at TS10 (Figure 3.2a and (Figure 3.2b) • restring from TS24 (existing) to TS25C (new), then to TS28 (existing) and through TS30 (existing) to Mount Piper 330kV substation (Figure 3.2b)
TL70 (reuses some of the existing TL71 infrastructure)	330 kV	• no change to double circuit 330 kV TS1 to TS8 on existing TL70/71 easement • remove TS9 (Figure 3.2a) • restring from existing TS8 (existing) to TS8C (new) and to TS10 (existing) • restring from TS24 (existing) to TS25C (new) and TS28 (existing), and through TS29 (existing) to Mount Piper 330kV substation (Figure 3.2b) • remove TS27 (Figure 3.2a).
TL71	330 kV	• no change to double circuit 330 kV TS1 to TS8 on existing TL70/71 easement • restring from TS8 (existing) to double circuit TS9D (new) through to TS28D (new) (Figure 3.2b) • restring from TS28D (new) to TS25 (existing) and through TS26 (existing) to Mount Piper 330kV substation (Figure 3.2b)

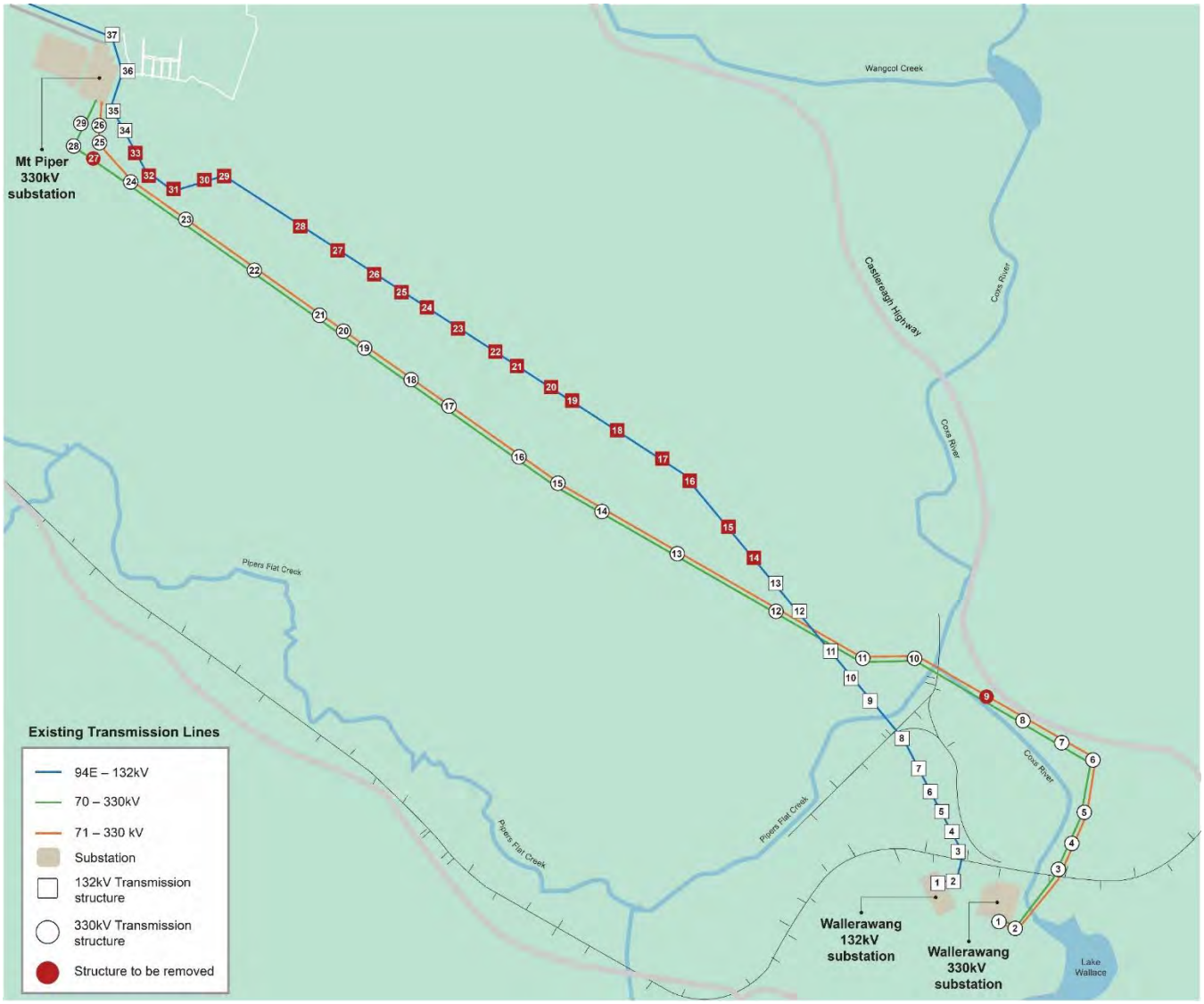


Figure 3.2a. Proposed transmission line changes showing existing transmission structures to be removed

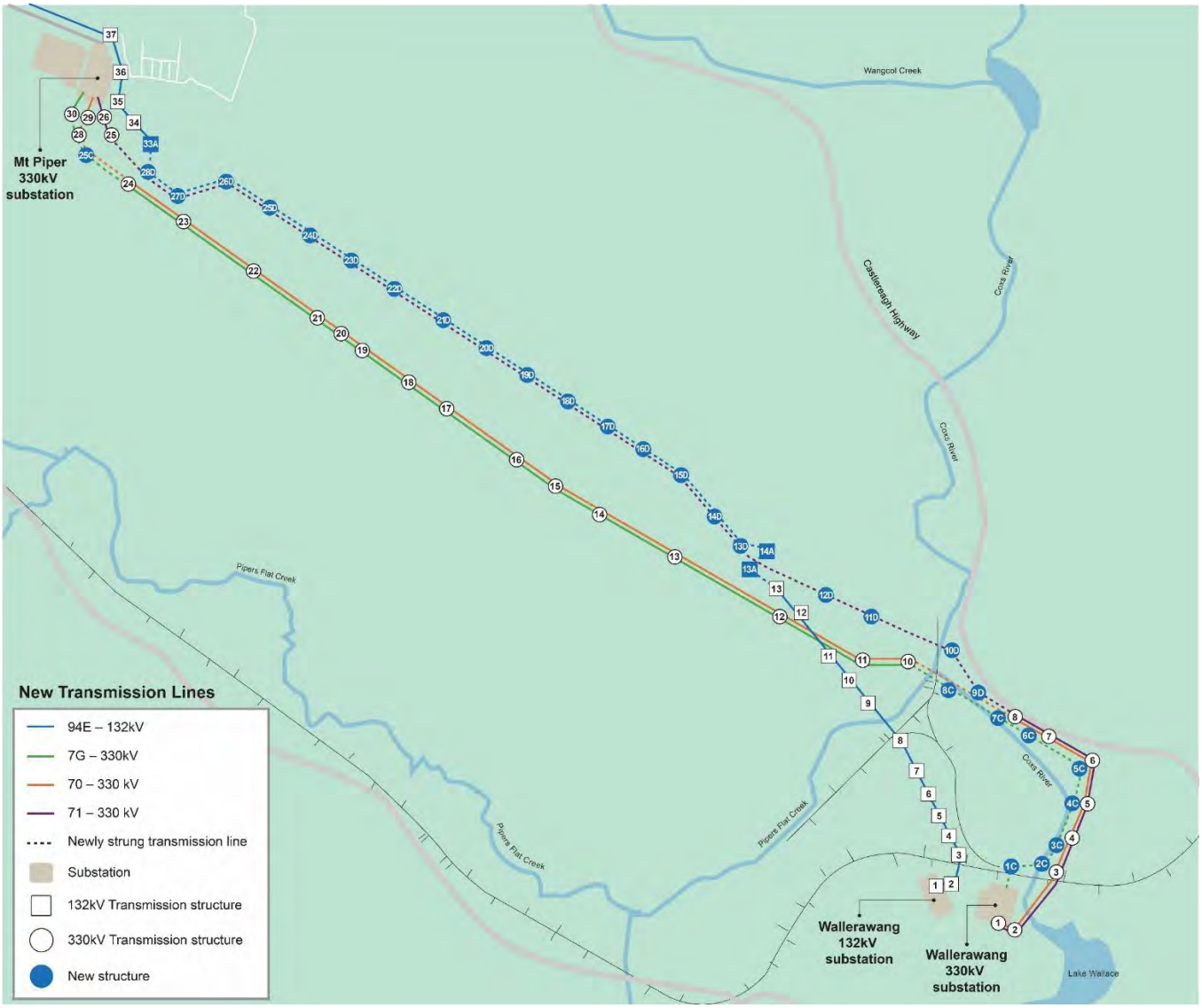


Figure 3.2b. Proposed transmission line changes showing the new 330 kV transmission line (Line 71) and new stringing (dashed line) to adjust existing transmission lines

3.2.2 Transmission structures

The location of proposed new transmission structures is shown in Figure 3.1 (a-d). All locations are indicative and subject to final design. The final locations would depend on a range of factors such as the distance between each transmission structure, local geotechnical conditions, and local property or environmental constraints (eg the need to avoid specific areas of biodiversity and/or heritage).

The project would include the following types of transmission structures varying in height from approximately 14 to 60 m as follows:

- double circuit steel lattice towers - approximately 28 steel lattice towers varying in height from 30 m to 60 m above ground level
- four pole structures varying in height from approximately 14 m to 45 m above ground level comprising:
  - one 330 kV single circuit steel pole (maximum height of 45 m)
  - two 132 kV single circuit concrete poles (maximum height of 30 m tall)
  - one 132 kV single circuit concrete three pole structure (maximum height of 20 m tall).

The pole structure heights presented above are based on preliminary design. Depending on the outcomes of the design process, pole structures may be used instead of steel lattice towers at three locations in the vicinity of the Wallerawang 330 kV substation. Indicative representations of transmission structures and poles to be constructed are shown in Figure 3.3.

Figure 3.3. Proposed transmission structures

The height difference in the required transmission structures relates to the topography of the ground surface and where there are crossovers of existing lines or other infrastructure such as roads. Taller transmission structures are needed to maintain safety clearances, particularly in areas where crossovers of existing utilities and infrastructure are proposed. The steel lattice towers would generally be spaced 100 m to 550 m apart and the pole structures about 30 m to 50 m apart.

The transmission structures would support the transmission line conductors, as well as earth wire and communication cables. On each side of a double circuit structure, there would be two conductors for each of the three phases, an earth wire and OPGW, totalling 14 conductors per structure. Single circuit pole structures would have up to a total of eight conductors per structure.

Several existing transmission structures would become redundant once the new infrastructure is installed, and would be removed:

- TS27 steel lattice tower from the existing 330 kV TL70/71
- TS09 steel lattice tower from the existing 330 kV TL70/71
- pole structures between TS33 to TS14 from the existing 132 kV TL94E.

3.3 Property acquisition, leases and easements

The project has been developed to minimise impacts on landowners as far as possible (see section 2.4). However, easement widening to accommodate the new and existing infrastructure would affect a number of landholdings (refer to Figure 3.4) and some temporary use of land would be required during construction. An easement is a legal property right attached to a parcel of land that enables the non-exclusive use of an identified part of the land by a third party other than the owner. An easement provides a right of access for Transgrid staff and contractors to construct, maintain and operate the transmission line and other operational assets. Acquisition of permanent and temporary easements for transmission, access and compounds is discussed in detail in Chapter 13 **(Land use and agriculture) of the EIS**.

Where TL94E and the new TL71 run together on double circuit structures, the existing easement would need to be widened by around 15 m, from 45 m to 60 m to accommodate the new 330 kV transmission line. In some locations where there is less overlap between the existing and proposed easement, the easement would need to be widened by up to 25 m. Easements would be required for the transmission line route illustrated in Figure 3.1. Sensitive residential receivers, commercial and industrial receivers located within and adjacent to the project footprint, which includes the easement, are shown in Figure 3.5. In summary, the proposed easement changes include:

- widening of approximately 0.5 km of existing easements in the vicinity of the Mount Piper 330 kV substation by up to 40 m to accommodate the new 330 kV transmission line and adjustments to existing 132 kV and 330 kV transmission lines
- widening of the existing 132 kV easement from 45 m to 60 m for 4.8 km to accommodate double circuit transmission structures for the existing 132 kV transmission line and the new 330 kV transmission line
- establishing 1.2 km of new 60 m wide easement for the new 330 kV transmission line from the existing 132 kV transmission line southeast to the intersection of Main Street and the Castlereagh Highway
- establishing a variable width easement including a 1.1 km section of a new 40 m wide easement for the new 330 kV transmission line running parallel to existing 330 kV transmission lines, then diverging and widening to a new 60 m wide easement for 0.4 km to the Wallerawang 330 kV substation.

Acquisition of easements would be carried out by agreement with landowners where possible and in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*. Acquisition of easements is anticipated to be required from the following landowners:

- Centennial (Ivanhoe Coal Pty Ltd)
- Centennial (Springvale Pty Ltd and Boulder Mining Pty Ltd)

- The State of NSW (represented by NPWS)
- EnergyAustralia
- Transport for NSW
- One private landholder.

The project is eligible for the Strategic Benefits Payments Scheme (SBP Scheme). Landholders who are easement impacted by the project (refer to Figure 3.4) and are eligible for the SBP Scheme will be paid the SBP post energisation in accordance with the guidelines. Under the SBP Scheme, private landowners hosting new high voltage transmission projects critical to the energy transformation and future of the electricity grid will be paid per kilometre of transmission line. Payments under the scheme are in addition to the *Land Acquisition (Just Terms Compensation) Act 1991* payments to landowners for transmission easements on their land, ensuring they share directly in the benefits of these new transmission projects.

The payments to landowners acknowledge the important role of landowners in supporting the transition to a low-emissions electricity system. The SBP Scheme will ensure that eligible landowners who host the new transmission line receives tangible benefits for participating in building an energy grid that supports the future of all people in NSW.

Leases to land for the three temporary construction compounds (Figure 3.7) and property access agreements for the movement of plant and equipment across the project footprint, would also be sought from relevant landholders.

Additional detail about potential impacts of the project on property during construction and operation are included in Chapter 13 **(Land use and agriculture) of the EIS**.

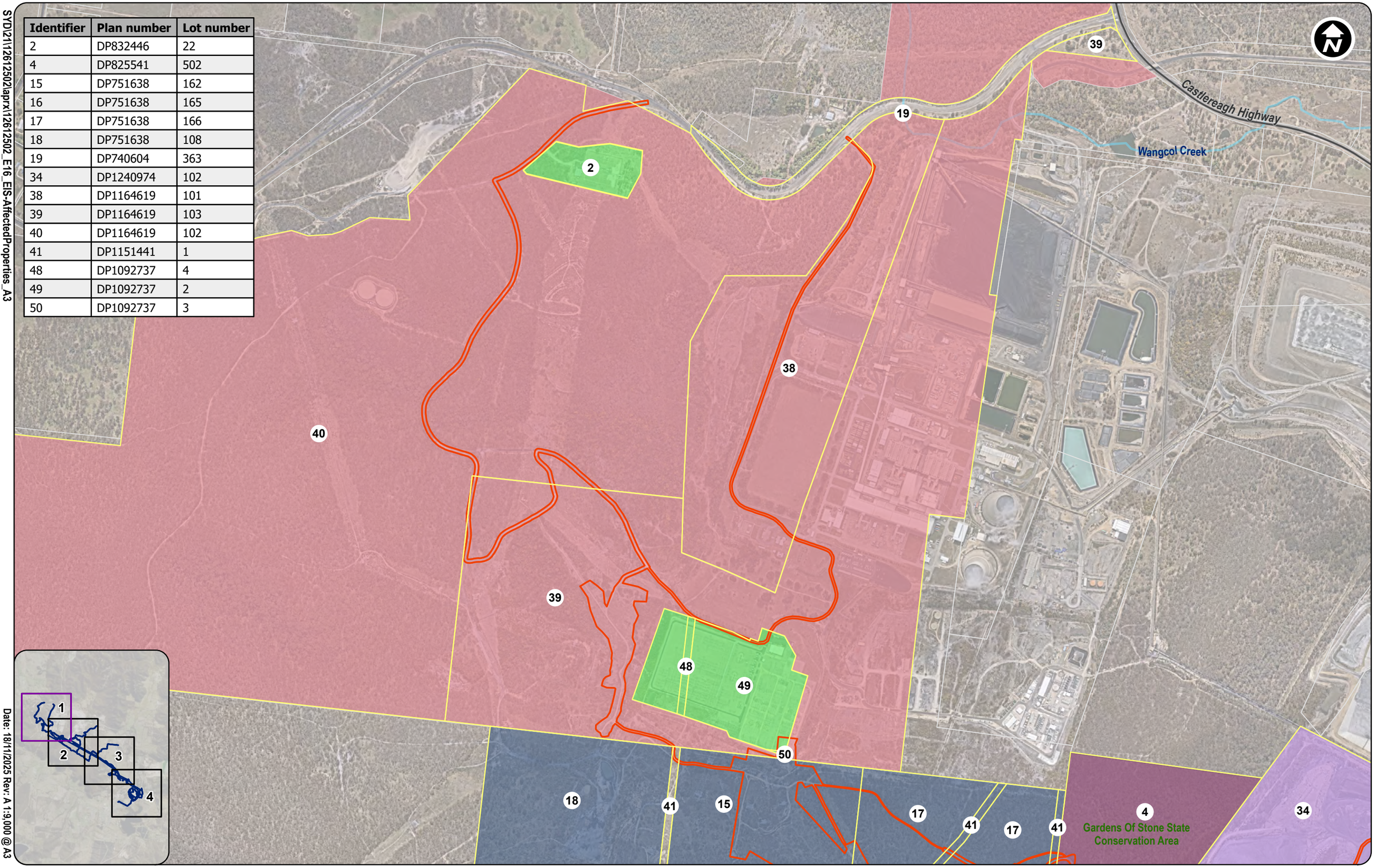
The new transmission line would cross the following utilities and infrastructure:

- water pipeline operated by WaterNSW
- distribution lines operated by Endeavour Energy
- council drainage and other assets
- public roads at Brays Lane and Main Street
- rail lines at the Main Western Rail Line and the disused rail line travelling north of Brays Lane.

These utilities and infrastructure are shown on Figure 3.6. Transgrid has consulted with asset owners, roads and rail authorities, including for underground power supply for signalling services in the area (see section 5.5.2). This consultation, together with the database search of Before You Dig Australia, has confirmed no signalling services and no underground signal power supply exist within or in the immediate vicinity of the project footprint. Potential construction and operational impacts on roads and utilities are described in section 9.4.1 and section 9.4.2, respectively.

It is not currently anticipated that the project would require the adjustment of any nearby utilities. Further investigations and consultation with asset owners would be undertaken during detailed design.

Identifier	Plan number	Lot number
2	DP832446	22
4	DP825541	502
15	DP751638	162
16	DP751638	165
17	DP751638	166
18	DP751638	108
19	DP740604	363
34	DP1240974	102
38	DP1164619	101
39	DP1164619	103
40	DP1164619	102
41	DP1151441	1
48	DP1092737	4
49	DP1092737	2
50	DP1092737	3



Project components
- Project footprint
- Affected parcels

Property parcels
- Transgrid
- EnergyAustralia
- Centennial (Ivanhoe Coal)
- Centennial (Springvale)
- NSW National Parks and Wildlife Service

Existing environment
- Gardens of Stone SCA
- Roads
- Watercourse

Figure 3.4a - Affected properties

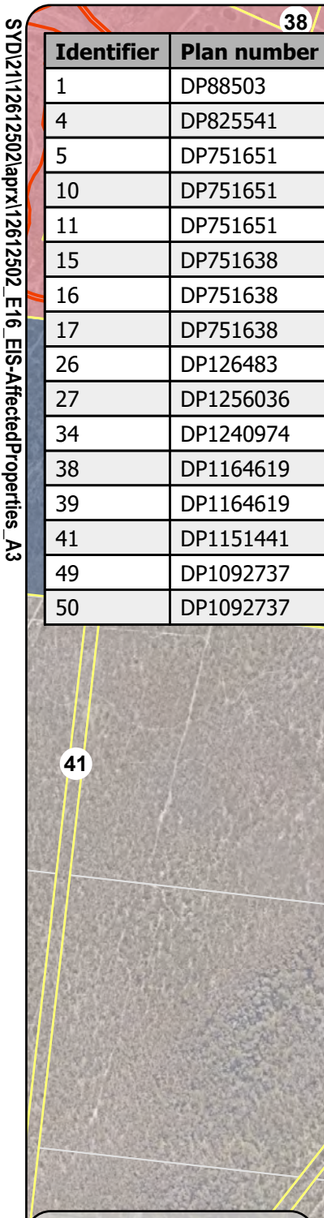
0 500 1,000
Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E16_EIS-AffectedProperties_A3

Date: 18/11/2025 Rev: A 1:9,000 @ A3

Identifier	Plan number	Lot number
1	DP88503	1
4	DP825541	502
5	DP751651	13
10	DP751651	370
11	DP751651	371
15	DP751638	162
16	DP751638	165
17	DP751638	166
26	DP126483	2
27	DP1256036	2
34	DP1240974	102
38	DP1164619	101
39	DP1164619	103
41	DP1151441	1
49	DP1092737	2
50	DP1092737	3



Gardens Of Stone State Conservation Area

Wangcol Creek

Castlereagh Highway

Project components
- Project footprint
- Affected parcels

Property parcels
- Transgrid
- EnergyAustralia
- Centennial (Ivanhoe Coal)
- Centennial (Springvale)
- NSW National Parks and Wildlife Service
- Private landowner 1

Existing environment
- Gardens of Stone SCA
- Roads
- Watercourse

Figure 3.4b - Affected properties

0 500 1,000

Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E16_EIS-AffectedProperties_A3

Date: 18/11/2025 Rev: A 1:9,000 @ A3

Identifier	Plan number	Lot number
3	DP827807	32
4	DP825541	502
5	DP751651	13
6	DP751651	385
7	DP751651	226
8	DP751651	174
9	DP751651	16
10	DP751651	370
11	DP751651	371
12	DP751651	400
12	DP751651	375
14	DP751651	16
20	DP596248	2
21	DP567915	2
22	DP567915	1
25	DP252472	9
28	DP1244030	3
29	DP1244030	5
30	DP1244030	6
31	DP1244030	7
32	DP1244030	8
33	DP1244030	1
34	DP1240974	102
43	DP1137972	101
51	DP1087684	5
52	DP1087684	4

Gardens Of Stone State Conservation Area

Coxs River

Castlereagh Highway

SYD\21\12612502\aprx\12612502_E16_EIS-AffectedProperties_A3

Date: 18/11/2025 Rev: A 1:9,000 @ A3

Project components
- Project footprint
- Affected parcels

Property parcels
- WaterNSW
- Centennial (Ivanhoe Coal)
- Centennial (Springvale)
- NSW National Parks and Wildlife Service
- Private landowner 1
- Private landowner 2

Existing environment
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

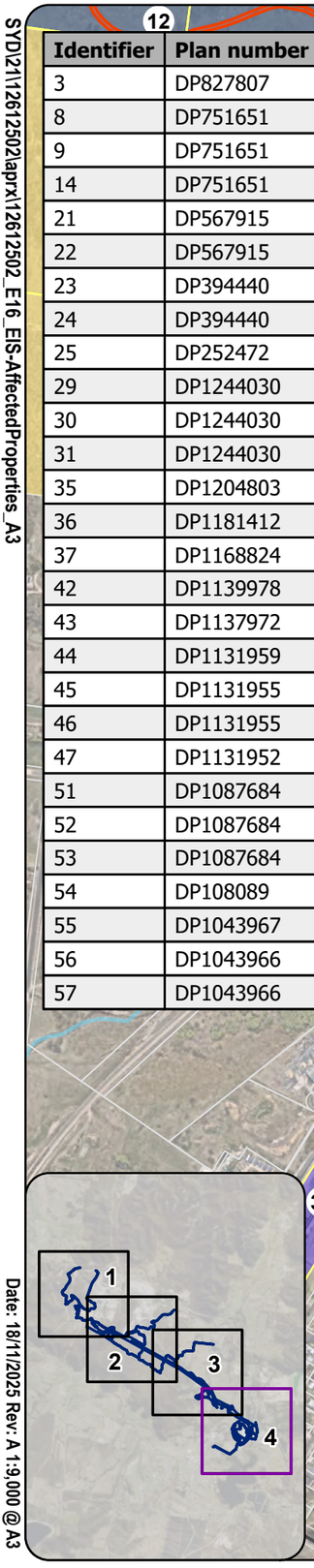
Figure 3.4c - Affected properties

0 500 1,000
Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E16_EIS-AffectedProperties_A3

Identifier	Plan number	Lot number
3	DP827807	32
8	DP751651	174
9	DP751651	16
14	DP751651	16
21	DP567915	2
22	DP567915	1
23	DP394440	C
24	DP394440	D
25	DP252472	9
29	DP1244030	5
30	DP1244030	6
31	DP1244030	7
35	DP1204803	1115
36	DP1181412	3
37	DP1168824	10
42	DP1139978	11
43	DP1137972	101
44	DP1131959	171
45	DP1131955	2
46	DP1131955	1
47	DP1131952	171
51	DP1087684	5
52	DP1087684	4
53	DP1087684	3
54	DP108089	1
55	DP1043967	91
56	DP1043966	101
57	DP1043966	100



Date: 18/11/2025 Rev: A 1:9,000 @ A3

Project components
- Project footprint
- Affected parcels

Property parcels
- Transgrid
- EnergyAustralia
- Transport Asset Holding Entity of NSW
- Greenspot
- Centennial (Ivanhoe Coal)
- Private landowner 2
- Roads
- Railway
- Watercourse

Figure 3.4d - Affected properties

0 500 1,000
Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E15_EIS-SensitiveReceivers_A3

Boulder Road

Frankfort Road

Jarrah Way

Castlereagh Highway

Wangcol Creek

C1

1

2

3

4

Date: 11/12/2025 Rev: A 1:8,485 @ A3

Project components
- Project footprint
- Proposed 330kv easement
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- New culvert crossing for access
- Construction compound
- Cadastre

Sensitive receivers
- Industrial
- Residential

Existing environment
- Roads
- Watercourse

Figure 3.5a - Sensitive receivers within and adjacent to the project footprint

0 200 400

Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E15_EIS-SensitiveReceivers_A3

Date: 11/12/2025 Rev: A 1:8,485 @ A3

Castlereagh Highway

Noon Street

Easement affected receiver

1
2
3
4

Project components
- Project footprint
- Proposed 330kv easement
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained

Cadastre

Sensitive receivers
- Industrial
- Residential

Existing environment
- Roads
- Watercourse

Figure 3.5b - Sensitive receivers within and adjacent to the project footprint

0 200 400

Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E15_EIS-SensitiveReceivers_A3

Date: 11/12/2025 Rev: A 1:8,485 @ A3

Karawatha Drive

Easement affected receiver

Coxs River

Maddox Lane

Ostler Place

Carriers Arms Close

Castlereagh Highway

Ian Holt Drive

Wolgan Road

1

2

3

4

Project components

- Project footprint
- Proposed 330kv easement
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained
- Upgraded culvert crossing
- Cadastre

Sensitive receivers

- Residential

Existing environment

- Railway
- Roads
- Watercourse

Figure 3.5c - Sensitive receivers within and adjacent to the project footprint

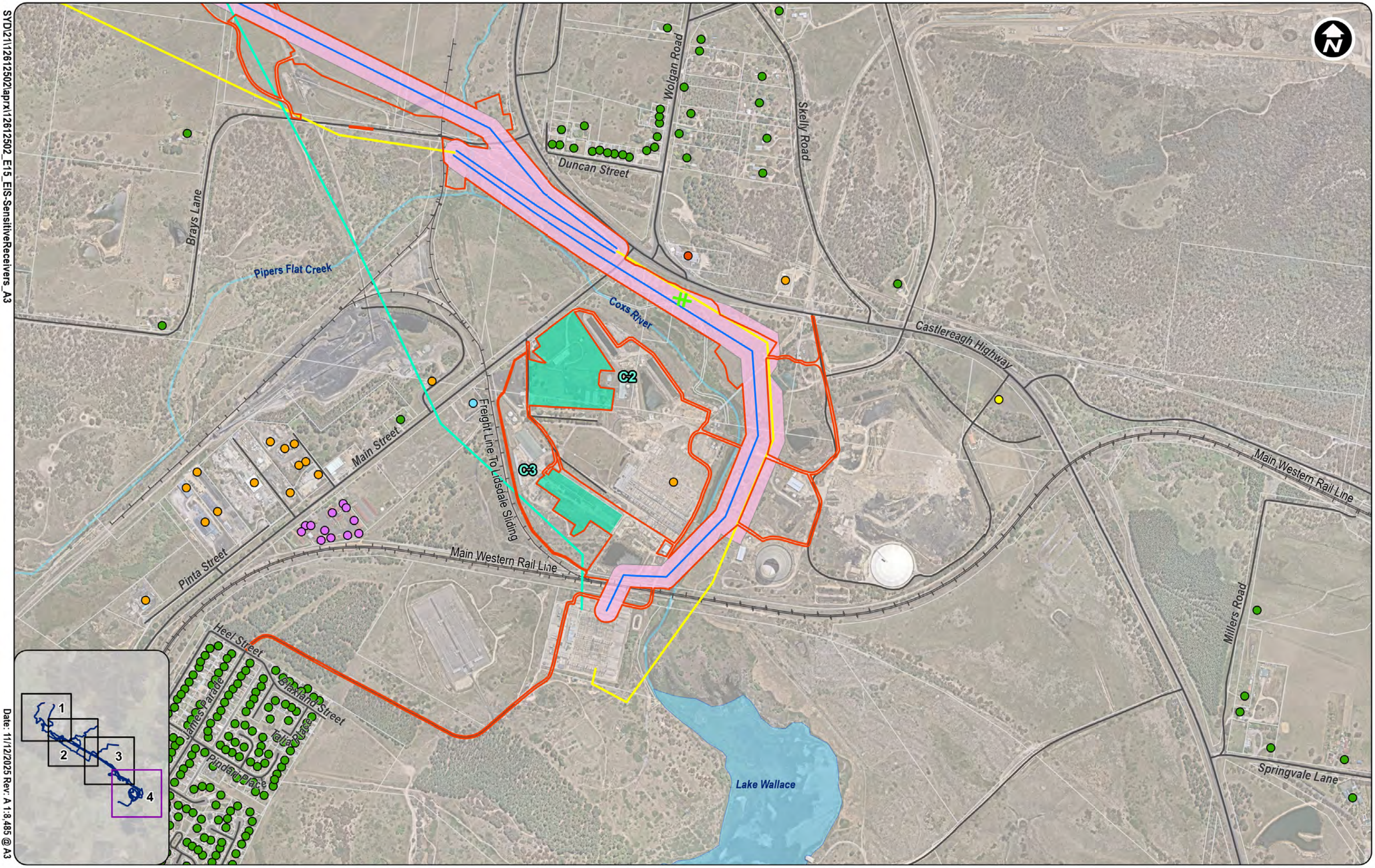
0 200 400

Metres

Grid: GDA2020 MGA Zone 56

SYD\21\126125\02\aprx\126125\02_E15_EIS-SensitiveReceivers_A3

Date: 11/12/2025 Rev: A 1:8,485 @ A3



Project components
- Project footprint
- Proposed 330kv easement
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained
- New culvert crossing for access
- Construction compound
- Cadastre

Sensitive receivers
- Active recreation
- CMU
- Commercial
- Industrial
- Other
- Passive recreation
- Place of worship
- Residential
- Temporary accommodation

Existing environment
- Railway
- Roads
- Watercourse

Figure 3.5d - Sensitive receivers within and adjacent to the project footprint

0 200 400
Metres
Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E13_EIS-Utilities_A3

Date: 11/12/2025 Rev: A 1:8,485 @ A3

Boulder Road

Castlereagh Highway

Wangcol Creek

Mount Piper
132kV Substation

Mount Piper
Power Station

Mount Piper
330kV Substation

C1

70-M

7G-M

71-M

70-30

70-29

70-28

71-25

25C

34

Gardens Of Stone State
Conservation Area

1

2

3

4

Project components

- Project footprint
- Existing substation
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Construction compound
- New culvert crossing for access
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure
- Fish river pipeline
- Distribution lines (Endeavour Energy)
- Gardens of Stone SCA
- Roads
- Watercourse

Figure 3.6a - Utilities and infrastructure within and in proximity to the project footprint

0 200 400

Metres

Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E13_EIS-Utilities_A3

Mount Piper
330kV Substation

70-M
7G-M
71-M
70-30
70-29
70-28
71-25
34
25C
33A
28D
70/71-24
27D
26D
25D
24D
23D
22D
21D
20D
19D
18D

Centennial Springvale
Coal Services facility

Castlereagh Highway

Gardens Of Stone State
Conservation Area

Gardens Of Stone State
Conservation Area

1
2
3
4

Date: 11/12/2025 Rev: A 1:8,485 @ A3

Project components
- Project footprint
- Existing substation
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained

- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure

- Fish river pipeline
- Distribution lines (Endeavour Energy)

- Gardens of Stone SCA
- Roads
- Watercourse

Figure 3.6b - Utilities and infrastructure within and in proximity to the project footprint

0 200 400
Metres
Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E13_EIS-Utilities_A3

Date: 11/12/2025 Rev: A 1:8,485 @ A3

21D
20D
19D
18D
17D
16D
15D
14D
14A
13D
13A
13
12D
11D

Gardens Of Stone State Conservation Area

Coxs River

Castlereagh Highway

Wolgan Road

1
2
3
4

Project components
- Project footprint
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained
- Upgraded culvert crossing
- Transmission structure
- Retained transmission structure
- Fish river pipeline
- Distribution lines (Endeavour Energy)
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

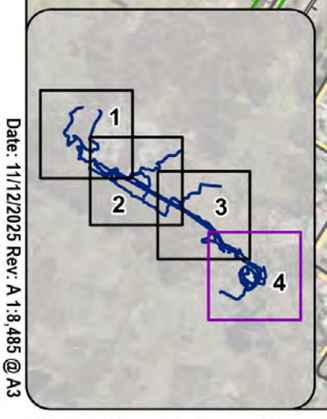
Figure 3.6c - Utilities and infrastructure within and in proximity to the project footprint

0 200 400
Metres

Grid: GDA2020 MGA Zone 56

SYD\21\126125\02\aprx\126125\02_E13_EIS-Utilities_A3

13A
13
12D
11D
10D
9D
8C
7C
6C
5C
4C
3C
2C
1C
70/71-10
70/71-9
70/71-8
7C-W
Proposed passing bay on Brays Lane
Brays Lane
Pipers Flat Creek
Wolgan Road
Coxs River
Castlereagh Highway
Main Western Rail Line
Main Street
Freight Line To Lidsdale Siding
C2
C3
Former Wallerawang Power Station
Wallerawang 330kV Substation
Lake Wallace



Date: 11/12/2025 Rev: A 1:8,485 @ A3

Project components
- Project footprint
- New and adjusted transmission line
- Existing 132kV transmission line to be retained
- Existing 330kV transmission line to be retained
- Construction compound
- New culvert crossing for access
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure
- Council water line
- Council sewer line
- Fish river pipeline
- Distribution lines (Endeavour Energy)
- Roads
- Railway
- Watercourse

Figure 3.6d - Utilities and infrastructure within and in proximity to the project footprint

0 200 400
Metres
Grid: GDA2020 MGA Zone 56

3.4 Access points and internal access tracks

Access to the transmission line easement would be required for construction and during operation for maintenance purposes via several access points and tracks. Wherever possible, existing entry points to the easement, roads, tracks, and other disturbed areas would be used to minimise further disturbance. This may include using existing access tracks through Centennial Springvale Coal Services facility operational areas, performing upgrades to existing tracks, and constructing culverts **or bed level crossings** for access over watercourses where required. The existing and proposed new and/or upgraded access points and internal access tracks required during construction is shown in Figure 3.7 (a, b and c).

A total of **12**~~13~~ access points via existing public and private roads would be required during construction (see Figure 3.7 a, b and c). Each access point would serve as a point of entry to the project footprint from existing public and private roads. The project's interaction with the public road network is described in section 3.5.7. Most access points are existing, with only access point~~s 5 and~~ 6 to be newly established for construction. Access point 1a shown in Figure 3.7 (a, b and c) is an alternative access point that would only be required in the event that access point 1 is not available. Access point 12 via Heel Street would only be used when heavy vehicles are required to access the project footprint, south of the Main Western Rail Line. This is due to height restrictions when passing below the arch of the State heritage listed railway bridge "Wallerawang rail bridges over the Coxs River" (SHR 01064).

Approximately **20**~~25.3~~ km of existing internal access tracks would require upgrades, generally consisting of widening to achieve a 6 m wide track. In some locations, upgrades **up** to a 10 m width are required due to local topography. About 4.3 km of existing tracks would be used for light vehicles only and would not require widening, only repairs to the track surface. **About 12 km of existing access tracks would also be used but not require any upgrade works.** About ~~1.7~~**2.5** km of new access tracks would be required for both heavy and light vehicles. The location of tracks requiring widening, new tracks**,** ~~and~~ tracks for light vehicles only **and existing tracks not requiring upgrades** is shown in Figure 3.7 (a, b and c).

New and upgraded access tracks are expected to require drainage, for example rock lined drains (this would not be required for light vehicle tracks). ~~A permanent box culvert will be installed across an unnamed existing waterway north of Brays Lane to the west of the rail line, between TS10D and TS11D. The box culvert will maintain flow through the waterway while providing access for a new track from Brays Lane to TS10D and TS11D.~~ **The project will include a number of culvert or watercourse crossings to be installed at the following locations:**

- **A culvert crossing will be installed across an unnamed existing waterway on the existing access track located near the Mount Piper 330kV substation.**
- **A rock lined bed-level crossing will be installed across an unnamed existing waterway within the easement between TS21D and TS22D.**
- **A culvert crossing will be installed across an unnamed waterway located between TS5D and TS6D.**

Of the total **12**~~13~~ access points required for construction, ~~nine~~**eight** access points would be used for future operation and maintenance:

- Main access point **1** ~~(1)~~: Mount Piper Power Station entrance road off Boulder Road, Blackmans Flat
- Wallerawang access points **4, 6 and 7**~~(4) to (7)~~: Brays Lane, Wallerawang
- Wallerawang access points **8 and 9** ~~(8) and (9)~~: Main Street, Wallerawang

- Wallerawang access point **10** ~~(10)~~: Castlereagh Highway, Wallerawang
- Wallerawang 330 kV substation access point **12** ~~(12)~~: Heel Street, Wallerawang.

Access tracks not required for future operation and maintenance access or by the landowner, would be returned to pre-construction condition, subject to agreement with landowners (see section 3.5.3.4). ~~All~~ **Most** culverts installed during construction**, with the exception of the one near Mount Piper 330kV substation** for watercourse crossings along access tracks would be retained in the operational phase as permanent infrastructure.

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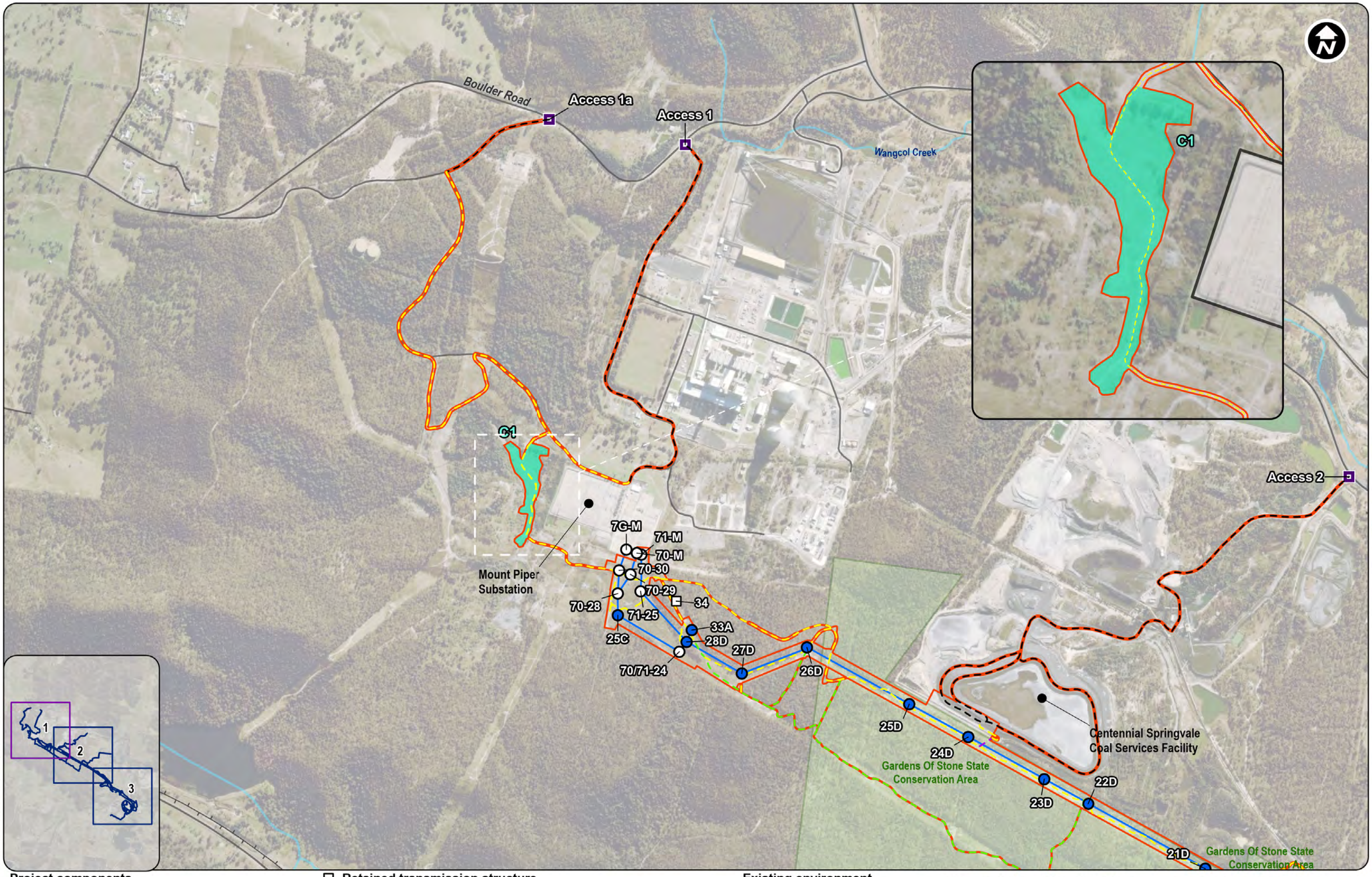
Date: 17/12/2025 Rev: A 1:13,434 @ A3



Project components
- Project footprint
- New and adjusted transmission line
- Access point
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure
- Construction compound
- Access tracks – existing (no change)
- Access tracks – minor upgrades as required (light vehicles only)
- Access tracks – new
- Access tracks – upgrade and widen

Existing environment
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

Figure 3.7a - Construction compounds and access tracks

0 300 600
Metres
Grid: GDA2020 MGA Zone 56

SYD\21\12612502\aprx\12612502_E6_EIS-AccessTracksCompound_2_A3

Date: 17/12/2025 Rev: A 1:13,434 @ A3

7G-M
71-M
70-M
70-30
70-29
34
71-25
33A
28D
25C
27D
70/71-24
26D
25D
24D
23D
22D
21D
20D
19D
18D
17D
16D
15D
14D
Access 2
Access 3
Centennial Springvale Coal Services Facility
Gardens Of Stone State Conservation Area
Wangcol Creek
Castlereagh Highway
Karawatha Drive
Coxs River
Pipers Flat Creek
1
2
3

Project components
- Project footprint
- New and adjusted transmission line
- Access point
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure
- Access tracks – existing (no change)
- Access tracks – minor upgrades as required (light vehicles only)
- Access tracks – new
- Access tracks – upgrade and widen

Existing environment
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

Figure 3.7b - Construction compounds and access tracks

0 300 600
Metres
Grid: GDA2020 MGA Zone 56

SYD21112612502laprxl12612502_E6_EIS-AccessTracksCompound_3_A3

Date: 17/12/2025 Rev: A 1:13,434 @ A3

Gardens Of Stone State Conservation

19D 18D 17D 16D 15D 14D 14A 13D 13A 13 12D 11D 10D 9D 8C 7C 6C 5C 4C 3C 2C 1C 7C-W

Access 4 Access 6 Access 7 Access 8 Access 9 Access 10 Access 11 Access 12 70/71-10 70/71-9

C2 C3

Coxs River Pipers Flat Creek Adys Creek Lake Wallace

Castlereagh Highway Wolgan Road Lidsdale Brays Lane Main Street Freight Line To Lidsdale Siding Main Western Rail Line Cripps Avenue Barton Avenue to Great Western Highway

1 2 3

Project components
- Project footprint
- New and adjusted transmission line
- Access point
- Transmission structure
- Existing transmission structure to be reused
- Retained transmission structure
- Construction compound
- Access tracks – existing (no change)
- Access tracks – minor upgrades as required (light vehicles only)
- Access tracks – new
- Access tracks – upgrade and widen

Existing environment
- Gardens of Stone SCA
- Roads
- Railway
- Watercourse

Figure 3.7c - Construction compounds and access tracks

0 300 600
Metres
Grid: GDA2020 MGA Zone 56

3.5 Construction of the project

3.5.1 Program

Construction of the project would commence once all necessary approvals are obtained. It is anticipated that construction would commence in late 2026.

Construction would be undertaken over a period of approximately 20 months. Key activities and their indicative durations are outlined in Table 3.3, noting that some activities may be overlapping. Detailed timing of the construction activities would be confirmed by the construction contractor to meet requirements of relevant third parties, prior to construction commencing.

Table 3.3. Indicative construction program

Activity	Months																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Site establishment																				
Civil works																				
Assembly of structures																				
Stringing including testing and commissioning																				
Demobilisation																				

3.5.2 Workforce and working hours

The workforce required for construction is expected to peak at about 150 workers, with an average workforce of about 60 workers (depending on the stage of construction).

Figure 3.8 shows the proposed project construction hours with reference to the ICNG recommended standard construction hours, and out of hours work (OOHW) Period 1 Evening and Period 2 Night. Proposed project construction hours would be from 7am to 6pm Monday to Sunday, as shown in Figure 3.8. In addition to this, compounds would be used from 6pm to 7pm Monday to Friday following the completion of construction work at 6pm. Vehicle movement and cleaning and storage of vehicles and equipment would be the key activities anticipated at the compounds during this period. On weekends, construction work would end earlier and compound use would cease at 6pm.

The proposed project construction hours include the ICNG standard construction hours, plus out of hours (OOHW) construction periods, as shown in Figure 3.8, for which approval is sought.

Table 3.4 also outlines the proposed OOHW project construction hours. Work between 7am and 8am on Saturday and Sunday is proposed and would be limited to construction tasks that are predicted not to exceed the Construction Noise Management Levels (CNMLs), defined as ‘low impact noise activities’ (see Chapter 8 **(Noise and vibration) of the EIS**. The key reasons for the need to undertake work in the OOHW periods identified in Figure 3.8 and Table 3.4 are that:

- works in proximity to transmission lines must be completed under outage for worker safety
- works must be completed efficiently as scheduled outages are of a limited duration due to network security and reliability constraints.

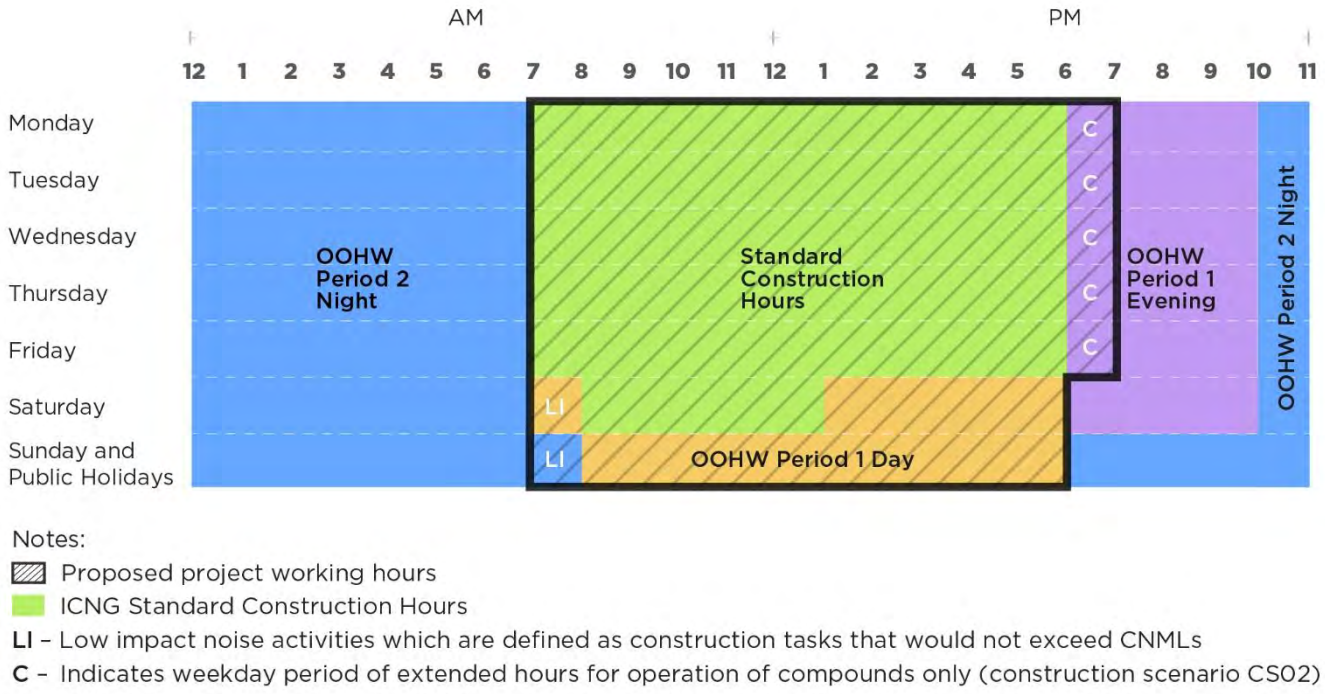


Figure 3.8. Proposed project construction hours

Table 3.4. Construction out-of-hours work

Project construction work hours	OOHW Period	OOHW working hours
Proposed project construction work hours	Period 1 - Day	• 7am to 8am Saturday (only for construction tasks that would not exceed CNMLs) • 1pm to 6pm Saturday • 8am to 6pm Sunday
	Period 1 – Evening	• 6pm to 7pm Monday to Friday (use of construction compounds only)
	Period 2 - Night	• 7am to 8am Sunday (only for construction tasks that would not exceed CNMLs)
Additional OOHW hours – (as a result of outage, outage recalls, rail shutdown periods, local road closure licence requirements)	Period 1 – Evening	• 6pm to 10am Monday to Saturday
	Period 2 - Night	• 10pm to 7am Monday to Saturday • 6pm to 8am Sunday and public holidays

Additionally, construction work may be required in OOHW Period 1 Evening and Period 2 Night (6pm to 7am Monday to Saturday and to 8am on Sunday), as outlined in Table 3.4 for transmission structure assembly, transmission line stringing and associated use of construction compounds. This work must be undertaken during OOHW Period 1 Evening and Period 2 Night for the following reasons:

- outage recalls by the network operator
- work within rail corridor shutdown periods scheduled by the rail operator
- to comply with road closure licence requirements from the local road authority.

The Construction Noise and Vibration Management Plan including an OOHW protocol would be prepared to mitigate and manage noise impacts from OOHW (refer to Chapter 8 **(Noise and vibration) of the EIS**). Notification to neighbouring sensitive receivers and landowners would be required prior to OOHW.

3.5.3 Construction methodology

3.5.3.1 Site establishment

The following works are proposed during the site establishment stage:

- clearing of vegetation (discussed in more detail below)
- establishment of construction compounds (refer to section 3.5.4), including installation of environmental controls, surface preparation, access roads and utility connections
- upgrade of existing access tracks for heavy vehicle use during construction, minor upgrade and maintenance work to existing tracks for light vehicle use (where required) and creation of new tracks and access points where needed (described in detail in section 3.4)
- installation of access track drainage and culverts, where required, which will conform to Transgrid's *Transmission Line Construction Manual* (2023) and the *'Blue Book' Managing Urban Stormwater: Soil and Construction* (Landcom 2004)
- upgrade and repair of Transgrid fences and gates within the easement.

Vegetation clearing

Vegetation clearing is required to facilitate construction and for the safe re-energising of transmission lines during the construction period. Clearing would be restricted to within the project footprint and would be minimised wherever feasible. Vegetation clearing or pruning would be required to:

- construct access tracks and widen existing ones
- establish construction compounds, laydown areas, and brake and winch sites
- construct transmission structures
- manage hazard trees, which are those that may fall (in part or full) and infringe on the Vegetation Clearance Requirements (VCR) of the project infrastructure.

Vegetation clearing would be undertaken in accordance with Transgrid's existing vegetation management standards, the Transmission Line Design Manual (TLDM), and AS/NZS 7000:2016 Overhead Line Design. The TLDM describes the VCR for the maintenance and operation of transmission lines, which is further described in section 3.6.2. The design and siting of construction compounds in bushfire prone land would be in accordance with AS/NZS 3959: 2018 construction of buildings in bushfire prone areas.

The method of vegetation clearing would be undertaken either with the use of machinery or manually, where it is unsafe to operate machinery, or when access is limited or restricted due to environmental constraints. Root balls would be retained where possible. Clearing methods would be determined with consideration to vegetation type or structure, slope and terrain, and environmental and ecological constraints. Removed vegetation, which is weed free, would be mulched for beneficial reuse, where appropriate.

Construction phase vegetation clearing requirements for the project are summarised in Table 3.5. Given the smaller scale and nature of this project compared to other CSSI transmission projects, for the purposes of the EIS, it is assumed that vegetation clearing would be required across the entire project footprint. When finalising construction staging and methods, the construction contractor would consider reducing vegetation clearing requirements to minimise impacts on biodiversity, in line with proposed mitigation measures (see section 7.5). Indicative vegetation clearing for transmission structures and for the transmission line easement during construction is shown in Figure 3.9.

Table 3.5. Vegetation clearing extents required for construction

Project aspect	Requirements
Extent of vegetation clearing	The total vegetation clearing area within the project footprint is approximately ~~86.5~~ **90.4** ha for construction.
Transmission structures	Construction of transmission structures would require vegetation removal for the following: • establishment of construction benches – which would require a cleared area of around 70 m by 50 m (with the 70 m side placed along the length of the easement and the 50 m section across the width of the easement) for the construction of each structure • brake and winch sites – which would require a cleared area of around 50 m by 50 m where a direction change of the transmission line occurs.
Transmission line easement	While the EIS assumes removal of all vegetation within the easement area, vegetation clearing within the transmission line easement would involve the removal of tall growing vegetation that exceeds the clearance requirements for the transmission line. Groundcover and understorey vegetation would be impacted during clearing of the mid-storey and upper storey vegetation. As a worst-case for the purpose of the EIS, groundcover and understorey vegetation would be directly impacted and removed during construction.
Hazard trees	For the purpose of the EIS, hazard trees have been addressed as follows: • Vegetation of the southwest side – The hazard trees of the Gardens of Stone SCA that borders the existing easement is subject to existing ongoing management. This management would not change as a result of the project and would continue in accordance with current Transgrid procedures. There are no additional clearing requirements for hazard trees on the southwest side of the easement. • Vegetation on the northeast side – Due to topography there are very few hazard trees on this side of the easement. Where hazard trees have been identified they have been included within the project footprint.
Access tracks	Construction of access tracks would generally require full vegetation clearing to a width of 6-10 m.
Construction compounds	The areas required for the construction compounds would require **minor** vegetation clearing and are included in the project footprint. **Trees located within construction compounds C2 and C3 would not be removed.**

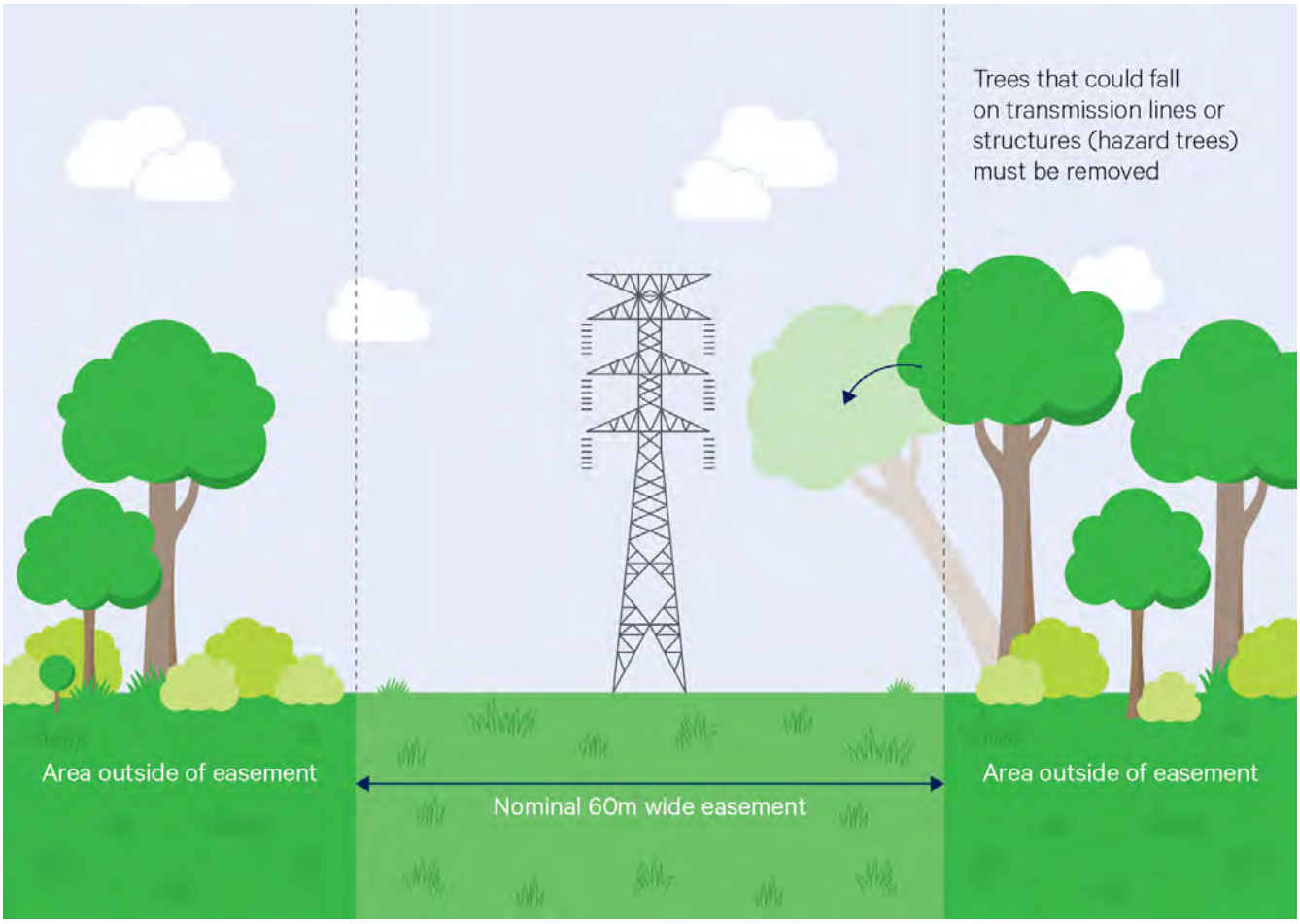


Figure 3.9. Indicative vegetation clearing for a transmission structure during construction

Areas cleared for construction, that are not needed for operation of the project, would be rehabilitated to a stable and weed free condition. Further details on site rehabilitation are provided in section 3.5.3.4.

Continued vegetation management during the operational phase of the project is discussed in section 3.6.2.

Impacts to vegetation are further discussed in ~~Chapter 7~~ **section 5.2 of the Amendment Report.**

3.5.3.2 Main construction works

Civil works

Earthworks, typically using plant such as bulldozers, excavators, graders and bobcats, would be required for the following activities:

- establishment of brake and winch sites
- preparation of construction benches for transmission structures, particularly on steep ground, which may require several metres of benching to provide a generally level area for construction
- installation of transmission structure foundations, which would require piled footings or concrete raft slabs
- access track upgrade and construction work, which would involve minor amounts of cut and fill, depending on the ground conditions.

Brake and winch sites would require suitable ground conditions to facilitate the safe placement and movement of plant and equipment when stringing the conductors. Due to the highly variable terrain across the project footprint, earthworks would be needed at some of the brake and winch sites to establish generally level and stable ground conditions. Earthworks for brake and winch sites are not expected to be significant nor require significant importation of fill.

The nature and scale of civil works for establishing construction benches at each structure location, including depth of excavation, would be tailored to site topography and geotechnical conditions to minimise the generation of excess spoil. The benches would be able to accommodate the safe operation of heavy vehicles such as piling rigs and concrete agitator trucks.

Foundation excavation for footings and installation of piles for each transmission structure would also depend on ground conditions and the properties of the proposed transmission structure, such as height of the structure. Excavation for footings would vary based on the type of footing required. For some structures, concrete raft foundations would be required where a thicker concrete reinforced slab is necessary to support the load of the structure. The new transmission structures would also include either concrete or steel piles that are driven and/or screwed into the ground. Exact depths and sizes of the piles would be confirmed during detailed design and could be up to 18 m in depth. Other civil works for structure foundations include steel reinforcing cage installation and concrete pours from a concrete agitator truck.

In areas of shallow groundwater, construction methodologies would be designed and implemented to limit interaction with groundwater during excavation and to avoid or minimise the need to dewater. If groundwater is encountered during structure foundation work, dewatering would be undertaken and managed as appropriate (see Chapter 14 **(Water resources) of the EIS**).

Excavated materials would be reused on site, where possible, to minimise the need for off-site disposal and import of additional fill onto site. Surplus material would be tested in line with the *Waste Classification Guidelines* (EPA 2014) and, if not reused, disposed of at an appropriate licensed facility. The volume of fill to be disposed of will be determined during the detailed design phase. Indicative volumes of cut and fill are:

- approximately 45,000 cubic metres (m^3) (total cut and fill volume) for construction benches, brake and winch sites
- approximately 1,800 m^3 for transmission structure foundations
- minor quantities for access track upgrade works.

Assembly and removal of transmission structures

Steel tower or pole sections would be delivered to the site and assembled onsite. Mobile cranes would be used to erect transmission structures. Earthing conductors would also be installed on the transmission structures that would include a wire and/or rod connecting the structure to the earth.

Redundant transmission structures (Figure 3.2a) would be removed and where possible, recycled. This includes the gantry immediately north of the Main Western Rail Line. Concrete footings would be demolished using an excavator with a jackhammer attachment. Waste that cannot be reused or recycled would be disposed of off-site at a licensed disposal facility.

Stringing of conductors

Once the transmission structures are erected and secured, the transmission line would be strung with new conductors, overhead earth wire and OPGW. New conductors would be required for both the 330 kV and 132 kV transmission lines, strung on the new 330 kV structures. Figure 3.10 shows the typical method for stringing, including over roads or railway lines.

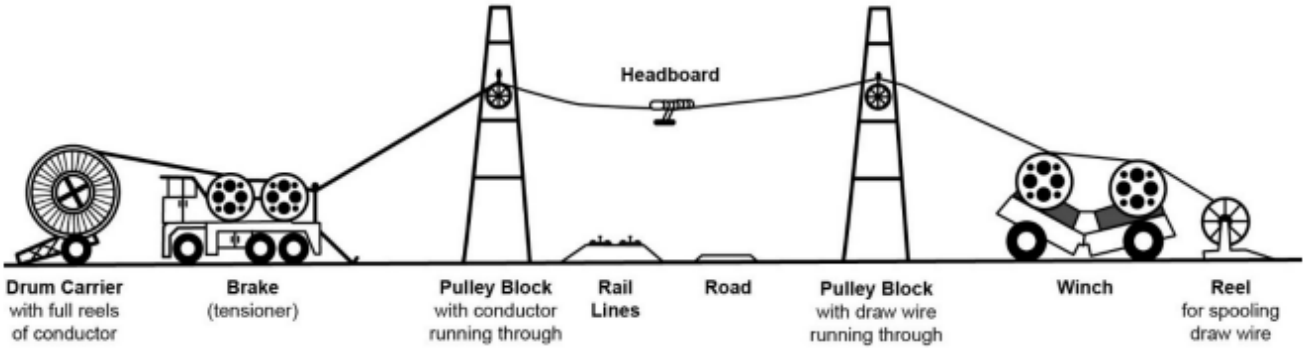


Figure 3.10. Diagram of typical transmission line stringing over roads or railway lines with brake and winch equipment

Where a transmission structure needs to accommodate a change in direction of the transmission line, additional areas of approximately 50 m by 50 m would be required to allow for brake and winch sites (see Figure 3.10). Brake and winch sites needed for this activity are typically located about 150 m away from the structure.

Drones are also increasingly being used for stringing as technology improves and may be used for the project. Using drones can improve occupational safety and reduce some environmental impacts by reducing the duration of the activity and removing the need for some ground equipment. Drone use would be subject to landowner approval.

Utility and infrastructure crossings

In addition to the utilities identified in section 3.3, the proposed transmission lines cross the following infrastructure:

- public roads (two locations):
  - Duncan Street/Brays Lane, near Castlereagh Highway
  - Main Street, near Castlereagh Highway
- rail crossings (two locations):
  - Main Western Rail Line north of the Wallerawang 330 kV substation
  - disused rail line travelling north of Brays Lane.

Rail and road crossings would be completed under rail shutdown periods and road occupancy licences in coordination with the relevant stakeholders. Road occupancy licences and rail shutdown documentation would be obtained for the works (where required). It is anticipated that the stringing works would result in limited, short duration closures of roads with traffic management, and be completed within designated rail shutdown periods. Appropriate engagement and approvals (where required) would be sought from the road and rail authorities.

Where crossings of existing electrical utilities not owned by Transgrid, are required, the methodology for completing utility crossings would be agreed in consultation with the asset owner.

3.5.3.3 Testing and commissioning

Testing and structure checks would form part of the final construction and installation work. This activity would incorporate all tests and checks to confirm that construction quality assurance documentation, inspection and test plans, checklists and associated activities have been completed for each transmission structure. This would ensure the project has been installed in accordance with the design and statutory standards and is safe to proceed to commissioning.

The key testing activities would include (but not be limited to):

- point-to-point testing of the new transmission lines
- earthing testing
- high voltage testing
- high voltage equipment operational checks
- testing of the installed protection, metering, control and communication systems.

Once all high voltage and low voltage testing is completed, the electrical protection systems have been set and all quality assurance documentation has been completed, commissioning would proceed.

The key activities involved in the commissioning process would include, but are not limited to:

- transmission line cut-in and connection to the electrical network
- protection, control and metering checks
- high voltage equipment operation and energisation
- post-commissioning testing and verification.

3.5.3.4 Demobilisation and rehabilitation

Upon completion of the construction works, all construction equipment, temporary fencing and waste would be removed from the project footprint.

All disturbed areas would be rehabilitated to a stable, weed-free condition where natural regrowth can occur, unless designated as a permanent access track. This would include spreading topsoil cleared and stockpiled at the beginning of construction across the disturbed area and implementing sediment and erosion control measures.

3.5.4 Construction compounds

Three construction compounds are proposed for the following locations, as shown in Figure 3.7 (a and b):

- Compound 1 (C1) – located west of the Mount Piper 330 kV substation
- Compound 2 (C2) – located east of Main Street adjacent to the entrance to the former Wallerawang Power Station site
- Compound 3 (C3) – located within the former Wallerawang Power Station site on land owned by Transgrid, on land previously used for a Transgrid substation.

Construction compounds would be fully enclosed with temporary fencing, with access gates locked when not in use. Minor clearing or pruning of vegetation may be required for compound C1, while compounds C2 and C3 would be located on ~~cleared areas~~ **disturbed land and any existing trees would not be removed**. Minor excavation may also be required to provide level hardstand (gravel) areas. The compounds would include the following:

- site offices
- staff facilities (office, lunch room and amenities)
- material storage
- parking
- connection to mains electricity, communications and water
- generators where mains electricity is not available.

Upon completion of works, the construction compounds would be cleared of any temporary infrastructure and equipment. The sites would be rehabilitated as described in section 3.5.3.4.

Laydown of materials (eg poles, cable drums, other large equipment, etc.) would also occur at specified locations along the easement within the project footprint, particularly at the locations of transmission structures. Temporary fencing may be required to enclose some laydown areas, as determined by the construction contractor.

3.5.5 Materials and resources

3.5.5.1 Equipment

An indicative list of equipment, plant and vehicles likely to be required during construction is provided below. Not all the equipment identified below would be required for all phases of construction or would be in use at the same time:

- bobcat
- bulldozer
- bus
- cable tensioner/puller
- cable hauling winch
- cable drum stands
- chainsaw
- concrete vibrator
- concrete pump (if required)
- cranes (various types and sizes)
- drone
- drilling rig
- elevated work platform
- excavators (various sizes) including attachments
- generator
- grader
- mulcher
- piling rig
- plate compactor
- rigid tipper
- roller
- semi-trailer
- scraper
- skid steer/ positrack loader
- slasher
- telehandler
- trailers
- trucks (prime movers, hiab, tilt tray and others)
- water truck
- daymakers (if required for night works).

3.5.5.2 Water supply

A total of approximately 80 ML of non-potable and 1.1 ML/year of potable water would be required to facilitate construction. Potable water would be used for kitchen facilities and ablutions at construction compounds via connections to water mains supply at the Wallerawang and Mount Piper 330 kV substations where available or delivered to site by truck from commercial providers.

Non-potable water supply would be required for construction purposes, such as dust suppression. Non-potable water would be sourced through a commercial supplier under an existing licence. Consultation would be undertaken with the commercial supplier following detailed design and construction planning. Water tanks located within construction compounds would also be used to capture non-potable rain water.

Water for construction would be brought to site by tanker, and used for the following activities:

- dust suppression
- foundation works
- compaction of access tracks
- concrete batching.

Measures to avoid and minimise water consumption, particularly of potable water, would be considered during detailed design and detailed construction planning.

3.5.5.3 Energy and materials

Construction of the project would require the use of energy and fuels. Fuels would likely include non-renewable sources such as petrol and diesel. The following activities would require these fuels:

- construction plant and equipment
- light and heavy vehicles used for transport
- generators, if required.

Construction materials would be sourced from within the Lithgow region and adjacent municipalities, where practicable, to benefit the local economy.

Indicative quantities of materials needed and waste management measures are provided in Chapter 20 **(Waste) of the EIS**.

3.5.6 Traffic generation

Construction traffic would be required to transfer staff to the work sites, deliver goods, and move plant and equipment. Construction traffic volumes would vary throughout the different stages of the project and comprise both heavy and light vehicles. **Peak** ~~Typical~~ construction traffic volumes would include about **350** ~~80~~ light vehicle~~s~~ **movements** and **160** ~~80~~ heavy vehicle~~s~~ **movements accessing the project footprint including movements between areas of the project footprint** ~~entering and exiting the site each work day~~.

Access tracks and access points are described in section 3.4 and shown in Figure 3.7 (a and b).

Over size and over mass loads (OSOM) would be required occasionally to transport large plant. OSOM deliveries would arrive to the project site via the Castlereagh Highway in accordance with the Heavy Vehicle National Law and Regulations. Castlereagh Highway is an approved OSOM route.

Details of traffic volumes and traffic management measures are provided in ~~Chapter 9~~ **the revised Traffic and Transport Assessment (attached as Appendix D to the Submissions report (Transgrid, 2025))**.

Parking for the construction workforce would be mainly located within the construction compounds. In addition, vehicles would park in designated areas within the transmission line easement, where needed.

3.5.7 Public road upgrades and improvements

The public road network would be used to access the project footprint, support the delivery of materials, equipment, and transport the construction workforce. The primary heavy vehicle routes to all access points, except Heel Street (access point 12), are expected to be via the state road network from the Castlereagh Highway and the Great Western Highway. Travel routes to the Heel Street access are expected to be via the Great Western Highway, Barton Avenue and Cripps Avenue. No road upgrades (for example, road widening and associated lane reconfigurations) or intersection upgrades are required for the proposed construction vehicle movements. One location of the local road network, Brays Lane, may require a road improvement. Subject to final transport and traffic movements to be confirmed by the construction contractor, Brays Lane may require a heavy vehicle passing bay on the existing road shoulder, to facilitate safe movement of heavy vehicle traffic along the road. The following describes the proposed use of the road network and the minor road improvements that would be required for the state and local road network.

3.5.7.1 State road network

The Castlereagh Highway is part of the State road network managed by TfNSW. The project's interaction with Castlereagh Highway includes (refer to Figure 3.7):

- Access points 2, 3 and 10 directly connect to Castlereagh Highway. Transgrid has consulted with TfNSW on the turning movements in and out of these access points and the proposed mitigation measures. No intersection upgrades are required.
- Access points 1 and 1a connect to Castlereagh Highway via Boulder Road. Transgrid has consulted with TfNSW and no changes are proposed for the Castlereagh Highway/Boulder Road intersection.
- Access points 4, ~~5,~~ 6 and 7 connect to Castlereagh Highway via Brays Lane. Transgrid has consulted with TfNSW and no changes are proposed to the Castlereagh Highway/Brays Lane intersection if mitigation measures are implemented.
- Access points 8, 9 and 11 connect to Castlereagh Highway via Main Street. Transgrid has consulted with TfNSW and no changes are proposed to the Castlereagh Highway/Main Street intersection.
- Castlereagh Highway would be used as a heavy vehicle transport route and is an approved OSOM route. No road adjustments or improvements to Castlereagh Highway or the State road network would be required to support OSOM movements to the project footprint.

Traffic management measures provided in ~~Chapter 9~~ **the revised Traffic and Transport Assessment (attached as Appendix D to the Submissions report (Transgrid, 2025)) and updated mitigation measures in Appendix B of the Submissions report (Transgrid,2025)** describe details on managing intersection sight distances through a Traffic and Transport Management Plan (TTMP).

3.5.7.2 Local road network

Local public roads managed by Council that would be used for the project include Boulder Road, Frankfort Road, Karawatha Drive, Brays Lane, Main Street and Heel Street. All of these provide existing access to existing electricity infrastructure in the area. The movement of construction traffic at several intersections including Boulder Road/Frankfort Road, Boulder Road/Mount Piper Power Station access road, Boulder Road/Castlereagh Highway and Karawatha Drive/Castlereagh Highway intersections would be managed safely through a TTMP, such that no road upgrade or road improvement works would be required. Refer to details described in ~~Chapter 9~~ **the revised Traffic and Transport Assessment (attached as Appendix D to the Submissions report (Transgrid, 2025))**.

Brays Lane would be used for construction access points 4, ~~5,~~ 6 and 7 (Figure 3.7). Brays Lane is a narrow, sealed road. A passing bay on the road shoulder may be installed by the construction contractor to assist in safe passing of heavy vehicles. The passing bay would be about 60 m by 4 m. The need for a passing bay would be determined during preparation of the TTMP in consultation with the relevant road authority. If constructed, consultation with Council would determine if the passing bay would be retained or removed.

Road condition surveys would be undertaken of Brays Lane and Karawatha Drive before and after construction. Traffic management measures provided in ~~Chapter 9~~ **the revised Traffic and Transport Assessment (attached as Appendix D to the Submissions report (Transgrid, 2025))** provide an outline of the proposed measures to minimise impacts on the condition of local roads.

No road improvements are proposed for other public roads that would be utilised during the construction of the project, including Boulder Road, Frankfort Road, Main Street and Heel Street.

Karawatha Drive would be used as construction access (access point 3, Figure 3.7) to the easement. From Karawatha Drive, access to the project footprint would be via a private unsealed access track that crosses over two minor watercourses. The project would undertake a culvert upgrade at two locations (Figure 3.1c) at these watercourse crossings. The culvert upgrade would occur on private property.

3.6 Operation and maintenance

The project would be safely operated and maintained in accordance with Transgrid's existing safety rules, operation and maintenance procedures. The design life of the project would be 50 years, pending asset condition monitoring, renewal and maintenance.

3.6.1 Maintenance activities

Maintenance of the transmission line, transmission structures and the easements would be required to maintain serviceability and maximise the project's operational life. Maintenance would include regular and reactive maintenance activities as described below.

- Regular inspection and maintenance:
  - Annual aerial survey for bushfire prevention would be undertaken to collect annual light detection and ranging (LiDAR) data by helicopter. This would form part of the existing maintenance operations for the existing 330 kV (TL70 and TL71) and 132 (TL94E) transmission lines and would continue for this project.
  - Transmission structure inspection would be undertaken on a six-year cycle using a drone. If a drone cannot be used, maintenance workers would climb the structure to complete the inspection.
  - Annual aerial inspection of the transmission line would be undertaken by helicopter. This would form part of the existing maintenance operations for the existing 330 kV (TL70 and TL71) and 132 kV (TL94E) transmission lines and would continue for this project.
  - Routine vegetation management on the easement would be undertaken every four to six years based on vegetation growth rates. This would include access tracks and vegetation management in the hazard tree zone.
- Reactive maintenance:

- Transmission line maintenance would be undertaken in response to routine inspections identifying the need to rectify defects. Such maintenance work would occur within the same maintenance cycles as routine inspections.
- Vegetation management of hazard trees would be undertaken, as required.
- Access track maintenance would be undertaken, as required.

Many of these maintenance activities already occur on existing transmission infrastructure in the existing easement. The activities would continue following the upgrade to the transmission line, adopting similar frequency and inspection and maintenance methods. Maintenance activities would continue as part of existing operations in accordance with Transgrid procedures, with no additional staff requirements. The project would not result in a substantial change to the existing maintenance regime.

Should any irregularities be identified following routine inspections, a work crew would be dispatched to rectify any defects. Light vehicles, an elevated work platform and a medium sized truck would typically be required to perform rectification works (see Figure 3.11).

When project infrastructure reaches the end of its design life, it may need to be decommissioned. At this time, it would be recycled, reused or disposed of appropriately. Rehabilitation of operational areas would be undertaken consistent with the existing land use or as otherwise agreed with the relevant landowners.

Figure 3.11. Typical transmission structure maintenance activity using an elevated work platform

3.6.2 Vegetation management

Vegetation within the transmission line easement would be managed in accordance with Transgrid's *Transmission Line Design Manual (TLDM)* and *Maintenance Plan – Easement and Access Tracks Manual* (2023). These guidelines and standards specify how often vegetation maintenance is required and how to achieve the VCR of 4.5 m at maximum line operating conditions for 330 kV transmission lines. This includes the 3 m minimum safe working distance and a 1.5 m regrowth allowance.

Figure 3.12 and Figure 3.13 show the indicative VCR that would be maintained through the operational life of the project.

The VCR, as outlined in the TLDM, includes the following minimum requirements for vegetation management:

- maintaining a 20 m radius cleared area around each transmission structure footing free of shrub and tree regrowth to provide clear access to the structure
- removing tall growing vegetation on easement with the potential to infringe on the Vegetation Clearance Requirement
- removing or managing all hazard trees, which may infringe on the VCR, including any potential hazard trees outside the easement identified by an arborist to be at risk of falling.

It is possible to retain groundcover and understorey vegetation that would not infringe on the VCR.

To assist in ongoing vegetation management in the easement, annual light detection and ranging (LiDAR) surveys would be carried out to identify any hazard trees. Potential hazard trees would be inspected by a suitably qualified arborist to determine the appropriate management response, which could include felling, pruning, or no action required for example if the inspection confirms that a potential hazard tree is of no risk to the transmission line.

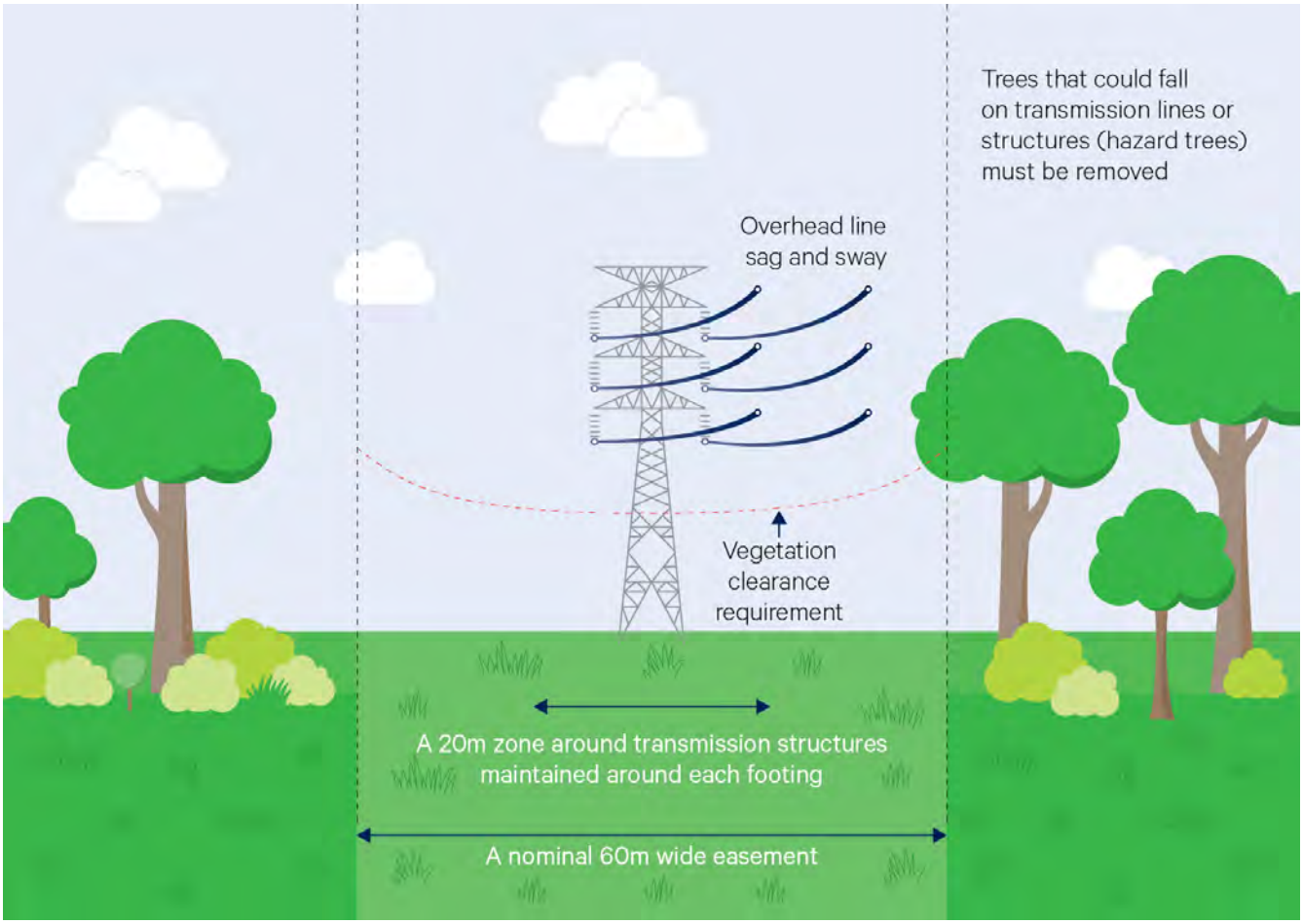


Figure 3.12. Indicative vegetation clearing within the transmission line easement during future operation and maintenance

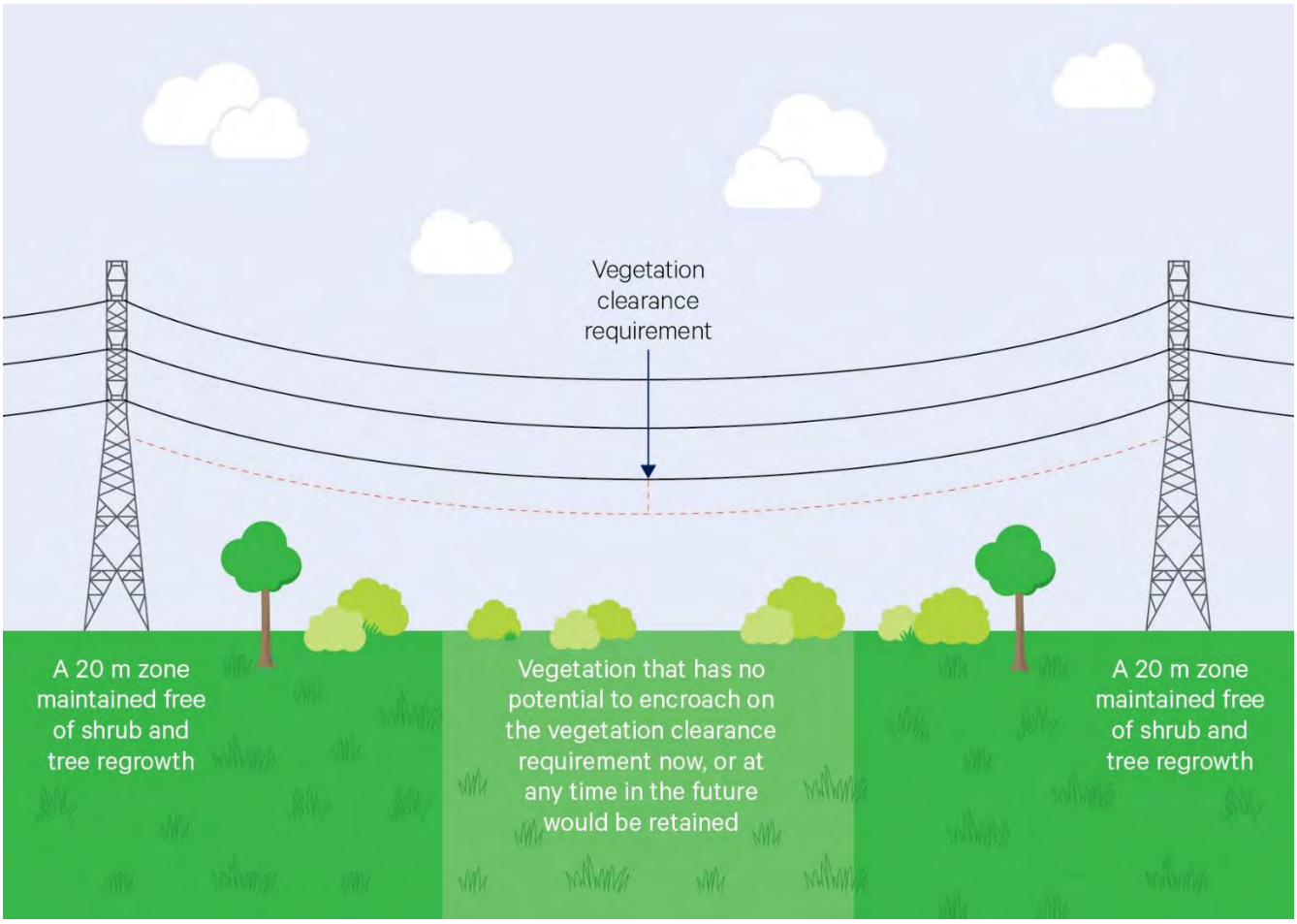


Figure 3.13. Indicative vegetation clearing mid-span within the transmission line during future operation and maintenance

3.6.3 Emergency response

Ad-hoc fault and emergency fly-over(s) would be carried out as required. Activities would be carried out to assess infrastructure condition should an unplanned outage occur, such as during a weather event or other failure of infrastructure.

The amount of maintenance and/or crew required for repair of any damaged infrastructure would depend on the fault identified and extent of repairs required.