Scoping Report

Kurri Kurri Lateral Pipeline

APA Group

11 June 2021

The Power of Commitment

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Terms and acronyms

Term/ acronym	Definition
AEMO	Australian Energy Market Operator
BC Act	*Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
COVID-19	Coronavirus 2019
DAWE	Commonwealth Department of Agriculture, Water and Environment
DECCW	NSW Department of Environment, Climate Change and Water (former)
DPIE	NSW Department of Planning, Industry and Environment
EIS	Environmental impact statement
EPI	Environmental planning instrument
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
EP&A Regulation	NSW Environmental Planning and Assessment Regulation 2000
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment protection licence
FM Act	NSW *Fisheries Management Act 1994*
GHD	GHD Pty Ltd
Infrastructure SEPP	NSW *State Environmental Planning Policy (Infrastructure) 2007*
LEP	Local environmental plan
LGA	Local government area
Mitigation	Reduction in severity
NES	National environmental significance
NPW Act	NSW *National Parks and Wildlife Act 1974*
OEH	NSW Office of Environment and Heritage (former)
PMST	Protected matters search tool
POEO Act	NSW *Protection of the Environmental Operations Act 1997*
SEARs	Secretary's environmental assessment requirements
SEPP	State environmental planning policy
SEPP 33	NSW State Environmental Planning Policy No 33—Hazardous and Offensive Development
SEPP 55	State Environmental Planning Policy No 55—Remediation of Land
State and Regional SEPP	State Environmental Planning Policy (State and Regional Development) 2011

Contents

Table index

Figure index

Appendices

1. Introduction

1.1 Proponent details

APA Group (APA) has been engaged by Snowy Hydro Limited to develop a gas supply solution for the proposed Hunter Power Project (HPP) near Kurri Kurri, in the New South Wales (NSW) Hunter region. APA has proposed the Kurri Kurri Lateral Pipeline Project (the proposal) as the gas supply solution for the HPP.

APA is a leading Australian energy infrastructure business, with around 15,000 kilometres of natural gas pipelines connecting sources of supply and markets across mainland Australia. APA operate and maintain networks connecting approximately 1.4 million Australian homes and businesses to the benefits of natural gas and own or have interests in gas storage facilities, gas-fired power stations and renewable energy generation. APA is one of Australia's largest owners and operators of renewable power generation assets, with wind and solar projects across Western Australia, South Australia and Queensland. APA own or manage and operate a portfolio of assets of around $22 billion and deliver half the nation's natural gas usage.

Further information on APA operations and activities is available on the APA website: https://www.apa.com.au/

1.2 Overview of the proposal

Snowy Hydro Limited is proposing to develop a gas-fired peaking power station, referred to as the HPP, at the former Hydro Australia Pty Ltd (Hydro) aluminium smelter at Kurri Kurri. The HPP is proposed to provide up to 750 megawatts (MW) of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. For further details see: https://www.snowyhydro.com.au/hunter-power-project/

APA's proposal comprises the following components:

– A buried, steel, medium diameter (approximately 14 inch), medium pressure (up to 6.9 megapascal (MPa)) transmission pipeline of approximately 17 to 21 kilometres in length to provide a gas supply from the existing Sydney to Newcastle pipeline (Plumpton to Hexham Northern Trunk) to the HPP.
– A compressor station at the termination of the transmission pipeline to boost gas pressure to the required inlet pressure of the HPP.
– A buried, steel, large diameter (approximately 42 inch), high pressure storage (approximately 15.3 MPa) pipeline of up to 14 kilometres in total length downstream of the compressor station to hold up to 43 terajoules (TJ) of gas ready to supply the HPP at the required inlet pressure.

A compressor station and storage pipeline are required as part of the proposal as the Sydney to Newcastle pipeline does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP. As such, a direct pipeline connection between the Sydney to Newcastle Pipeline and the HPP is not a viable solution for gas supply to the HPP.

The proposal, including all associated facilities, will be designed, constructed, commissioned and operated in accordance with Australian Standards 2885 (AS 2885 - a suite of standards outlining requirements for gas and petroleum pipelines which are designed, constructed and operated in Australia) and licenced under the *Pipelines Act 1967*.

The transmission pipeline will also be designed, constructed and commissioned in accordance with the relevant international standards for hydrogen piping and pipelines, in order to maintain readiness for potential use of hydrogen in the east coast gas network in accordance with Australia's National Hydrogen Strategy (Commonwealth of Australia 2019).

The proposal and its regional context are shown in Figure 1.1.

1.3 Background

The HPP has been designated as critical State Significant Infrastructure (SSI) under the *Environmental Planning and Assessment Act 1979* (EP&A Act), and an environmental impact statement (EIS) has been submitted for that project. Critical SSI is infrastructure that is essential for the State for economic, environmental or social reasons. The Minister for Planning and Public Spaces made an order declaring the HPP to be critical SSI on 16 December 2020. The proposal is included as a component of the critical SSI determination for the HPP.

A separate application and EIS will be submitted for the proposal, which will include all infrastructure required to construct and operate the transmission pipeline, compressor station and storage pipeline to supply gas from the existing Sydney to Newcastle pipeline to the HPP.

1.4 Related development

The proposal is essential for the operation of the HPP, which is currently being assessed under a separate approval process.

The HPP is situated on land formerly used for the Hydro aluminium smelter at Kurri Kurri, which ceased operation during September 2012. The aluminium smelter site is currently undergoing demolition and remediation. Surrounding the aluminium smelter is an area of approximately 1,900 hectares, also owned by Hydro, which formed a buffer zone to surrounding land uses.

This buffer zone land is currently subject of rezoning proposals proposed to provide 215 hectares for employment activities, around 180 hectares for residential development, and around 1250 hectares for conservation purposes. The remaining 235 hectares would remain as rural land. The proposed redevelopment of the aluminium smelter site and buffer zone land is referred to as the Regrowth Kurri Kurri project, as shown in Figure 1.1.

1.5 Scope and limitations

This report has been prepared in accordance with the Exhibition Draft State Significant Infrastructure Guide (DPIE 2020), in particular, Appendix A: Preparing a Scoping Report. The purpose of this Scoping Report is to provide preliminary information on the proposal and its potential environment impacts to request the Secretary's environmental assessment requirements (SEARs) for the EIS from the NSW Department of Planning, Industry and Environment (DPIE).

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The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared. Specifically, this report does not take into account the effects, implications and consequences of or responses to COVID-19, which is a highly dynamic situation and rapidly changing. These effects, implications, consequences of and responses to COVID-19 may have a material effect on the opinions, conclusions, recommendations, assumptions, qualifications and limitations in this report, and the entire report must be re-examined and revisited in light of COVID-19. Where this report is relied on or used without obtaining this further advice from GHD, to the maximum extent permitted by law, GHD disclaims all liability and responsibility to any person in connection with, arising from or in respect of this report whether such liability arises in contract, tort (including negligence) or under statute.

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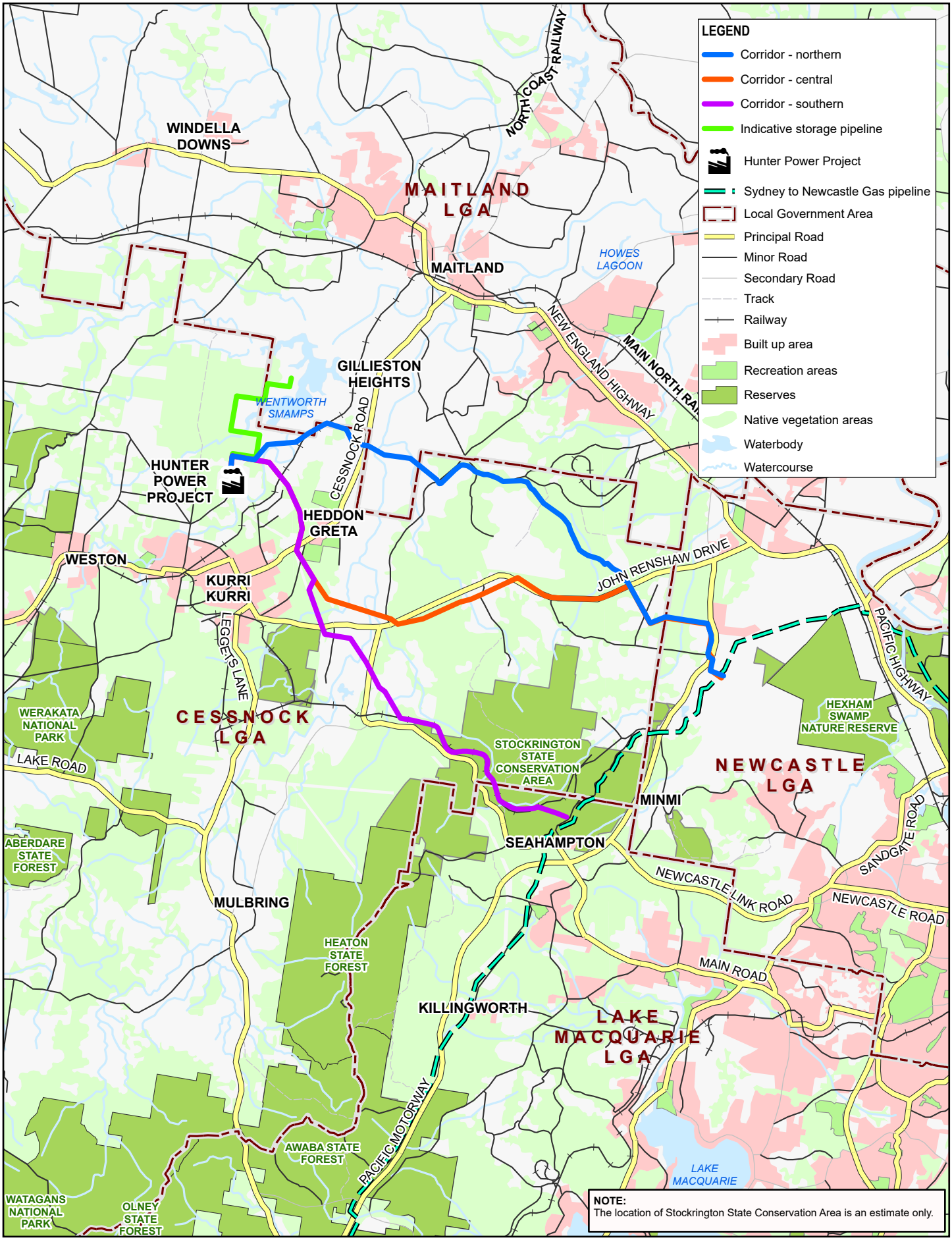

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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Scoping Report

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Date **08/06/2021**

Regional context

FIGURE 1-1

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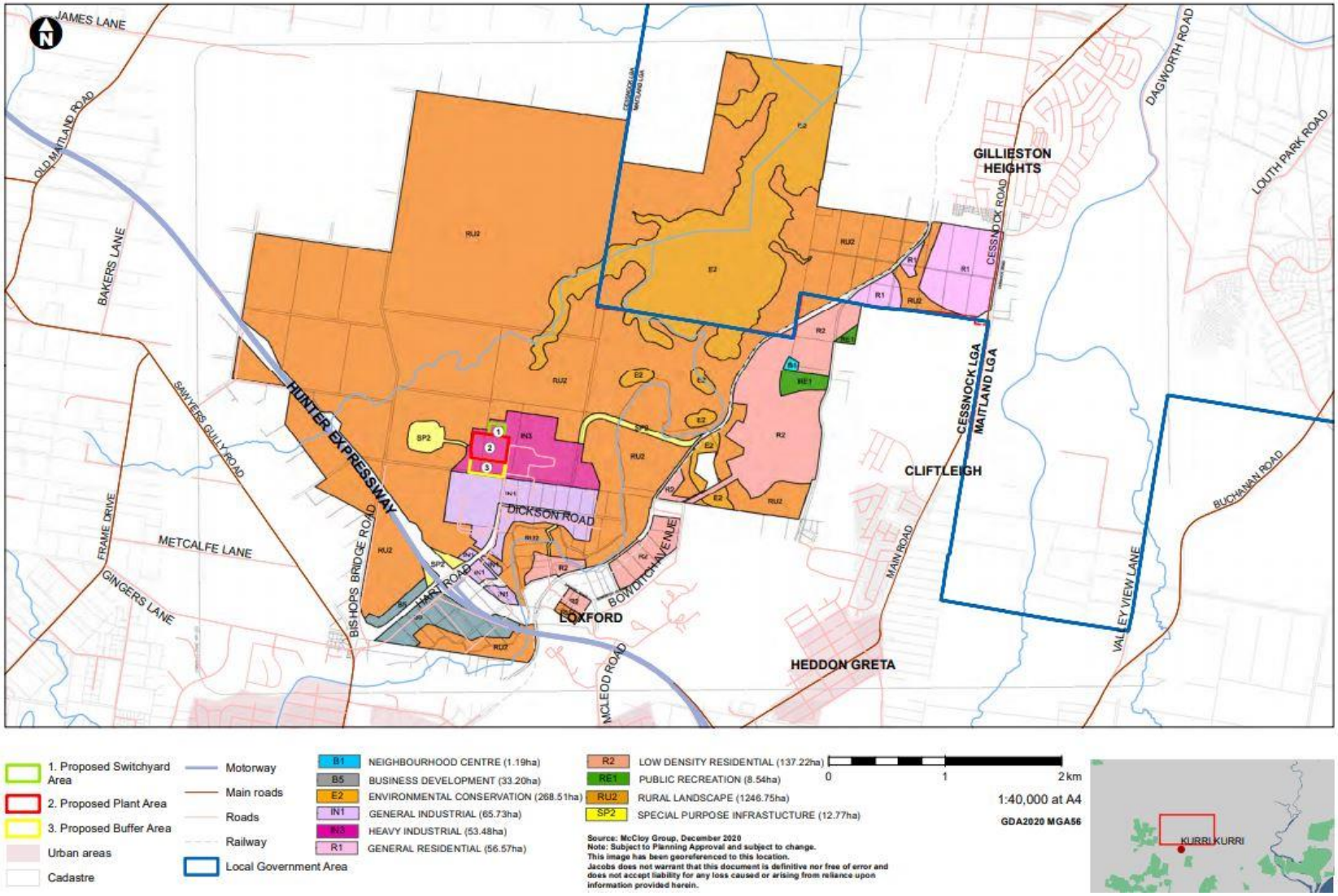


Figure 1.2 Regrowth Kurri Kurri rezoning master plan site (source: HPP Scoping Report (Jacobs 2020))

2. Strategic context

2.1 Justification for the proposal

2.1.1 Overview

The purpose of the proposal is to provide a gas supply to the HPP.

As described in the EIS for the HPP, the overall objective of the HPP is to provide dispatchable capacity and other network services to the National Electricity Market (NEM) which can be used by the Australian Energy Market Operator (AEMO) to meet the requirements of the NEM, and to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. Importantly, open cycle gas fired generation capacity provides firming of renewable generation projects' intermittent electricity supply to the NEM. Without dispatchable and firming generation or storage, a power system that is solely reliant on intermittent renewable generation will have unacceptable levels of customer supply failure.

2.1.2 National Energy Market

All electricity consumers in NSW receive electricity from the National Energy Market (NEM) (unless they have an off-grid supply), which is an interconnected electricity system that serves NSW, Queensland, Victoria, South Australia, Tasmania and the Australian Capital Territory (ACT). The NEM is operated by Australian Energy Market Operator (AEMO). AEMO evaluates the expected supply and demand balance of electricity in the NEM and publishes advice to stakeholders in the:

– Integrated System Plan (ISP), most recently published by AEMO in July 2020
– Electricity Statement of Opportunities (ESOO), most recently published by AEMO in August 2020

The ISP has been prepared by AEMO since 2018 to guide governments, industry and consumers on investments needed for an affordable, secure and reliable energy future, while meeting prescribed emissions trajectories. The ISP is a whole-of-system plan that provides an integrated roadmap for the efficient development of the NEM. Its primary objective is to maximise value to end consumers by designing the lowest cost, and most secure and reliable energy system capable of meeting any emissions trajectory determined by policy makers at an acceptable level of risk. The ISP has a longer time-horizon than the ESOO.

The ISP has identified that 6-19 gigawatts (GW) of new dispatchable resources are needed in the NEM to firm up the inherently variable nature of distributed and large-scale renewable generation. The proposal would provide gas to the HPP, which in turn would provide dispatchable generation to provide a portion of the required additional resources into the system.

The ESOO provides technical and market data that informs the decision-making processes of market participants, new investors, and jurisdictional bodies as they assess opportunities in the NEM. It incorporates a reliability assessment against both a Reliability Standard and a Reliability Measure (which is presently an Interim Reliability Measure (IRM)). The HPP, with supply ensured by the proposal, would assist in maintaining the supply-demand balance of the NEM and satisfy the Reliability Standard and the IRM.

2.1.3 Australian energy policy

The Energy Policy Blueprint, titled *A Fair Deal on Energy* (Commonwealth of Australia, 2019), has three pillars which set out clear objectives and detailed policies to ensure a better energy future for Australia, these are:

– Reliable, secure and affordable energy supply:
  - Maintaining and increasing supply of reliable electricity
  - Increasing domestic gas supplies
  - Promoting efficient investment in energy infrastructure
  - Ensuring Australia's fuel security

– Putting consumers first:
  - Improving market transparency and accountability
  - Helping consumers reduce bills and navigate the energy market
  - Expanding powers to deal with misconduct
– Meeting our international commitments:
  - Encouraging emissions reduction across the economy
  - Accelerating technological solutions
  - Playing our part in shaping a better future

The proposal is consistent with the broad objectives of the Energy Policy Blueprint.

2.1.4 NSW energy policy

The objectives of the NSW Electricity Strategy (DPIE 2019) are to:

– Improve the efficiency and competitiveness of the NSW electricity market by reducing risk, cost, process-driven delays and by ensuring investment in new energy saving, demand response and generation technologies.
– Take action to address any resulting capacity gaps in a way which also financially protects taxpayers and consumers and does not encourage market participants to delay investment decisions to take advantage of government action.
– Ensure the NSW Government has the powers it needs to deal with electricity emergencies, if they arise.

In announcing the strategy, the NSW Energy Minister highlighted the need for low-cost alternative sources of energy to replace the generating capacity that will be lost as existing assets are retired.

This proposal, as part of the HPP, is consistent with the NSW Energy Strategy as it builds essential efficiency and reliability into the network, which will be needed during the transition period as existing assets are retired. Together, gas peaking and renewable energy generation are part of a group of technologies that will achieve emissions reduction while meeting generation capacity, reliability and cost-effectiveness requirements.

2.1.5 Hunter Regional Plan 2036

The Hunter Regional Plan 2036 (Department of Planning and Environment, 2016) is a 20-year blueprint for the future of the Hunter region. The Hunter Regional Plan works in concert with the Greater Newcastle Metropolitan Plan 2036 (Department of Planning and Environment, 2018) sets out strategies and actions that will drive sustainable growth across Cessnock City, Lake Macquarie City, Maitland City, Newcastle City and Port Stephens communities, which together make up Greater Newcastle. The overall vision for the region is to be the leading regional economy in Australia with a vibrant new metropolitan city at its heart.

This vision is supported by a range of goals, directions and actions. Relevant to the proposal is the direction to ‘diversify and grow the energy sector’ by among other things, promoting ‘new opportunities arising from the closure of coal-fired power stations that enable long term sustainable economic and employment growth in the region’.

With the imminent closure of Liddell Power Station, significant local energy generation will be withdrawn from the Hunter Region. The HPP is aimed at offsetting this loss of generating capacity in the region by providing up to 750 MW of additional generation capacity.

The Hunter Regional Plan recognises the role of the Hunter region as the predominant location for the State’s power generation. The proposal is consistent with the Hunter Regional Plan by supporting the development of the HPP. Additionally, gas fired generation aligns with the objectives of the Hunter Regional Plan by further diversifying the energy sector in the Hunter Valley.

2.1.6 Cessnock Community Strategic Plan 2027

The Cessnock Community Strategic Plan 2027 (CCSP) (Cessnock City Council, 2017) outlines the community’s main priorities and vision for the future. The CCSP outlines a vision for the City of Cessnock as ‘thriving, attractive and welcoming’. Although the Plan acknowledges that coal mining and mining support services still play an

important role in the region's economy, it also recognises the gradual shift away from a reliance on coal mining as a foundation of the region's economic base, and this is reflected in the main economic and environmental objectives under the CCSP.

The Strategic Plan's objectives for 'a prosperous and sustainable economy' include:

– Encouraging more industry to create much needed jobs
– Supporting businesses to grow and diversify
– Diversifying the economy – "we need more than wine and tourism"

During the CCSP's preparation, the Cessnock community also voiced their concerns about the natural environment, stressing the importance of a healthy and sustainable environment, the need for improved monitoring of pollution levels by industry, and investment in alternative energy sources. The community also expressed concern at the impact of the reduction in coal mining employment. Job creation and security were identified in the CCSP as key economic issues for Cessnock, with increased local employment identified as important by local residents.

The proposal would support both direct and indirect job opportunities by the creation of jobs, improved economic diversification and contribute to offsetting the reduction in coal mining employment. The proposal also represents an investment in alternative energy sources.

2.1.7 Newcastle 2030 Community Strategic Plan

The Newcastle 2030 Community Strategic Plan (CSP) (City of Newcastle, undated) is based on the aspirations, knowledge and values of the Newcastle community. The CSP is a shared community vision to inform actions over the next 10 years. This plan is reviewed every four years to ensure it still meets the community's needs.

The guiding principles of the CSP are to:

– Recognise diverse local community needs and interests
– Consider social justice principles of equity, access, participation and rights
– Consider long term and cumulative effects of actions on future generations
– Consider principles of ecologically sustainable development

Of relevance to the proposal, the CSP identifies a 'protected environment' as a key strategic direction, with a key action to achieve this being to investigate and implement renewable energy technologies.

2.1.8 Maitland Local Strategic Planning Statement 2040+

The Maitland Local Strategic Planning Statement 2040+ (the Statement) (Maitland City Council, 2020) identifies the challenges that the local area will face in coming years and outlines how growth and change will be managed into the future, working with the community and other stakeholders. It explains how state and regional plans such as the Hunter Regional Plan 2036 (Department of Planning and Environment, 2016), the Greater Newcastle Metropolitan Plan 2036 (Department of Planning and Environment, 2018), and council's strategic plans will be implemented in the Maitland local government area (LGA).

One of the 18 planning priorities identified in the Statement is to:

> *Manage energy, water and waste efficiently to support sustainability.*

The proposal would assist Council to achieve this.

2.1.9 Lake Macquarie City Community Strategic Plan 2017-2027

The Lake Macquarie City Community Strategic Plan 2017-2027 (Lake Macquarie City Council, 2017) is a plan for the Lake Macquarie community that describes how they can achieve the city's vision. The Plan aligns with the NSW State Plan (NSW 2021; Department of Premier and Cabinet, 2011) and Hunter Regional Plan 2036 (Department of Planning and Environment, 2016) and has been prepared with regard to the social justice principles of access, equity, participation and rights, and addresses social, environmental, economic and governance matters.

The Lake Macquarie City Community Strategic Plan does not specifically address energy use for the city but access to efficient and reliable energy underpins many of the stated objectives.

2.2 Key features of the site

The proposal is situated within a predominately rural landscape in the Lower Hunter region, encompassing the LGAs of Cessnock, Lake Macquarie, Maitland and Newcastle.

An overview of the key features of the surrounding landscape is shown in Figure 1.1.

Three corridors of 400m width between the Sydney to Newcastle Pipeline and the HPP have been identified by APA as potentially suitable for locating the final transmission pipeline alignment and associated 25m wide construction footprint (see Figure 1.1). These corridors (referred to as northern, central and southern) were identified based on spatial analysis of publicly available data representing existing environmental conditions, supplemented by field inspections undertaken from publicly accessible areas. Corridor options have been chosen to align with existing infrastructure wherever possible to reduce the potential for impacts.

The northern corridor, which is approximately 20 kilometres in length, commences on the eastern side of the Pacific Motorway near Black Hill. The corridor crosses Leneghans Drive and the Pacific Motorway prior to turning north and crossing Blackhill Road to avoid unmined areas of the underground Yancoal Abel Mine. The corridor then turns west to traverse the proposed Stevens Group and Broadens industrial estates by following southern boundaries or existing linear infrastructure, and crossing Viney Creek. A Hunter Water distribution main is then followed to the north-west, prior to crossing John Renshaw Drive and following alongside the Hunter Water Chichester Trunk Gravity Main until Buchanan Road. Land traversed between John Renshaw Drive and Buchanan Road is managed by the Stony Pinch Consortium on behalf of Donaldson Coal (a subsidiary company of Yancoal), Ashtonfields and the Bloomfield Group, who have been operating mining activities on parts of the 3,600 ha site for over 75 years.

After crossing Buchanan Road, the northern corridor enters the Wallis Creek floodplain and exits on the northern verge of Testers Hollow, traversing between the existing and proposed extents of the Cliftleigh Meadows and Gillieston Heights residential developments. The corridor has been aligned to cross between stages of the northern residential area of the proposed Regrowth Kurri Kurri development. The South Maitland Railway is crossed then followed to the south-west, prior to crossing Swamp Creek and following the existing Ausgrid high voltage overhead power line easements to the HPP.

The central corridor is approximately 21 kilometres in length and follows the northern corridor until John Renshaw Drive. The corridor then follows John Renshaw Drive to the west, crossing Four Mile Creek, prior to turning south-west adjacent to the Ausgrid high voltage overhead power line easement through Buttai, crossing Lings Road and Buttai Creek, until approaching the Hunter Expressway at the Buchanan Interchange.

From the western bank of Wallis Creek, the corridor follows the Ausgrid high voltage overhead power line easements, between the Kurri Kurri Golf Club and the Hunter Expressway, and crosses Main Road east of the Kurri Kurri interchange. The corridor continues to follow the high voltage overhead power line easements to the north of the Kurri Kurri TAFE campus, and between the central and southern residential areas proposed for the Regrowth Kurri Kurri development, prior to turning west to cross the South Maitland Railway and Swamp Creek to reach the HPP.

The southern corridor, which is approximately 17 kilometres in length, commences near Seahampton on the western side of the Hunter Expressway. The corridor follows the Hunter Expressway to the north-west, through the heavily vegetated foothills of the Sugarloaf Range, crossing Blue Gum Creek. In this area the corridor is sited adjacent to a disused rail siding that formed part of the Richmond Vale Railway network, to the east of George Booth Drive. Leaving the foothills, the corridor continues north-west adjacent to an Ausgrid high voltage overhead power line easement past the Pace egg farm, crossing George Booth Drive and the Wallis Creek floodplain. On the western side of Wallis Creek, the high voltage overhead power easements continue to be followed until the Hunter Expressway is crossed. The central corridor is then joined and followed to the HPP.

The compressor station is proposed to be located adjacent to the HPP on the site of the former Hydro aluminium smelter, or nearby in buffer zone land. The disturbance footprint required for the compressor station is up to 1.5 ha.

The storage pipeline will require a total length of up to 14 kilometres. Single or double looped pipeline designs, which will require disturbance footprint lengths of approximately 7 and 3.5 kilometres respectively, are currently being assessed.

The storage pipeline is proposed to be located to the north of the HPP within buffer zone land of the former Hydro aluminium smelter site, in areas that have predominantly been previously cleared. This land is outside of the areas proposed for residential and industrial development as part of the Regrowth Kurri Kurri project and is typically comprised of paddocks supporting pasture and regrowth vegetation surrounding Wentworth Swamp. The proposed position of the storage pipeline predominantly avoids the floodplain of Wentworth Swamp, though one crossing of Black Waterholes Creek would be required. The final alignment of the storage pipeline will be determined in consultation with stakeholders, including the landholder and proponents of the Regrowth Kurri Kurri project.

Review of publicly available and licenced data for the area traversed by the three corridors has identified important features and key hazards or risks as follows:

– Threatened flora and fauna and their habitats
– Threatened ecological communities
– Known Aboriginal sites
– Non-Aboriginal heritage sites
– Conservation areas
– Named and unnamed waterways
– Mine subsidence areas
– Bushfire prone land
– Acid sulfate soils
– Flood prone land
– Various land uses and landowners
– Roads and railway
– Utilities and services

Constraint mapping is provided in Appendix A.

2.3 Potential cumulative impacts

Cumulative impacts of the proposal combined with the development of the HPP are likely. Additional cumulative impacts are also possible depending on the timing of the rezoning and development of the Regrowth Kurri Kurri project.

There are also likely to be significant cumulative positive impacts for employment opportunities and economic growth in the Hunter Valley region as a result of the proposal and the HPP.

Potential cumulative impacts of the proposal would be further considered as part of the EIS and are also addressed in Section 6.

2.4 Agreements with other parties

APA has been engaged by Snowy Hydro to develop a gas supply solution for the proposed HPP.

APA have not entered into any other agreements with other parties with respect to the proposal at this time. Any opportunities for agreements would be explored further during options assessment, design development and preparation of the EIS.

3. Description of the proposal

3.1 Overview

The transmission pipeline, compressor station, storage pipeline and all associated facilities will be designed, constructed, commissioned and operated in accordance with AS 2885. All facilities will be licenced by a Pipeline Licence under the *Pipelines Act 1967*.

The transmission pipeline will also be designed, constructed and commissioned in accordance with the relevant international standards for hydrogen piping and pipelines in order to maintain readiness for potential use of hydrogen in the east coast gas network.

3.2 Concept design and alternatives considered

APA has considered a range of concepts to provide the required gas supply to the HPP, including the following configurations:

– Locating a compressor station adjacent to the offtake point of the Sydney to Newcastle Pipeline. Connecting the compressor station and the HPP with a large diameter, high pressure pipeline.
– Locating a compressor station mid way between the Sydney to Newcastle Pipeline and the HPP. Connecting the Sydney to Newcastle Pipeline and the compressor station with a medium diameter medium pressure pipeline. Connecting the compressor station and the HPP with a large diameter, high pressure pipeline.
– Locating a compressor station adjacent to the HPP. Connecting the Sydney to Newcastle Pipeline and the compressor station with medium diameter, medium pressure pipeline. Locating a large diameter, high pressure storage pipeline downstream of the compressor station in the buffer zone land of the Hydro aluminium smelter.

Of these, APA's preferred concept is to locate the compressor station adjacent to the HPP, supplied by a small diameter, medium pressure transmission pipeline connected to the Sydney to Newcastle Pipeline, and a large diameter high pressure storage pipeline located within the buffer zone land.

This concept provides the greatest potential to minimise the environmental and social impacts of the proposal.

The transmission pipeline will have a smaller construction footprint, reduced impacts to existing or proposed land uses and increased ability to implement trenchless crossings of sensitive environmental features, relative to larger diameter pipelines. Locating the compressor station on, or adjacent to, industrial land at the former Hydro aluminium smelter enables co-location of compatible land uses, provides significant separation distances to sensitive receptors and allows disturbance of remnant vegetation to be avoided or minimised. Similarly, locating the large diameter high pressure storage pipeline in areas of the buffer zone land that are primarily cleared or support regrowth vegetation also enables impacts on remnant vegetation to be minimised and provides significant separation distance to sensitive receptors.

Costs are also likely to be lower than other concepts due to comparatively lower pipeline steel tonnage and simplified offtake station and compressor station requirements.

If, however, detailed EIS studies and further stakeholder consultation indicates that the preferred concept may not be feasible, APA will consider other design concepts to meet HPP gas supply requirements,

3.3 Infrastructure components

The main infrastructure components of the proposal will be the construction and operation of the transmission pipeline, compressor station and storage pipeline. The key design characteristics of the transmission and storage pipelines are summarised in Table 3.1.

Table 3.1 Key design characteristics of the transmission and storage pipelines

Design element	Transmission pipeline	Storage pipeline
Pipeline length	Approximately 21 kilometres	Up to 14 kilometres

Design element	Transmission pipeline	Storage pipeline
Pipeline diameter	Approximately 14 inch	Approximately 42 inch
Pipeline burial depth	Minimum 900 millimetres	
Pipeline easement width	Nominally 20 metres for the transmission pipeline, depending on location	
Material	High strength steel with fusion bonded epoxy	
Capacity	Nominally up to 2.0 TJ per day	Storage capacity for up to 43TJ

The proposal will also include construction and operation of supporting infrastructure, including:

– Meter stations — to monitor the flow of gas for commercial purposes
– At least one mainline valve — to isolate sections of the pipeline for maintenance or safety
– Delivery facility — to connect to the HPP
– Marker signs — to delineate the location of the pipeline
– Cathodic protection upstands to monitor pipeline cathodic protection system

3.3.1 Transmission pipeline

As described in Section 3.1, three potential corridors, each 400 metre wide, have been identified for the transmission pipeline between the Sydney to Newcastle Pipeline and the HHP. Corridors are shown in Figure 3.1, Figure 3.2 and Figure 3.3 respectively.

APA intends to select a preferred corridor for the transmission pipeline for detailed assessment in the EIS based on feedback from key stakeholders, and the outcomes of initial community engagement. Once a preferred corridor has been determined, a final alignment for the 25 m wide construction right of way will then be selected within the preferred corridor based on environmental assessments undertaken for the EIS and further stakeholder consultation. The final alignment may traverse outside of the preferred corridor if detailed EIS assessments and stakeholder consultation indicate lower overall impacts are achievable.

Initial consultation with Cessnock City Council (CCC), Maitland City Council (MCC), City of Newcastle (CN), Hunter Water, Ausgrid and Transport for NSW (TfNSW) has been undertaken (see further discussion in Section 5). This consultation has indicated that the southern corridor may not be a viable option due to potential impacts to the following values, as well as steep topography and shallow rock for the initial six kilometres of the corridor:

– Heritage values of the rail siding which forms part of the Richmond Vale Railway.
– Community values of the proposed Richmond Vale Rail Trail.
– Biodiversity values of the Watagans to Stockton Biodiversity Corridor, including land between George Booth Drive and the Hunter Expressway that has been transferred to the NSW Minister for Energy and Environment as on offset for residential development in the region, and gazetted as Stockrington State Conservation Area.

On this basis, APA has determined that the southern corridor is not a viable option for the transmission pipeline and will not be considered further.

Assessments to date indicate that the northern corridor is preferable to the central corridor. The northern corridor impacts significantly fewer landholders, minimises impacts to the local and State road network, has reduced visual impacts during construction, and impacts fewer locations where threatened species have previously been recorded. As such, APA proposes to progress detailed studies of the northern corridor for the EIS. The central corridor will be maintained as an option in the event that detailed EIS studies and further stakeholder consultation indicates that the northern corridor may not be feasible.

3.3.2 Compressor station

The compressor station will receive the gas from the transmission pipeline and supply gas to the storage pipeline at the required pressure.

The compressor station will most likely consist of two or three reciprocating compressors (which use pistons to compress the gas) and associated equipment with a power demand of around 4 MW. The compressor station will require a footprint of up to 1.5 ha and will be located adjacent or nearby to the HPP. APA will determine the final location of the compressor station during development of the EIS informed by detailed technical assessments and further stakeholder consultation.

The power supply for the compressor station is likely to be electricity, rather than gas. Electric drive compressors are typically more efficient and reliable than gas drive compressors, as well as having significantly lower noise emissions and negligible air emissions.

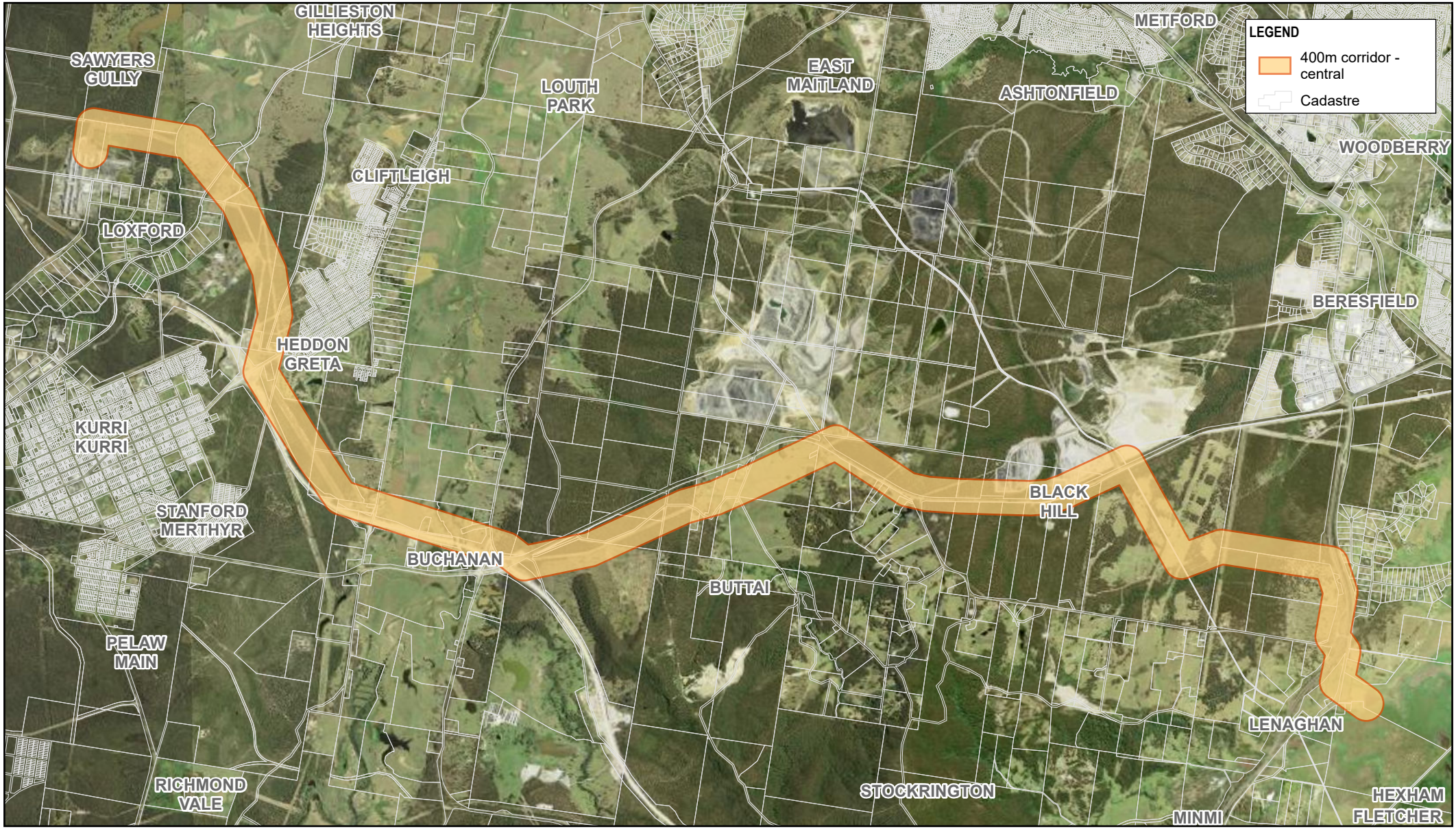
Options for an electrical power supply are for the compressors are currently under investigation, in consultation with Ausgrid. Options include a connection to the proposed power supply for the HPP, upgrading an existing HV overhead power line between a substation at Kurri Kurri and the compressor station or installation of a new underground cable power from a substation at Kurri Kurri. As the owner and operator of the electrical network in the area, Ausgrid would retain responsibility for the approval, construction and operation of any upgraded or new connections.

Power supply options for the compressor station will be assessed further during the EIS.

A gas driven compressor station is not likely though will be maintained as an option until an electric supply solution is confirmed.

3.3.3 Storage pipeline

As described previously, the storage pipeline is proposed to be located to the north of the HPP within buffer zone land of the former Hydro aluminium smelter site, in areas that have predominantly been previously cleared. The final alignment of the storage pipeline will be determined in consultation with relevant stakeholders, including the landholder and proponents of the Regrowth Kurri Kurri project.



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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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GHD

APA Group
Kurri Kurri Lateral Pipeline
Scoping Report

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

Corridor - central

FIGURE 3-1

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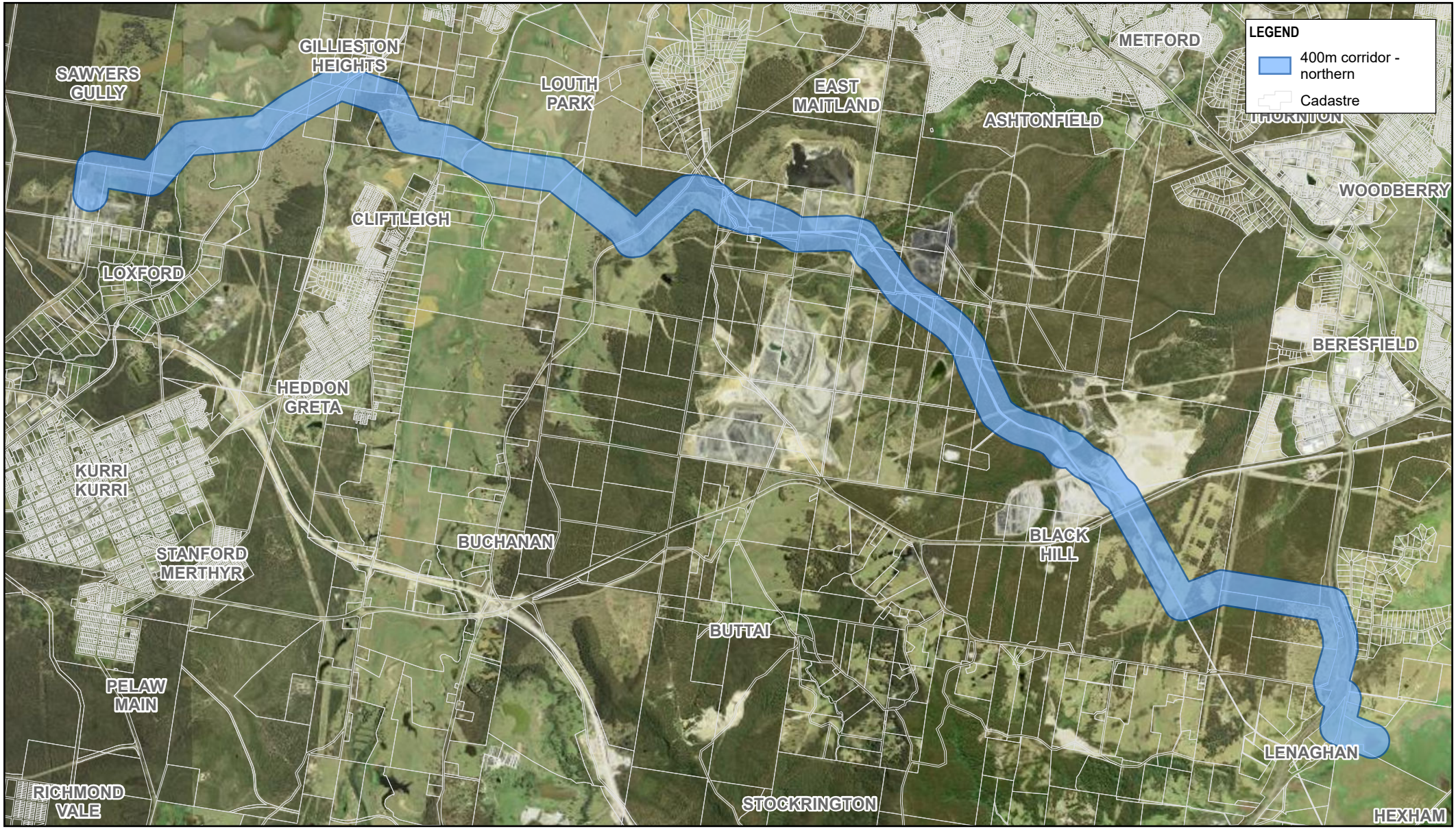

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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Scoping Report

Corridor - northern

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE 3-2

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Data source: LPI: DTDB/DCDB, 2017. APA: Alignment options, 2021. sixmaps/LPI_Imagery_Best: © Department of Finance, Services & Innovation 2018
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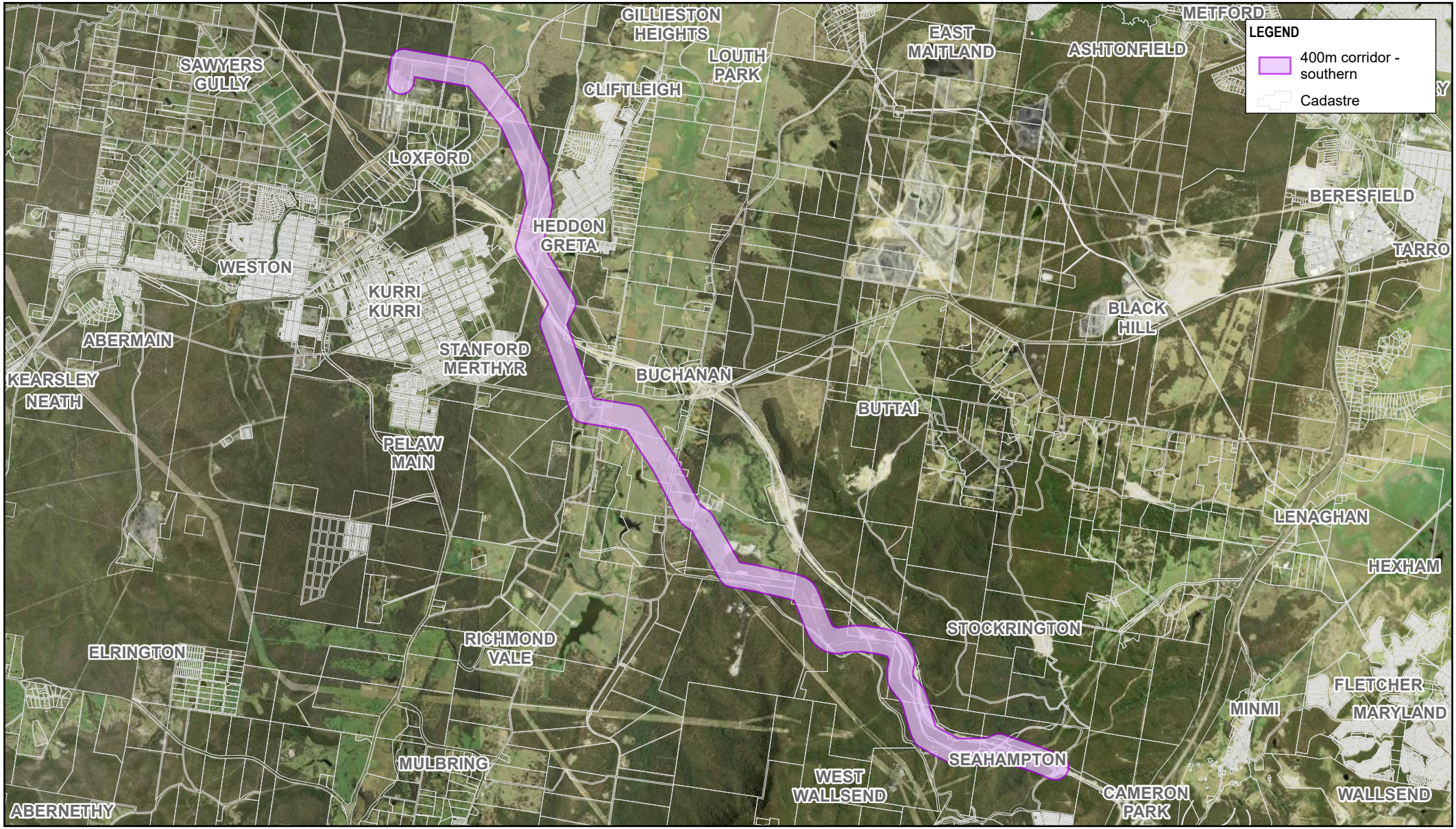

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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Scoping Report

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

Corridor - southern

FIGURE 3-3

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3.4 Construction and operation activities

3.4.1 Pipeline construction

The transmission and storage pipelines will be constructed using typical methods of pipeline construction as per AS 2885. The construction of pipelines for the proposal will involve the following key steps:

- Survey and fencing — survey of the pipeline route and modification of fencing to facilitate access during construction.
- Clearing and grading — clearing of vegetation and grading within the construction corridor, including stockpiling of topsoil, subsoil and vegetation for use in restoration works.
- Stringing and bending — transportation of pipeline sections to the construction corridor to be laid end to end adjacent to the trench and bending pipeline sections to conform to topography.
- Welding, testing and coating — welding of pipeline sections, testing of welded pipeline sections for quality and integrity, and coating or welded joints for corrosion protection.
- Trenching — trench excavation using specialised trenching machines and excavators.
- Lowering and padding — lowering pipeline sections into the trench using side booms and padding with fine grain material to protect the pipeline coating from hard objects.
- Backfilling — backfilling the trench with excavated subsoil material and compacting the backfilled subsoil material to prevent settlement of the trench during operation.
- Hydrostatic testing — progressive filling of pipeline sections with water and then pressurising as a method of confirming the strength and integrity of the pipeline.
- Restoration — restoration of disturbed areas to pre-existing condition including recontouring, permanent erosion control structures, respreading of stripped material and establishment of suitable vegetation or groundcover.
- Signage — installation of signs at regular intervals within line of sight to delineate pipeline.

Waterways, road and railway crossings, where required, will be constructed using open cut trenching or trenchless methods, such as horizontal boring or horizontal directional drilling, depending on the sensitivity of the crossing.

Minor or ephemeral waterways and unsealed roads will typically be crossed using open cut trenching and restored to pre-existing condition.

Sealed roads, railways, higher sensitivity waterways and other high sensitivity areas will typically be crossed using trenchless methods such as horizontal boring or horizontal directional drilling to minimise impacts. Trenchless methods involve the establishment of an entry and exit pits or pads at either end of the relevant pipeline section, which will be restored at the completion of the boring or drilling. Other methods available to reduce impacts on higher sensitivity watercourses and other environmental feature include reduction of the construction footprint and localised realignment.

The standard width of the construction footprint would be approximately 25 metres for the transmission pipeline and 40 to 50 metres for the storage pipeline. An indicative layout of a pipeline construction footprint is shown in Figure 3.4. In addition to the right of way, extra workspaces will be required for trenchless crossings, truck turnarounds, vegetation storage and other ancillary construction activities.

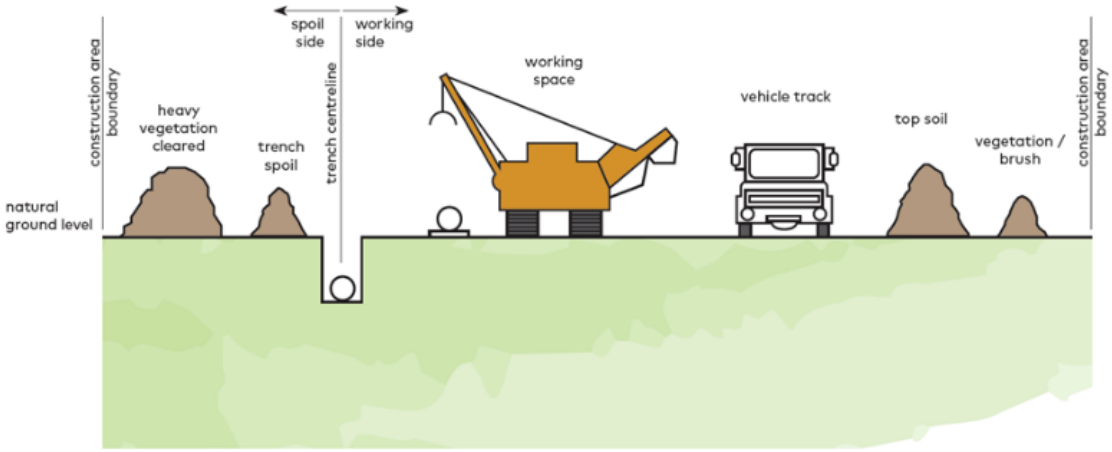

Figure 3.4 Indicative layout of the pipeline construction footprint

3.4.2 Pipeline commissioning

The transmission and storage pipelines will be progressively commissioned at completion of hydrostatic testing. Commissioning will be carried out in accordance with a procedure to be developed during the detailed design of the proposal that will include:

– Calibration of instrumentation
– Commissioning of supporting infrastructure including the scraper stations, meter stations and delivery facility
– Progressive filling of the pipeline with gas as pipeline operation commences

The procedure will be prepared in accordance with the relevant requirements of AS 2885.

3.4.3 Pipeline operation

The transmission and storage pipelines and supporting infrastructure will largely operate independently. As such, activities during operation will be limited to inspections and maintenance.

Routine air and ground inspection of the pipeline easements will be carried out to monitor for issues such as soil erosion, ground subsidence, weed invasion, re-vegetation monitoring and/or unauthorised third-party activities. Field staff access the pipelines from time to time for operations or other non-routine maintenance.

Inspections and maintenance will be coordinated from the APA Integrated Operations Centre (IOC) situated in Brisbane. Gas flows and pressures will also be monitored remotely at the IOC.

Regular contact will be maintained with landholders of properties crossed by the pipelines, including consultation regarding land access, in accordance with AS 2885.

3.4.4 Pipeline decommissioning

The transmission and storage pipelines and supporting infrastructure will be decommissioned at the end of their useful life. A decommissioning plan will be prepared prior to decommissioning. The plan will be prepared in consultation with regulatory authorities and landholders and in accordance with the applicable regulatory requirements and best practice guidelines at the time of decommissioning.

The following decommissioning strategies will be considered:

– Suspension — depressurisation of pipeline, capping of pipeline and filling with an inert substance such as nitrogen gas or water with corrosion inhibiters, retention of cathodic protection system to prevent corrosion, and removal of other supporting infrastructure - unless a future use is identified.
– Abandonment — depressurisation of pipeline, purging of pipeline with non-flammable liquid, capping of pipeline and filling with water or cementitious mud, or removal entirely, and removal of all surface infrastructure facilities - unless a future use is identified.

Both decommissioning strategies will involve small scale activities, and therefore, limited disturbance.

3.4.5 Ancillary facilities

Ancillary facilities such as extra workspaces, stockpile sites, pipe laydown areas and site access tracks would be required for the proposal during construction. All such ancillary facilities will be identified and assessed as part of the EIS.

3.5 Workforce requirements

It is expected that the proposal will directly employ around 350 people during the peak of the construction phase, with a range of different skills required.

In addition, goods and services required for the proposal will generate indirect employment.

APA is committed to maximising business supply and employment opportunities in the local region. Opportunities for non-pipeline specific contractors and trades include general civil, clear and grade, traffic management, fencing, water cartage, vegetation management and rehabilitation. Accommodating personnel during the construction phase will also generate economic benefits for the local area.

In the lead up to construction, APA will hold industry briefing sessions to provide information to local and regional businesses on the services, material supplies, skills and commercial support requirements for specific work packages for the proposal.

3.6 Timing

If planning approvals are granted, construction of the proposal is planned to commence during Q3 2022 with a gas supply to the HPP provided during H2 2023.

The HPP is planned to be operational by the end of 2023.

4. Statutory context

4.1 Environmental Planning and Assessment Act 1979

The EP&A Act and its associated regulation provide the framework for assessing environmental impacts and determining planning approvals for developments and activities in NSW.

Environmental planning instruments (EPIs) are legal documents prepared under the EP&A Act to regulate land use and development. EPIs determine the relevant part of the EP&A Act under which a development proposal must be assessed and the need or otherwise for development consent. The following EPIs are relevant to the proposal.

4.1.1 State environmental planning policies

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP) aims to facilitate the effective delivery of infrastructure across the State through increased regulatory certainty and improved efficiency and flexibility in the location of infrastructure and service facilities, while also providing for adequate stakeholder consultation.

Clause 66A(1) of the Infrastructure SEPP states that:

Development for the purpose of a pipeline may be carried out by any person without consent on any land if the pipeline is subject to a licence under the Pipelines Act 1967 or a licence or authorisation under the Gas Supply Act 1996.

The proposal would be subject to a licence under the *Pipelines Act 1967* and therefore is permissible without consent under the Infrastructure SEPP.

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (State and Regional Development) 2011 (State and Regional Development SEPP) identifies development that is State significant, as well as SSI, Critical SSI and Regionally Significant Development.

The State and Regional Development SEPP identifies SSI as development that is permissible without consent and specified in Schedule 3 or 4.

Clause 5 of Schedule 3 defines development for the purpose of a pipeline in respect of which a licence is required under the *Pipelines Act 1967* as SSI. The proposal is not referred to in Schedule 4.

The HPP was declared to be Critical SSI by the NSW Minister for Planning and Public Spaces on 16 December 2020, in accordance with section 5.13 of the EP&A Act. The definition of HPP includes 'a gas transmission and storage pipeline, receiving station and compressor units'. Therefore, the proposal forms part of the project to which the Critical SSI declaration applies.

4.1.2 Application of other provisions of the EP&A Act

Section 5.23 of the EP&A Act outlines the application of other provision of the EP&A Act for SSI projects:

(1) Part 4 and Division 5.1 do not, except as provided by this Division, apply to or in respect of State significant infrastructure (including the declaration of the infrastructure as State significant infrastructure and any approval or other requirement under this Division for the infrastructure).

(2) Part 3 and environmental planning instruments do not apply to or in respect of State significant infrastructure, except that—

> *(a) they apply to the declaration of infrastructure as State significant infrastructure or as critical State significant infrastructure (and to the declaration of development that does not require consent), and*

(b) they apply in so far as they relate to section 3.16, and for that purpose a reference in that section to enabling development to be carried out in accordance with an environmental planning instrument or in accordance with a consent granted under this Act is to be construed as a reference to enabling State significant infrastructure to be carried out in accordance with an approval granted under this Division.

(3) Divisions 7.1 and 7.2 apply to State significant infrastructure that is not carried out by or on behalf of a public authority (and to the giving of approval for the carrying out of any such infrastructure under this Division) in the same way as they apply to development and the granting of consent to the carrying out of development under Part 4, subject to any necessary modifications and any modifications prescribed by the regulations.

(4) A development control order cannot be given in relation to critical State significant infrastructure.

(6) Section 6.28 applies to approved State significant infrastructure.

4.1.3 Approvals that do not apply

Section 5.23 of the EP&A Act outlines the legislation that do not apply to SSI, this includes:

(b) a permit under section 201, 205 or 219 of the Fisheries Management Act 1994,

(c) an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,

(d) an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974,

(f) a bush fire safety authority under section 100B of the Rural Fires Act 1997,

(g) a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the Water Management Act 2000.

4.1.4 Approvals that must be applied consistently

Section 5.24 of the EP&A Act outlines the legislation that must be applied consistently for SSI. An authorisation of the following kind cannot be refused if it is necessary for carrying out approved SSI and is to be substantially consistent with the approval under this Division:

(*a) an aquaculture permit under section 144 of the Fisheries Management Act 1994,*

(b) an approval under section 15 of the Mine Subsidence Compensation Act 1961,

(c) a mining lease under the Mining Act 1992,

(d) a production lease under the Petroleum (Onshore) Act 1991,

(e) an environment protection licence under Chapter 3 of the Protection of the Environment Operations Act 1997 (for any of the purposes referred to in section 43 of that Act),

(f) a consent under section 138 of the Roads Act 1993,

(g) a licence under the Pipelines Act 1967.

4.1.5 Approval process

The NSW Minister for Planning and Public Spaces is the consent authority for the proposal with an EIS lodged to the DPIE. Before preparing the EIS, the applicant must request the SEARs for the EIS. This Scoping Report has been prepared to support that request in accordance with the Exhibition Draft State Significant Infrastructure Guide (NSW Government, December 2020).

An EIS will be prepared to address the SEARs (once issued) and the form and content requirements set out in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The EIS will be submitted to DPIE for review before it is publicly exhibited for at least 28 days. During the exhibition period, the public and agencies are invited to make submissions. After the exhibition period closes, the Department will ask the proponent to respond to issues raised in the submissions and prepare a Submissions Report.

The DPIE will assess the application, including the environmental assessment, and prepare an Assessment Report for the Minister (or delegate) who will determine the application and provide conditions of consent if approval is granted. This process is depicted in Figure 4.1 (source: https://www.planningportal.nsw.gov.au/major-projects/assessment/state-significant-infrastructure/ssi-process). The process is the same for SSI and Critical SSI.

Figure 4.1 SSI approval process

4.2 Other NSW legislation

4.2.1 Legislation to be applied consistently

Under Section 5.24 of the EP&A Act, an authorisation of the following kind cannot be refused if it is necessary for carrying out approved SSI and is to be substantially consistent with the approval:

– *Fisheries Management Act 1994*
– *Mine Subsidence Compensation Act 1961*
– *Mining Act 1992*

– *Petroleum (Onshore) Act 1991*
– *Protection of the Environment Operations Act 1997*
– *Roads Act 1993*
– *Pipelines Act 1967*

The above-mentioned acts that are predicted to be relevant to the proposal are discussed below. The *Mining Act 1992* and the *Petroleum (Onshore) Act 1991* would not apply.

Fisheries Management Act 1994

The objectives of the *Fisheries Management Act 1994* (FM Act) are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations. It lists threatened fish and marine vegetation, including endangered populations, ecological communities and key threatening processes. One of the objectives of the FM Act is to 'conserve key fish habitats' which includes aquatic habitats that are important to the maintenance of fish populations generally and the survival and recovery of threatened aquatic species.

Section 220ZZ of the FM Act lists the factors to be considered to determine the impact of an activity on threatened species, populations, ecological communities of fish and marine vegetation. If the proposal is likely to significantly impact on threatened species, populations or ecological communities, then a Species Impact Statement is required.

Whilst a permit under the FM Act is not required for SSI, biodiversity considerations would continue to apply. The proposal would impact on a number of waterways including fisheries habitat.

Mine Subsidence Compensation Act 1961

Where development is proposed in a mine subsidence district, approval from Subsidence Advisory NSW is required under section 15 of the *Mine Subsidence Compensation Act 1961*.

The proposal is located, in parts, within a mine subsidence district.

Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) establishes, amongst other things, the procedures for issuing of licences for environment protection of aspects such as waste, air, water and noise. The owner or occupier of premises engaged in scheduled activities is required to hold an environment protection licence (EPL) and comply with the conditions of that licence.

Schedule 1 of the POEO Act outlines the activities that are considered to be scheduled activities for which an EPL is required. The proposal is not listed in Schedule 1 and therefore an EPL is not required.

Roads Act 1993

The *Roads Act 1993* is administered by Transport for NSW (TfNSW), local councils or the DPIE (Crown land). TfNSW has jurisdiction for classified roads, local councils for non-classified roads and the DPIE for Crown roads.

Under Section 138 of the *Roads Act 1993*, a person must not impact or carry out work on or over a public road otherwise than with the consent of the appropriate road authority. The requirement for works within public roads would be determined following further design development and stakeholder consultation, but it is likely the proposal would impact on the road network. Approval from the appropriate road authority would be required prior to any works within public roads.

Pipelines Act 1967

The *Pipelines Act 1967* establishes a regime for licensing of prescribed pipelines in NSW. Section 11 of the *Pipelines Act 1967* states that a person shall not construct, alter or operate a pipeline unless the person is, or is acting on behalf of, the registered holder of a licence. As the proposal will involve the construction and operation of a pipeline, a licence will be required.

An application for a licence may be made under Section 12 of the *Pipelines Act 1967*. The manner of making applications for licences is set out in Section 13 of the Pipelines Act 1967 and includes providing details of the alignment, design, easements and access arrangements. Section 14 of the *Pipelines Act 1967* provides for the granting of licences if the Minister is satisfied than an application has been made in the manner set out in Section 13 and the lands or easements specified in the application are vested in the applicant or available for acquisition.

Sections 22 and 22A of the *Pipelines Act 1967* concern the compulsory acquisition of lands and compensation entitlements for any person with an estate or interest in those lands. Where voluntary access cannot be obtained, a person who proposes to construct a pipeline may apply to the Minister for an authority to survey authorising entry onto the relevant land.

4.2.2 Other relevant legislation

Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) lists threatened species, populations and ecological communities as well as critical habitat and key threatening processes. Part 4 of the BC Act provides for the listing of threatened species and threatened ecological communities. Part 7 of the BC Act provides for biodiversity assessment and approvals under the EP&A Act, and includes a test to determine whether a proposed development will significantly affect threatened species or ecological communities. Part 6 of the BC Act provides for a biodiversity offsets scheme for biodiversity values.

Section 7.9 of the BC Act states an application for SSI is to be accompanied by a biodiversity development assessment report (BDAR). Section 7.14 of the BC Act states the Minister, in determining an application for SSI, must take into account the likely impact of the development on biodiversity values assessed in the BDAR, and may require the application to offset impacts on biodiversity values through the biodiversity offsets scheme.

Crown Land Management Act 2016

The *Crown Land Management Act 2016* provides for the assessment, management and use of land that is vested in the Crown and managed for the benefit of the people of NSW. Approvals are required under this Act for temporary use or permanent impact to Crown land.

The central and southern corridors are likely to impact on Crown land (see Appendix A).

Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* establishes Aboriginal Land Councils (at state and local levels). These bodies have a statutory obligation to protect the culture and heritage of Aboriginal persons in the land council's area, and promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area. The process for land claim is defined under the Act.

The proposal intersects areas of Aboriginal land claim (see Appendix A).

Biosecurity Act 2015

The *Biosecurity Act 2015* provides the framework for managing diseases and pests that may cause harm to human, animal or plant health or the environment. Biosecurity will be considered in proposal design and operation in consultation with landowners to ensure appropriate management of weeds and pests.

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides for the conservation of nature through an estate of national parks, state conservation areas and nature reserves, as well as providing for the conservation of objects, places or features of cultural value within the landscape.

Part 6 of the NPW Act concerns the protection of Aboriginal objects and Aboriginal places. Section 86 states that a person must not harm an Aboriginal object or Aboriginal place while section 87 provides that such harm may be authorised by an Aboriginal heritage impact permit (AHIP), which provides a defence against prosecution under section 86.

As discussed in Section 4.1.3, the requirement for an AHIP does not apply with respect to SSI. Nonetheless, the potential impacts of the proposal on Aboriginal objects and Aboriginal places (see Appendix A) will be assessed and managed through the assessment and approval process under the EP&A Act and informed through consultation with the relevant Aboriginal parties in accordance with Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW, 2010).

Heritage Act 1977

The *Heritage Act 1977* aims to promote an understanding and encourage the conservation of the State's heritage, identify, register and protect items of State heritage significance, and constitute and describe the functions of the Heritage Council of NSW.

Part 4 describes the process to list and protect State heritage items. Part 6 contains provisions to control and restrict harm to items not subject to a heritage order or listed on the heritage register.

As discussed in Section 4.1.3, the requirement for an approval under Part 4 or 6 of the *Heritage Act 1977* does not apply with respect to SSI. Nevertheless, as the central (Option A) and southern (Option C) pipeline corridors would impact on a State listed item (see Appendix A), the potential impacts of the proposal on heritage sites will be assessed and managed through the assessment and approval process under the EP&A Act.

4.3 Commonwealth legislation

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

The primary objective of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is to 'provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance' (NES).

Environmental approvals under the EPBC Act may be required for an 'action' that has, will have or is likely to have a significant impact on:

– NES matters
– The environment of Commonwealth land (whether or not the action is occurring on Commonwealth land)
– The environment anywhere in the world, where the action is to be undertaken by a Commonwealth agency

Approval for such an action may be required from the Australian Government Minister for the Environment. An 'action' is considered to include a project, development, undertaking, activity or series of activities. NES matters include:

– Listed threatened species and communities
– Listed migratory species
– Ramsar wetlands of international importance
– Commonwealth marine environment
– World heritage properties
– National heritage places
– The Great Barrier Reef Marine Park
– Nuclear actions
– A water resource, in relation to coal seam gas development and large coal mining development

If the proponent considers that an action will have or is likely to have significant impacts on a NES matter or Commonwealth land, a referral is made to the Commonwealth Department of Agriculture, Water and the Environment (DAWE). A proponent may also, but is not required to, make a referral to DAWE where an action will not have or is not likely to have a significant impact. If it is determined through the referral process that an action is likely to have a significant impact on a NES matter, or Commonwealth land, then the proposal is a 'controlled action' and approval from the Minister is required. A referral to the DAWE will be submitted for the proposal.

An EPBC Act protected matters search was undertaken on 19 April 2021 for the study area, which incorporates all transmission pipeline corridors. Table 4.1 provides a summary of the results. The search report is provided in Appendix B.

Table 4.1 MNES for study area incorporating transmission pipeline corridors

Matter	Results
NES matters	
World heritage properties	None
National heritage places	None
Wetlands of international importance	Hunter Estuary Wetlands
Great Barrier Reef Marine Park	None
Commonwealth marine environment	None
Listed threatened ecological communities	– Central Hunter Valley eucalypt forest and woodland – critically endangered – Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community - endangered – River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria woodland – critically endangered – White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland woodland – critically endangered
Listed threatened species	48, see report in Appendix B
Listed migratory species	32, see report in Appendix B
Other matters	
Commonwealth land	Australian Telecommunications Commission
Commonwealth heritage places	None
Listed marine species	41, see report in Appendix B
Whales and other cetaceans	None
Critical habitats	None
Commonwealth reserves terrestrial	None
Australian marine parks	None

4.3.2 Native Title Act 1993

The objectives of the *Native Title Act 1993* are to:

– Recognise native title rights and sets down basic principles in relation to native title in Australia.
– Provide for the validation of past acts which may be invalid because of the existence of native title.
– Provide for a future regime in which native title rights are protected and conditions imposed on acts affecting native title land and waters.
– Provide a process by which native title rights can be established and compensation determined, and by which determinations can be made as to whether future grants can be made or acts done over native title land and waters.
– Provide for a range of other matters, including the establishment of a National Aboriginal and Torres Strait Islander Land Fund.

The proposal may impact land where Native Title continues to exist. Where Native Title may be impacted, APA will engage with the relevant native title parties and address the requirements of the Native Title Act.

4.4 Summary of legislative review

A summary of the findings of the review of legislation undertaken in the preceding sections is provided in Table 4.2.

Table 4.2 Summary of statutory requirements for the proposal

Matter	Response
Power to grant approval	Minister for Planning and Public Spaces under section 5.14 of the EP&A Act. Section 2.4(3) prevents the Minister delegating his or her function of determining an application for approval to carry out critical SSI.
Permissibility	Permissible without consent under Clause 66A(1) of the Infrastructure SEPP.
Other approvals	– An approval under section 15 of the *Mine Subsidence Compensation Act 1961* – A consent under section 138 of the *Roads Act 1993* – A licence under the *Pipelines Act 1967*
Pre-conditions to exercising the power to grant approval	– Section 5.16 of EP&A Act – Environmental assessment requirements for approval – Section 5.17 of EP&A Act – Environmental assessment and public consultation – Section 5.18 of EP&A Act – Planning Secretary's environmental assessment report
Mandatory matters for consideration	The matters in section 4.15 of the EP&A Act: – (a) the provisions of— • (i) any environmental planning instrument, and • (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and • (iii) any development control plan, and • (iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and • (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), • (v) (Repealed) • that apply to the land to which the development application relates, – (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality, – (c) the suitability of the site for the development, – (d) any submissions made in accordance with this Act or the regulations, – (e) the public interest.
	The matters in section 5.19 of the EP&A Act: – The Planning Secretary's report on the infrastructure and the reports, advice and recommendations contained in the report – Any advice provided by the Minister having portfolio responsibility for the proponent – Any findings or recommendations of the Independent Planning Commission following a review in respect of the State significant infrastructure

5. Engagement

5.1 Engagement by other parties

During preparation of the EIS for the HPP, Snowy Hydro sought engagement with a wide range of community stakeholders to complement the agency, utility and government stakeholders engaged with prior to and during the EIS assessments. Snowy Hydro held formal meetings/presentations through a Community Working Group (CWG) and with one-on-one meetings with potentially affected residences as requested. The CWG includes representatives of residents living near the site, community members in the Cessnock LGA, Cessnock City Council, the Hunter Business Hub, TAFE NSW (Kurri Kurri Campus) and Mindaribba Local Aboriginal Land Council. Representatives from APA attended a CWG meeting during April 2021 and provided an introduction to the proposal.

Additional community engagement tools employed by Snowy Hydro include a dedicated webpage, email address, and free 1800 phone number, to assist stakeholder and community to contact the project team. Information included on the webpage included an overview and description of the Proposal, site and locality maps, key matters to be addressed in the EIS and the EIS process, information about how to become involved and how community feedback is being used, and answers to frequently asked questions.

Hydro Australia Pty Ltd has also facilitated a Community Reference Group (CRG) to provide input to the remediation and development of the smelter site since mid-2015. The CRG includes representatives of Cessnock City Council, the community, business, and Hydro.

APA will refer to relevant feedback from the engagement processes discussed above during assessment and development of the proposal.

5.2 Stakeholder identification

Initial screening has been undertaken by APA, identifying the following stakeholder groups with a potential interest in the proposal.

- Government stakeholders:
  - Commonwealth government agencies
  - NSW State government agencies
  - Local government
  - Elected representatives
- Private stakeholders:
  - Landowners (landowners and occupiers directly impacted by the proposal)
  - Aboriginal land claimants
  - Utility owners / operators
  - Resource tenement holders
- Community / non-government stakeholders:
  - Local communities and general public
  - Local Aboriginal Land Councils
  - Industry bodies, special interest and lobby groups
  - Media

5.3 Engagement for the proposal to date

In order to gain an understanding of the key issues and opportunities that would inform selection and development of proposal concepts and pipeline corridors, targeted engagement was undertaken with the following stakeholders:

- Cessnock City Council, Maitland City Council and Newcastle City Council to seek feedback on land use & development, environmental, heritage, infrastructure and other community values.
- Hunter Water regarding interfaces with existing water assets and any planned upgrade projects.
- Transport for NSW regarding interfaces with state-controlled roads and any planned upgrade projects.
- Ausgrid regarding interfaces with existing Ausgrid infrastructure and any planned upgrade projects.
- Proponents of the Kurri Kurri Regrowth project regarding the feasibility of, and options for, the proposed storage pipeline in the buffer lands.
- Stony Pinch Consortium regarding route option interfaces with past, current and potential future land uses associated with the Stony Pinch land.
- DPIE Environment, Energy and Science Group and the Planning and Assessment group to introduce the proposal, review application of the NSW planning system and undertake a Scoping Meeting.

APA will implement a Stakeholder Engagement Strategy for the proposal. Community views will be assessed, summarised and responded to in the EIS. See further discussion in the next section.

5.4 Future engagement

APA is committed to a comprehensive community engagement process at all stages of the proposal. This will include ongoing contact by the project team with landowners affected by the preliminary pipeline route options, as well as opportunities for the general community to be fully informed and provide feedback.

The outcomes of the proposed future engagement will include:

- Fostering of a transparent and open approach to the development of the proposal and ensure ‘no surprises’ for the local community.
- Keeping the community and stakeholders informed about the proposal through the provision of accurate, timely and factual proposal information.
- Identification and management where possible of community and stakeholder concerns to maintain transparency in the proposal design, implementation and ongoing operation.
- Involvement of relevant stakeholders and community in key decisions.
- Identification of opportunities for local business involvement and local employment in the construction and operation of the proposal where possible.
- Development of long-term relationships and partnerships with community and stakeholders.

APA has developed a Stakeholder Engagement Strategy for the proposal which will be implemented throughout the EIS process. Activities planned during the EIS process include:

- Community information sessions.
- Consultation with landowners seeking access to private lands to facilitate field investigations, surveys and technical studies.
- Ongoing engagement with government agencies.
- Distribution of Project Newsletters (to detail status, upcoming survey activity, upcoming consultation activities, schedule update and any update FAQs).
- Establishment of a proposal website, interactive webmap, project email, 1800 number etc. for the duration of proposal.

Additionally, there will be multiple opportunities for community and stakeholder engagement and feedback throughout the assessment process. This would include, but not be limited to, the implementation of community engagement requirements identified in the SEARs, public exhibition of the EIS, receipt and analysis of submissions and preparation of a Submissions Report.

6. Proposed assessment of impacts

6.1 Impact identification

A high-level assessment of the likely key issues for the proposal has been undertaken in accordance with the DPIE scoping worksheet (Department of Planning and Environment, 2017). A copy of the assessment, based on the centreline of each potential transmission pipeline corridor, is provided in Appendix C.

The impact identification process using the scoping worksheet has been undertaken in accordance with the Exhibition Draft State Significant Infrastructure Guide (DPIE 2020), in particular Appendix A: Preparing a Scoping Report. The scoping worksheet assesses a number of environmental and social matters in light of:

- Scale and nature of likely impacts:
  - Scale and nature of the likely impacts of the proposal and the sensitivity of the site and surrounds
- Potential for cumulative impacts:
  - Whether the proposal is likely to generate cumulative impacts with other relevant future projects in the area (see the Department's Assessing Cumulative Impacts guide)
- Ability to avoid, mitigate and offset impacts:
  - Factors that could be incorporated into the detailed design of the proposal (e.g. changes to the proposal area, layout and design, key uses and activities carried out in site, timing)
  - Whether reasonable and feasible mitigation measures are readily available or known or will require detailed investigation
  - Whether the use of negotiated agreements or offsets is feasible and appropriate to address any residual impacts following mitigation
- Complexity of technical assessment:
  - Data requirements (e.g. baseline data, the availability of data from other projects for cumulative impact assessment)
  - Investigations required to identify the specific mitigation measures or offsets for the proposal
  - Methods available for predicting the impacts of the proposal
  - Criteria for evaluating the acceptability of the impacts of the proposal
  - Uncertainties relating to all of the above
  - Ability to deal with these uncertainties (e.g. further monitoring, review, technical investigations, adaptive management)

Environmental and social matters relating to the following were assessed:

- Access:
  - Access to property
  - Traffic and parking
  - Port and airport facilities
  - Road and rail facilities
- Air:
  - Atmospheric emissions
  - Gases
  - Particulate matter
- Amenity:
  - Noise
  - Odour
  - Vibration
  - Visual

- Biodiversity:
  - Conservation areas
  - Terrestrial flora and fauna
  - Aquatic flora and faun
- Built environment:
  - Private property
  - Public land
  - Public infrastructure
- Economic:
  - Natural resource use
  - Livelihood
  - Opportunity cost
- Hazards and risks:
  - Biosecurity
  - Bushfire
  - Coastal hazards
  - Dam safety
  - Dangerous goods
  - Environmental hazards
  - Flooding
  - Groundwater contamination
  - Hazardous and offensive development
  - Land contamination
  - Land movement
  - Waste
- Heritage:
  - Aboriginal
  - Historic
  - Natural
- Land:
  - Stability
  - Soil chemistry
  - Land capability
  - Topography
- Social:
  - Community services and facilities
  - Health
  - Housing availability
  - Safety
  - Social cohesion/.
- Water:
  - Hydrology
  - Water quality
  - Water availability

6.2 Preliminary impact assessment

The scoping assessment, using the centreline of each potential transmission pipeline corridor, has identified (Appendix C):

– Matters requiring assessment in this scoping report
– Matter requiring further assessment in the EIS
– Matters requiring no further assessment.

These matters are addressed in further detail in Table 6.1 (matters requiring no further assessment are not addressed as they are not relevant to the proposal).

Table 6.1 Preliminary impact assessment

Matter	Issue	Preliminary assessment	Scope
Matters for assessment in scoping report			
Amenity	Odour	Construction and operation of the proposal would not create any odour.	No further assessment required
Economic	Natural resource costs	Construction of the proposal will involve the consumption of natural resources embodied in construction materials such as the steel in pipeline lengths (comprised of iron and carbon). However, the proposal is not likely to consume sufficient quantities to cause these resources to become scarce.	No further assessment required
	Opportunity cost	An effective options assessment and selection process would ensure that the opportunity cost (which is the difference between the return on the options not chosen and the return on the chosen option) is minimised.	No further assessment required
Matters for further assessment in the EIS			
Heritage	Aboriginal	All corridors are in proximity to known Aboriginal sites. Potential impacts of the proposal on these sites and other Aboriginal sites or objects would require detailed assessment in the EIS, in consultation with relevant Aboriginal stakeholders. Option A and C traverse areas subject to Aboriginal land claim under the NSW *Aboriginal Land Rights Act 1983*. Potential cumulative impacts along each transmission pipeline corridor as well as in conjunction with the HPP and other projects in the region would need to be addressed. No Native Title Claims or Indigenous Land Use Agreements are found within the study area.	Key issue Stakeholder engagement required Cumulative impact assessment required
Social	Social cohesion	Social impacts for the local community are possible for the proposal due to the controversy surrounding the Commonwealth Government's 'gas fired recovery' strategy, perceived risks due to proximity of pipeline alignments to residential and rural residential areas. A detailed assessment is required in the EIS, including community and stakeholder engagement, to determine any impacts.	Key issue Stakeholder engagement required
Biodiversity	Conservation areas	The southern corridor traverses the newly acquired Stockrington State Conservation Area (SCA), which is located north of the Sugarloaf SCA. If this corridor progresses, a detailed assessment of the impacts to the SCA would be required, as well as comprehensive engagement with the National Parks and Wildlife Service (NPWS).	Key issue Stakeholder engagement required Cumulative impact assessment required
	Terrestrial flora and fauna Aquatic flora and fauna	There are numerous records of threatened flora and fauna in proximity to all corridors, which all intersect areas of native vegetation, including areas that may be threatened ecological communities. In addition, all corridors require crossings of significant waterways. Key waterways include: – Wallis Creek – crossed by all corridors – Swamp Creek – crossed by all corridors – Buttai Creek – crossed by the central corridor – Four Mile Creek – crossed by the northern corridor Swamp Creek and Wallis Creek are mapped as key fish habitat.	

Matter	Issue	Preliminary assessment	Scope
		The study area encompasses parts of the Watagans to Stockton green corridor, which is identified as a high priority regional conservation area within the Lower Hunter Regional Strategy and the Lower Hunter Regional Conservation Plan. Waterway crossings would be undertaken using by open trenching or trenchless methods, such as directional drilling, where required to reduce impacts. An assessment of the impacts of the proposal on threatened flora and fauna and their habitats would be undertaken for the EIS in accordance with the requirements of the BC Act, FM Act and Commonwealth EPBC Act. Potential cumulative impacts for threatened flora, fauna and their habitat must also be considered.	
Water	Hydrology	As already stated, the proposal would intersect a number of minor and major waterways and the northern corridor is partially located within flood prone land (as mapped under the Cessnock Local Environment Plan 2011 (LEP)). Construction activities, including excavation near waterways, within flood prone areas or where groundwater is intercepted, would have the potential to affect hydrological flows. Waterway crossings would be undertaken using open trenching or trenchless methods, such as directional drilling, where required to reduce impacts. A detailed assessment of impacts to hydrology across the floodplain is required. Engagement with key stakeholders, such as Councils, would be required.	Key issue Stakeholder engagement required
Amenity	Noise	Construction activities for the transmission and storage pipelines would generate noise that has the potential to affect sensitive receptors. However, these impacts would be limited in their extent and duration given the relatively small construction footprint and progressive nature of construction along pipeline alignments. The key consideration for operational noise is the potential for the compressor station to generate cumulative noise impacts with the HPP. These impacts can likely be mitigated by infrastructure design and due to the distance of the infrastructure from residential areas. Engagement with key receivers would be required and the cumulative impacts of the proposal and the HPP considered.	Other issue Stakeholder engagement required Cumulative impact assessment required
	Vibration		Other issue Stakeholder engagement required
	Visual	Construction activities for the transmission and storage pipelines will result in temporary visual impacts for sensitive visual receptors such as residences, roads, parks and natural areas. However, these impacts would be limited in their extent and duration given the relatively small construction footprint and progressive nature of construction along the pipeline alignments. Engagement with key receivers would be required. Operation would have few visual impacts as supporting infrastructure would be situated within the HPP site. The cumulative visual impact of the contribution from the proposal to the HPP is likely to be very small.	
Access	Access to property	Construction may impact on property access along the alignment. However, this would be discussed and agreed with landowners and access restored as soon as possible following construction.	Other issue Stakeholder engagement required

Matter	Issue	Preliminary assessment	Scope
	Traffic and parking	Construction of the proposal would generate additional traffic and parking requirements. It is not expected that traffic volumes would be in excess of the capacity of the existing road network. Traffic would be management in accordance with standard procedures. Parking would be incorporated within the construction corridor. Road authorities and key stakeholders would be consulted regarding their requirements and concerns. The cumulative impacts of the proposal and HPP would need to be considered.	Other issue Stakeholder engagement required Cumulative impact assessment required
	Road and rail facilities	The proposed route options would all intersects roads and railways in some locations. Where required, road and rail crossings would be undertaken using trenchless methods, such as horizontal boring or directional drilling, to reduce impacts. Where trenching is used, roads would be returned to their pre-construction condition. Road/ rail authorities would be consulted regarding their requirements and concerns.	Other issue Stakeholder engagement required
Built environment	Private property	All corridors intersect areas of private and public land (Crown land and waterways), potentially including public infrastructure. This would be confirmed during preparation of the EIS by engaging with relevant authorities including councils, non-government organisations (such as land councils) and state government authorities. Appropriate approvals would be sought from affected property owners, which may include leases, licences, temporary agreements or acquisition.	Other issue Stakeholder engagement required
	Public land		
	Public infrastructure		
Heritage	Natural	None of the proposed routes intersect known areas of natural heritage.	Other issue
	Historic	The central and southern corridors pass through the Collieries of the South Maitland Coalfields/Greta Coal Measures Group (1340721) (Neath Colliery) heritage item (item no. I215), which is listed under the Cessnock Local Environmental Plan 2011 (Cessnock LEP). The southern corridor also traverses the Richmond Vale Railway heritage item (item no. I214), which is listed under the Cessnock LEP. An assessment is required to determine any impacts to the heritage value of each item in consultation with the Councils involved.	Other issue Stakeholder engagement required
Social	Health	The proposal is unlikely to significantly impact on the health of the community during construction or operation. See also ‘Amenity’, ‘Air’ and ‘Water’.	Other issue
	Safety	Community safety is a key consideration for APA. Standard APA and industry procedures would ensure community safety during proposal construction and operation. See also ‘Hazards and risks’. Key stakeholders, such as Councils, would be consulted to identify any proposal specific concerns.	Other issue Stakeholder engagement required
	Community services and facilities	Preliminary assessment has not identified any community services or facilities that would be directly or significantly impacted by the proposal. Key stakeholders, such as Councils, would be consulted to identify any proposal specific concerns.	
	Housing availability	The proposal is unlikely to significantly impact on the availability of housing for the community during construction or operation. The construction workforce is likely to be housed primarily within local hotels. Operational worker numbers would be small.	Other issue
Economic	Livelihood	Construction and operation of the proposal will generate employment with potential benefits to livelihoods. Negative impacts are unlikely.	Other issue

Matter	Issue	Preliminary assessment	Scope
Air	Particulate matter	Dust would be generated during proposal construction. However, this would be managed in accordance with standard management measures and is unlikely to be significant.	Other issue
	Gases	Day to day operation of the proposal will not involve releases of gas. Releases of gases would only occur due to deliberate depressurisation in response to an emergency situation, or a leak or other accidental loss of gas. This would occur rarely, if ever, and is not be expected to have off site impacts.	Other issue
	Atmospheric emissions	Construction of the proposal is expected to have negligible atmospheric emissions, as a result of the use of plant, machinery and vehicles. Operation of the proposal could result in rare incidences of accidental or emergency atmospheric emissions (as discussed above), as well as small amounts of emissions from supporting infrastructure such as the delivery facility. As the compressor station is proposed to be electrically driven, air emissions are expected to be negligible.	Other issue
Land	Capability	The proposed corridors impact on land predominately mapped as class 4 (moderate), 5 (moderate-low) and 6 (low) capability land. No land mapped as strategic agricultural land is impacted. Nevertheless, key stakeholders, such as Local Land Services and landowners, would be consulted to identify any proposal specific concerns. Potential impacts would be considered in the context of the cumulative loss of agricultural land in the region.	Other issue Stakeholder engagement required Cumulative impact assessment required
	Stability	The proposed corridors do not intersect any land mapped as landslide risk. The design of the proposal, including construction methodology, will be developed to ensure the stability and/or structure of the proposed corridors is maintained.	Other issue
	Soil chemistry	The proposed corridors intersect some areas mapped as potential acid sulfate soil (ASS). Potential impacts due to disturbance of ASS would be assessed in the EIS with appropriate management measures provide where required. There is no salinity mapped within the study area.	Other issue
	Topography	The proposal is located within relatively flat to undulating land with elevations increasing by less than 100 metres from west to east along the proposed alignments. In general, steep areas will be avoided with disturbed areas restored to a similar to pre-existing condition following construction, including recontouring as required.	Other issue
Water	Water quality	Construction activities, including excavation near waterways, wetlands, groundwater, would have the potential to affect water quality. Potential impacts could occur due to erosion and sedimentation as well as accidental spills or leaks. Proposed construction techniques, including use of trench-less methods and effective erosion and sedimentation control, would reduce the potential for impacts. Key stakeholders, such as Hunter Water and Councils, would be consulted to identify any proposal specific concerns.	Other issue Stakeholder engagement required
	Water availability	Construction activities, including dust suppression and hydrostatic testing, would involve the use of water. The use of water for such activities is not anticipated to be in sufficient quantity to materially affect water availability. Water would be sourced form appropriate local sources in consultation with water managers.	

Matter	Issue	Preliminary assessment	Scope
Hazards and risks	Biosecurity	Biosecurity risks could occur due to the movement of the construction workforce and machinery, and to a lesser extent during operation activities, along the final alignment. Risks can occur due to weeds, pests, diseases and/or other contaminants. Effective procedures to prevent biosecurity impacts would be incorporated into construction and operational procedures. Key stakeholders, such as Local land Services and landowners, would be consulted to identify any proposal specific concerns.	Other issue Stakeholder engagement required
	Bushfire	All proposed corridors occur within land mapped as bushfire prone. Construction activities, including hot work, would have the potential to cause a bushfire. Measures to avoid, mitigate and manage potential impacts relating to bushfire will be developed to ensure the risk remains very low during construction. The operation of the proposal would involve the reticulation of flammable gas in the pipeline and supporting infrastructure in areas that may be prone to bushfire. The potential for interaction between proposal infrastructure and bushfire would be considered further as part of the proposal design. Plans and procedures would be developed in consultation with NSW Fire and Rescue and the NSW Rural Fire Service.	
	Dangerous goods	Compressed gases are considered a dangerous good in NSW. A Preliminary Hazard Analysis will be prepared for the proposal during the preparation of the EIS in accordance with State Environmental Planning Policy No. 33 - Hazardous and Offensive Development and relevant agency guidelines.	Other issue Cumulative impact assessment required
	Flooding	The northern corridor traverses an area of flood prone land. This would be addressed in the Hydrological Assessment for the EIS. Flooding risk can be managed through appropriate procedures for construction in consultation with the local Council.	Other issue Stakeholder engagement required
	Hazardous and offensive development	A Preliminary Hazard Analysis will be prepared for the proposal during the preparation of the EIS in accordance with State Environmental Planning Policy No. 33 - Hazardous and Offensive Development and relevant agency guidelines. The cumulative impacts of the proposal and HPP would need to be considered.	Key issue Cumulative impact assessment required
	Land movement	Some sections of each corridor traverse mine subsidence districts. Consultation with and potentially approval by Subsidence Advisory NSW will be required for the proposal. Subsidence issues would be considered in the proposal design.	Other issue Stakeholder engagement required
	Groundwater contamination	The potential for disturbance of existing land or groundwater contamination or contamination of land or groundwater due to construction activities would be investigated in the EIS.	Other issue
	Land contamination		
	Waste	The proposal would generate waste during construction and operation. The waste hierarchy would be incorporated into all stages of the proposal from planning to decommissioning as required under the *Waste Avoidance and Resource Recovery Act 2001*. The EIS would identify anticipated waste streams and provide measures to avoid, recover or appropriately dispose of waste created.	

6.3 Matters for further assessment in the EIS

The scoping assessment in Appendix C notes the following matters should be assessed further in the EIS. A preliminary impact assessment has been undertaken in Table 6.1 to confirm the scope for the EIS.

The matters for further assessment in the EIS are delineated into key and other issues depending on the level of assessment required. Key issues are those that require a detailed assessment in the EIS while other matters are those that required either a standard or minor level of assessment in the EIS. The required level of assessment is identified in Table 6.1 and the summary table in Appendix D. The summary table in Appendix D also identifies matters that will require cumulative impact assessment and/ or targeted stakeholder engagement as well as relevant government plans, policies and guidelines.

Key issues

Key issues for the EIS are identified as:

– Heritage – Aboriginal
– Social - social cohesion
– Biodiversity - conservation areas, terrestrial flora and fauna, aquatic flora and fauna
– Water – hydrology
– Hazard and risks – hazardous and offensive development

Other issues

A standard level of assessment is required for the following matters:

– Amenity - noise, vibration, visual
– Access – access to property, traffic and parking, road and rail facilities
– Built environment – private property, public land, public infrastructure
– Heritage – natural, historic
– Social – safety, community services and facilities
– Land – capability
– Water – quality, availability
– Hazard and risks – biosecurity, bushfire, flooding, dangerous goods, land movement

All other matters/issues require a minor level of assessment in the EIS.

6.4 Matters requiring no assessment

No further assessment is required for the following matters:

– Access – port and airport facilities
– Hazards and risks – coastal hazards, dam safety
– Amenity – odour
– Economic – natural resource costs, opportunity cost

7. References

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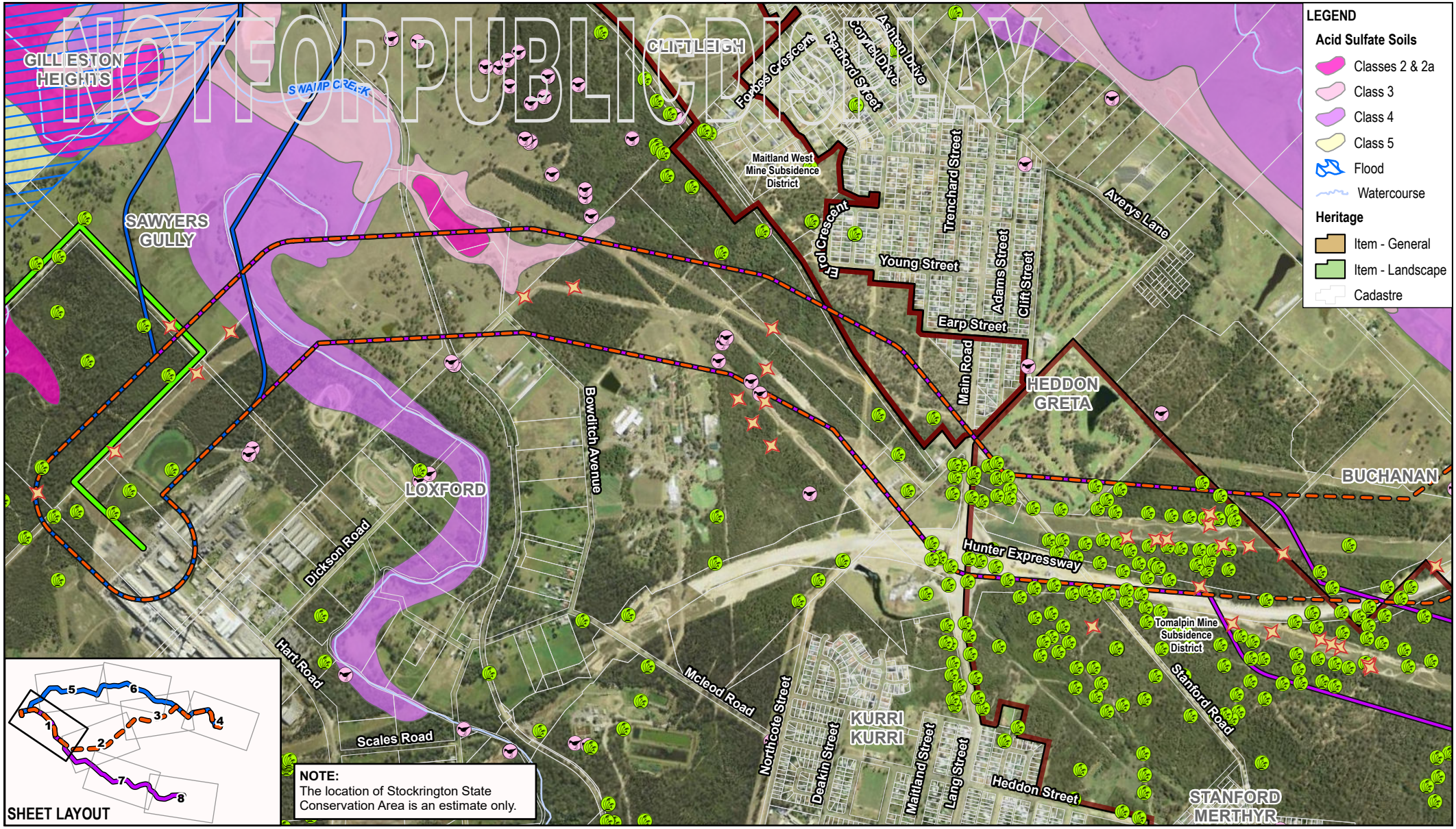
Appendices

Appendix A

Constraints mapping



LEGEND

- 400m corridor - central
- 400m corridor - northern
- 400m corridor - southern
- Indicative storage pipeline
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

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Kurri Kurri Lateral Pipeline
Scoping Report

Constraints mapping
Sheet 1 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-1

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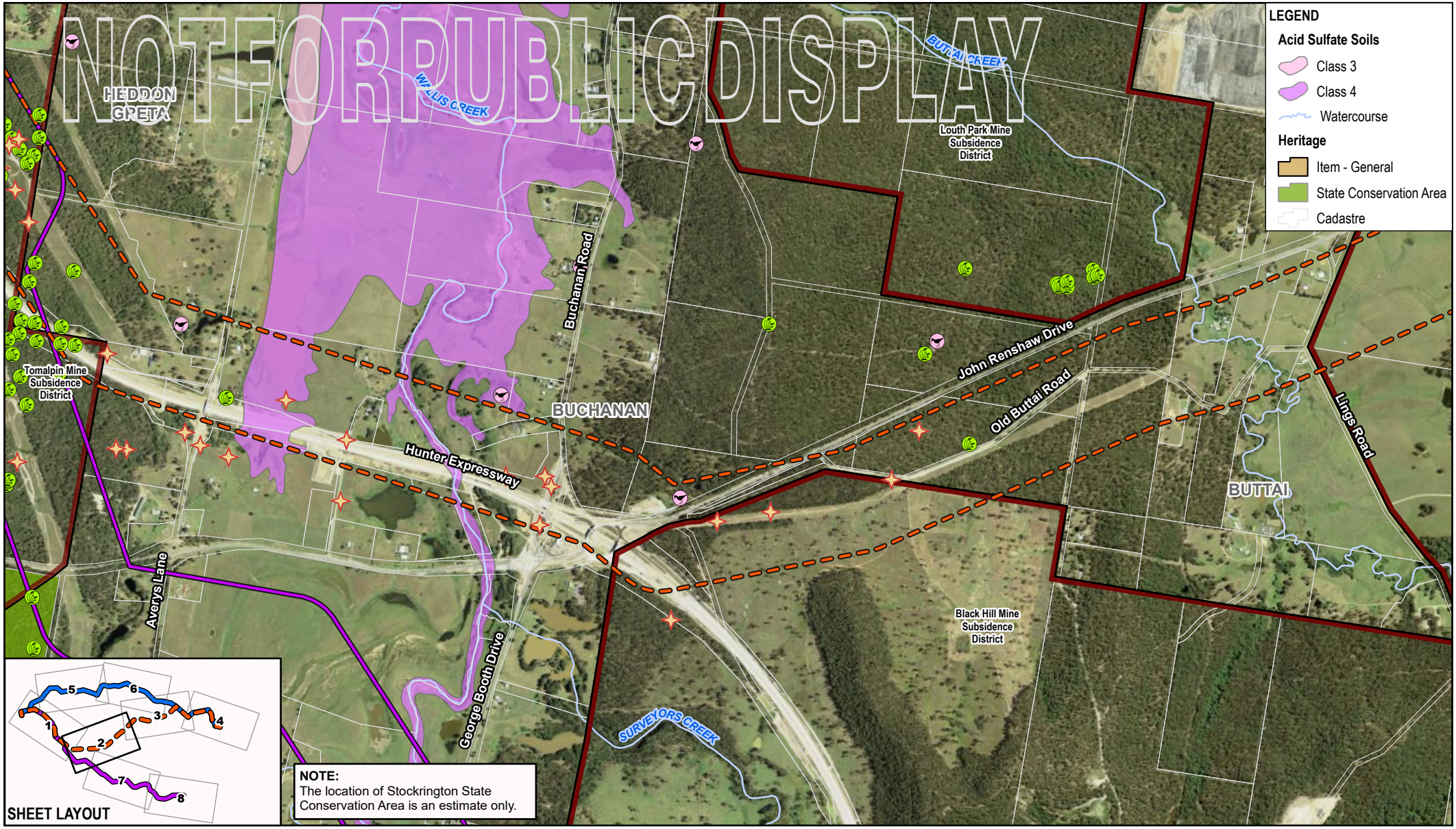

LEGEND

- 400m corridor - central
- 400m corridor - southern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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APA Group
Kurri Kurri Lateral Pipeline
Scoping Report

Constraints mapping
Sheet 2 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-2

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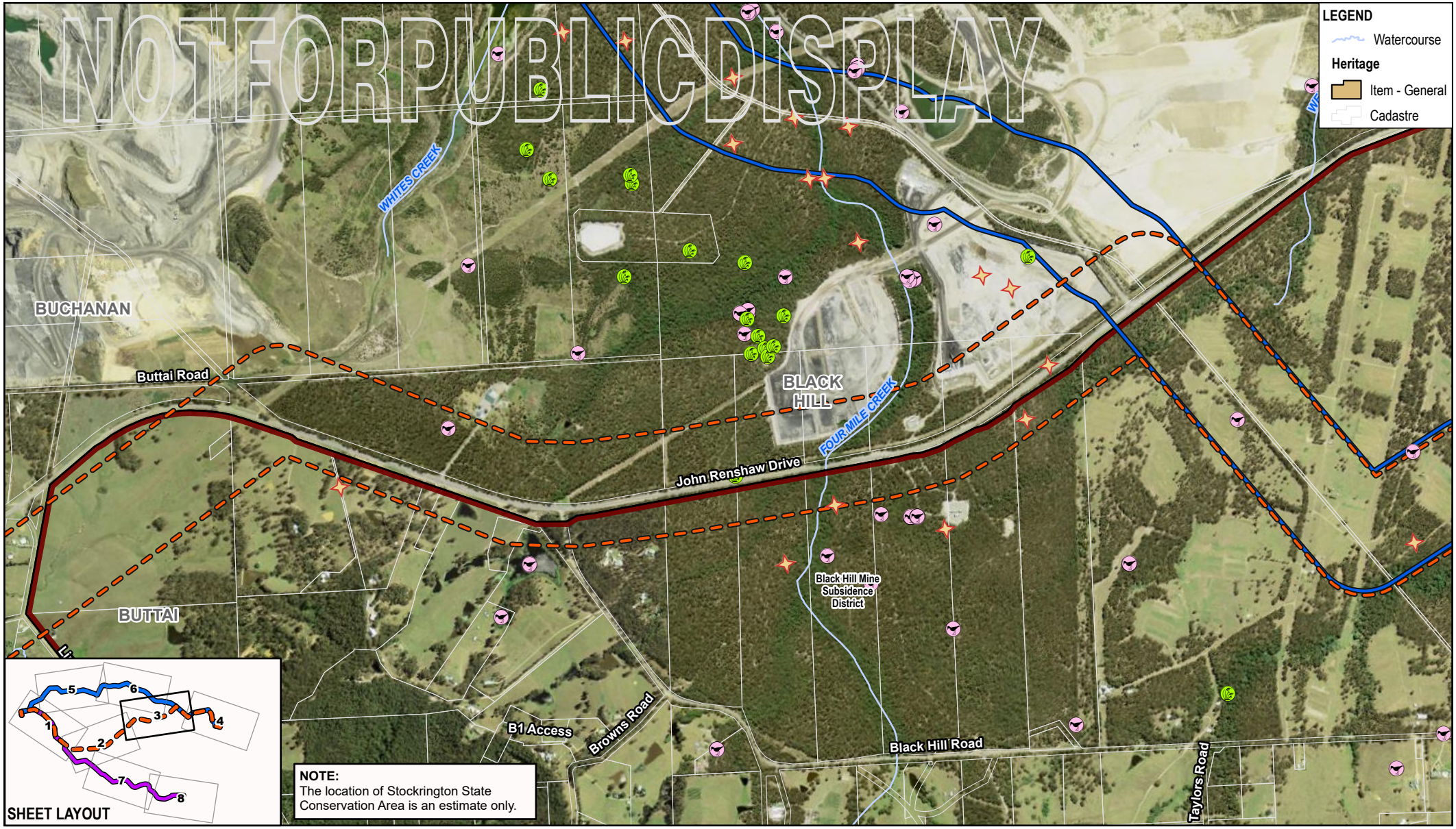

LEGEND

- 400m corridor - central
- 400m corridor - northern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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APA Group
Kurri Kurri Lateral Pipeline
Scoping Report

Constraints mapping
Sheet 3 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-3

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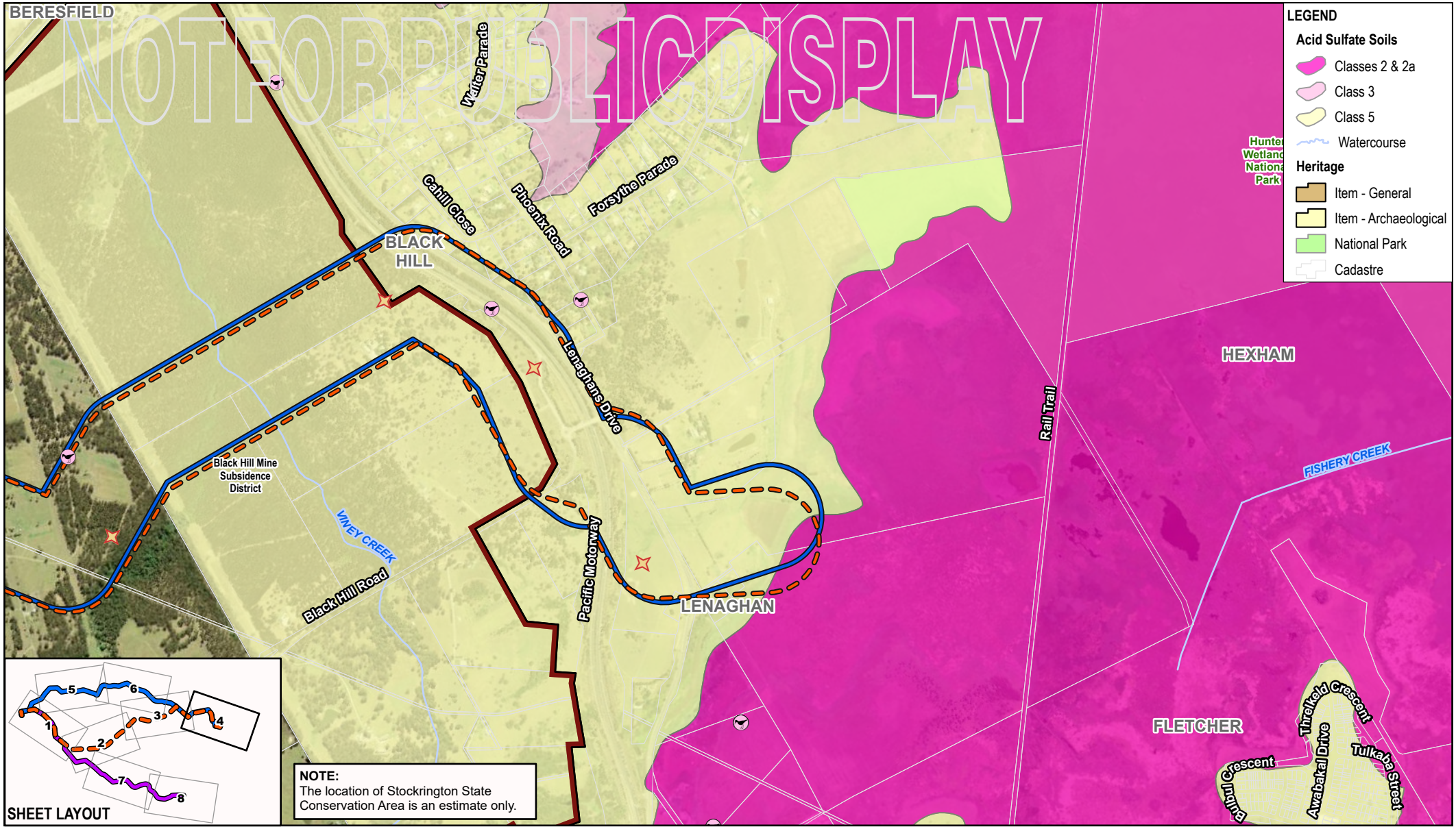

LEGEND

- 400m corridor - central
- 400m corridor - northern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

GHD

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Scoping Report

Constraints mapping
Sheet 4 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-4

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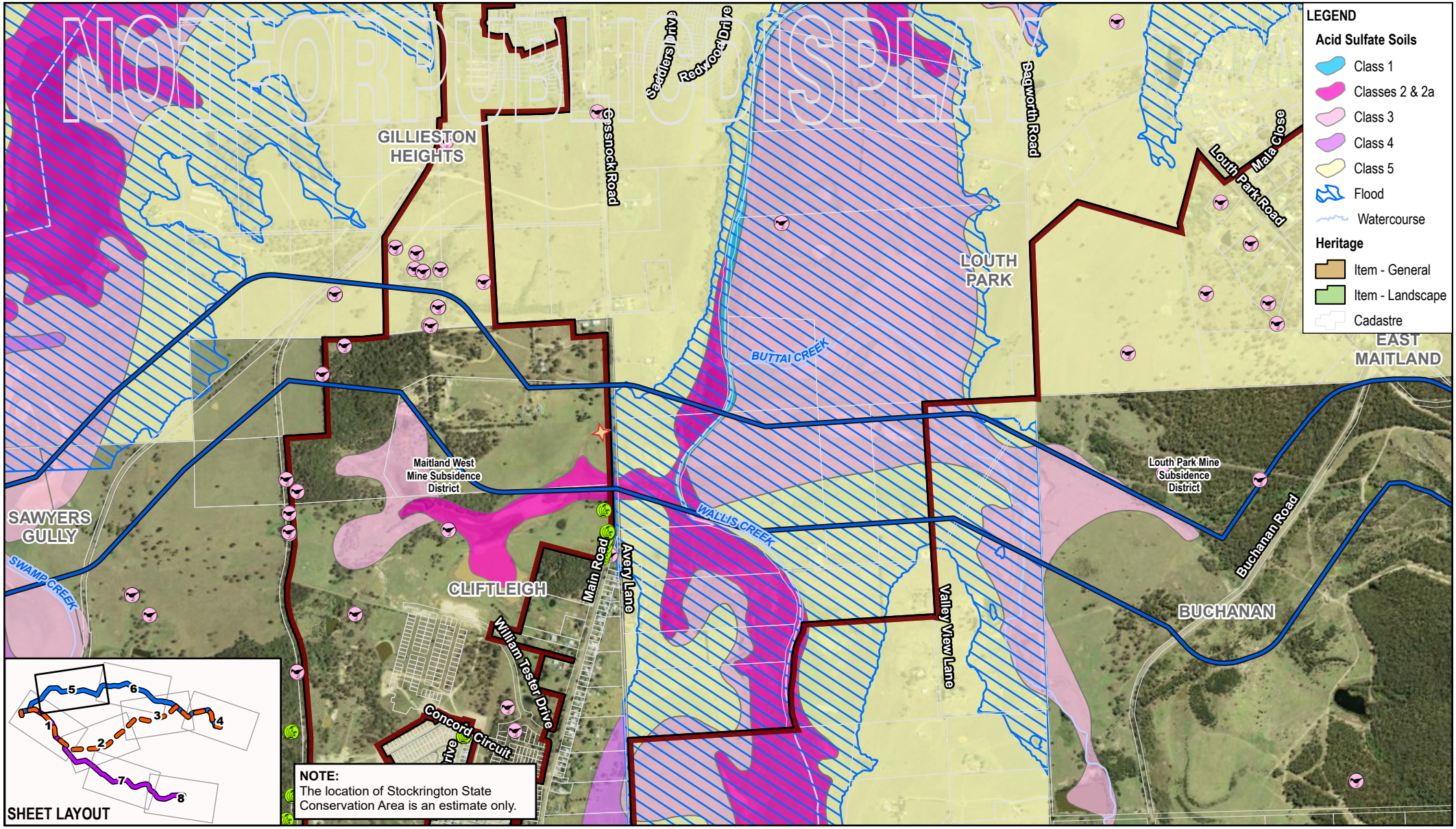
Created by: Tmorton, fmackay



LEGEND

- 400m corridor - central
- 400m corridor - northern
- 400m corridor - southern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Scoping Report

Constraints mapping
Sheet 5 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-5

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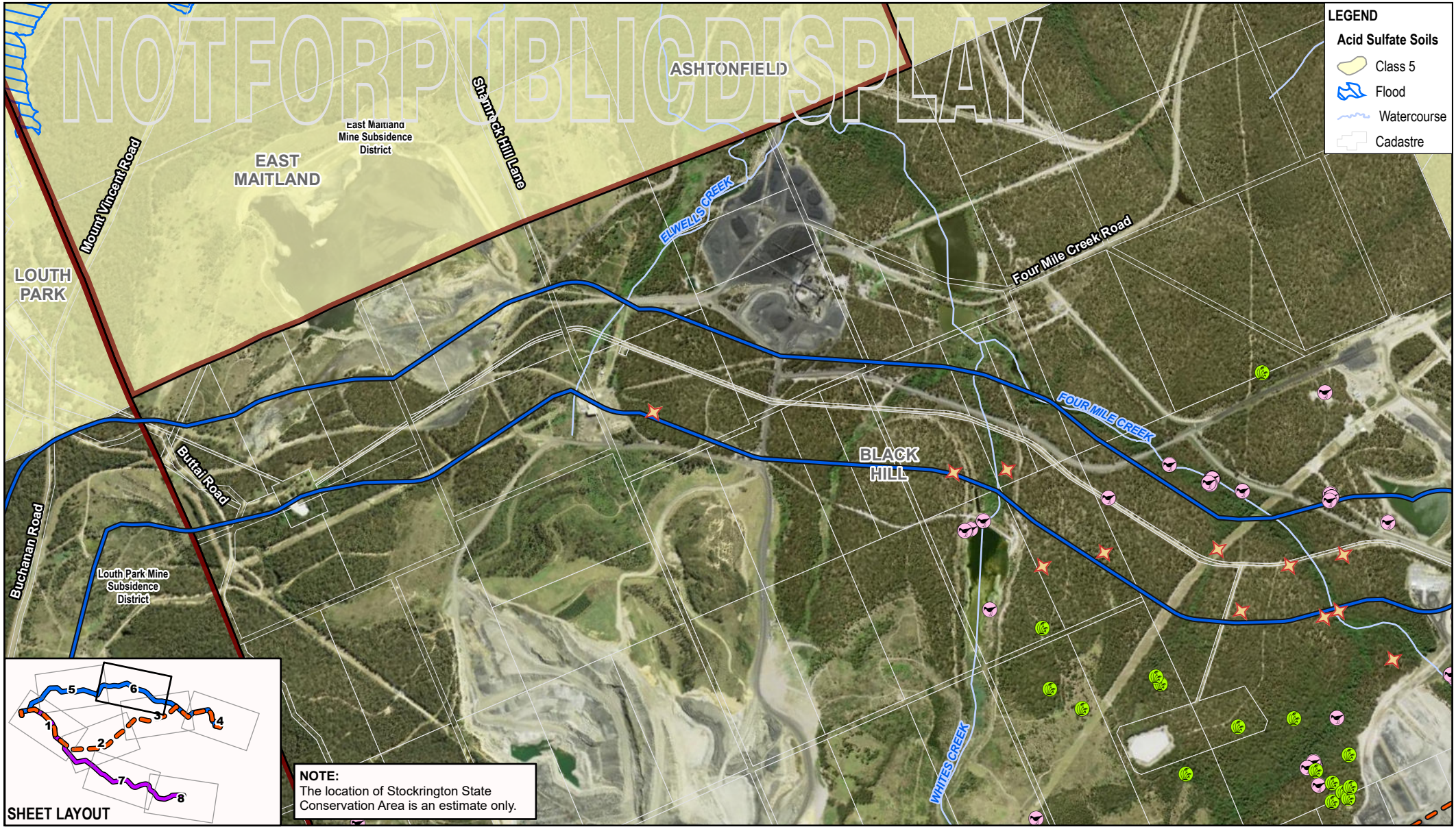
Print date: 08 Jun 2021 - 11:37



LEGEND

- 400m corridor - central
- 400m corridor - northern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

APA Group
Kurri Kurri Lateral Pipeline
Scoping Report

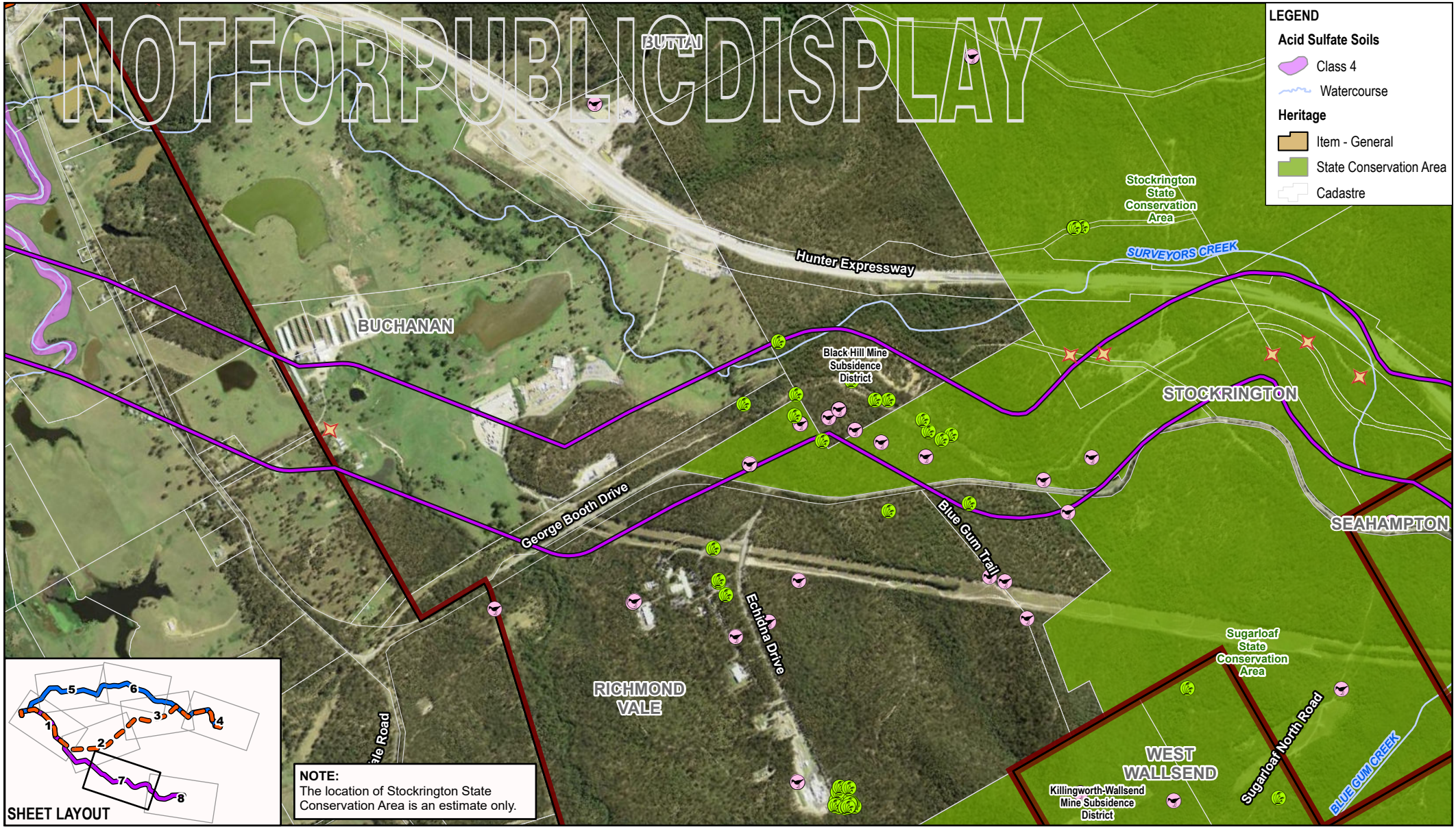
Constraints mapping
Sheet 6 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-6

N:\AU\Sydney\Projects\21\12548720\GIS\Maps\12548720_KurriKurriGasPipeline\ScopingReport_0.aprx
Print date: 08 Jun 2021 - 11:37

Data source: LPI: DTDB/DCDB, 2017. APA: Alignment options, 2021. DPE: ASS / Heritage / Flooding data, 2019. OEH: Threatened species / AHIMS, 2021. sixmaps/ LPI_Imagery_Best: © Department of Finance, Services & Innovation 2018
Created by: Tmorton, fmackay



LEGEND

- 400m corridor - central
- 400m corridor - southern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

GHD

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Scoping Report

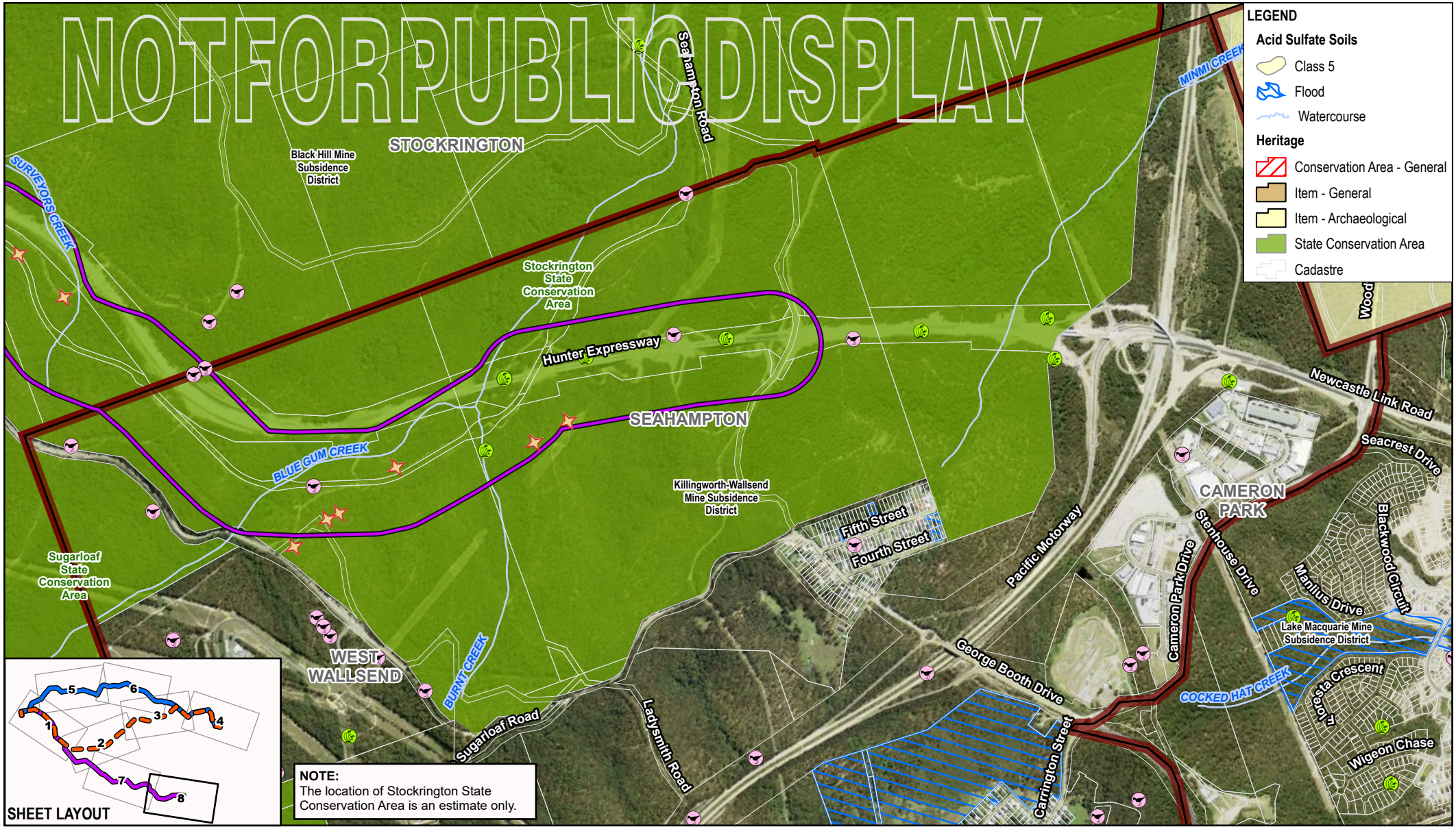
Constraints mapping
Sheet 7 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-7

N:\AU\Sydney\Projects\21\12548720\GIS\Maps\12548720_KurriKurriGasPipeline\ScopingReport_0.aprx
Print date: 08 Jun 2021 - 11:37

Data source: LPI: DTDB/DCDB, 2017. APA: Alignment options, 2021. DPE: ASS / Heritage / Flooding data, 2019. OEH: Threatened species / AHIMS, 2021. sixmaps/ LPI_Imagery_Best: © Department of Finance, Services & Innovation 2018
Created by: Tmorton, fmackay



LEGEND

- 400m corridor - southern
- Mine Subsidence Districts
- AHIMS

Threatened species

- Fauna
- Flora

Paper Size ISO A4

0 100 200 300 400 500

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Scoping Report

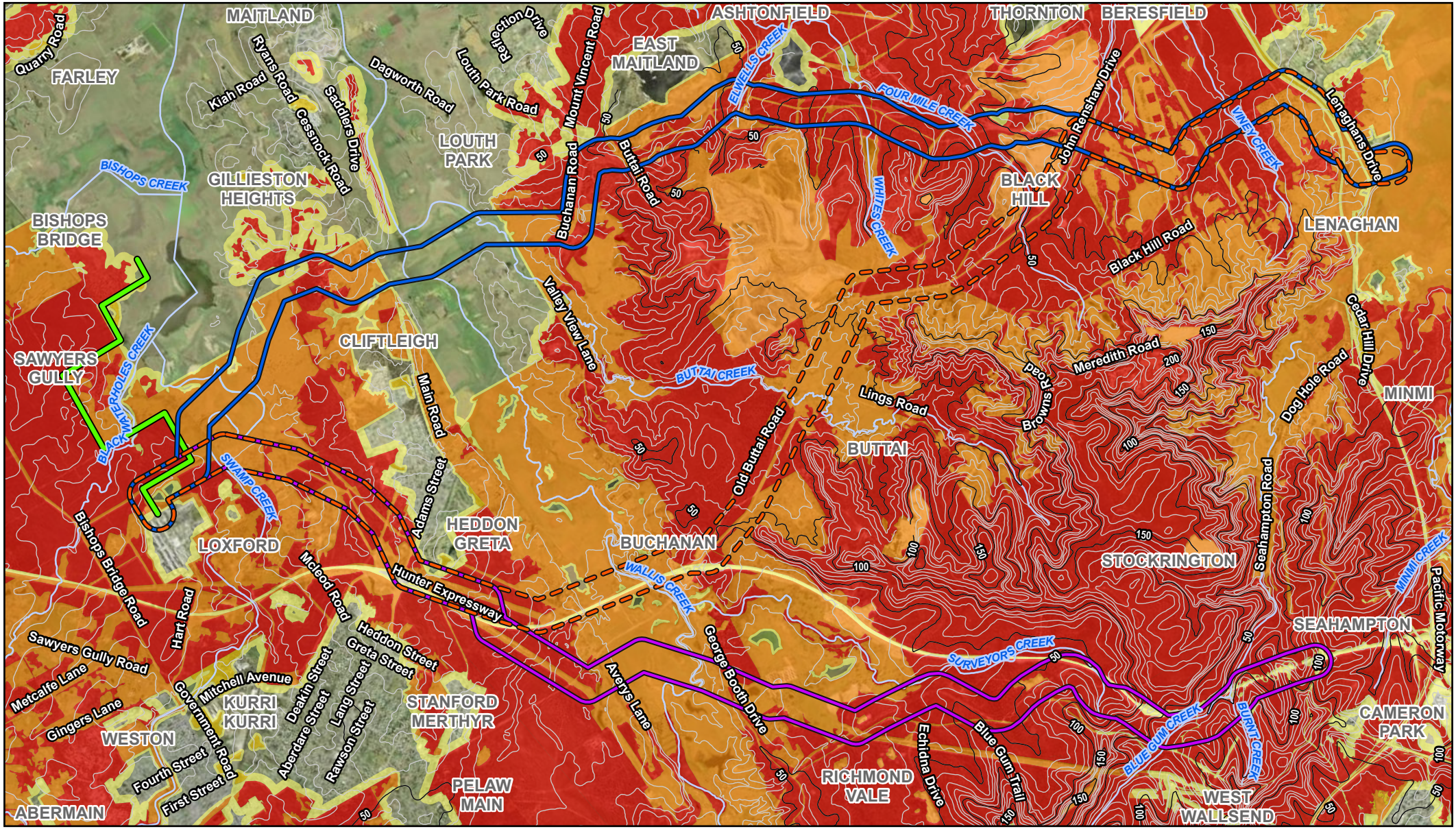
Constraints mapping
Sheet 8 of 9

Project No. **12548720**
Revision No. **0**
Date **08/06/2021**

FIGURE A-8

N:\AU\Sydney\Projects\21\12548720\GIS\Maps\12548720_KurriKurriGasPipeline\ScopingReport_0.aprx
Print date: 08 Jun 2021 - 11:37

Data source: LPI: DTDB/DCDB, 2017. APA: Alignment options, 2021. DPE: ASS / Heritage / Flooding data, 2019. OEH: Threatened species / AHIMS, 2021. sixmaps/ LPI_Imagery_Best: © Department of Customer Service 2020
Created by: Tmorton, fmackay



LEGEND

- 400m corridor - central
- 400m corridor - northern
- 400m corridor - southern
- Indicative storage pipeline

Bush Fire Prone Land
- Vegetation Category 1
- Vegetation Category 2
- Vegetation Category 3

- Vegetation Buffer
- Watercourse
- Contours (50m)
- Contours (10m)

Paper Size ISO A4

0 0.5 1 1.5

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

APA Group
Kurri Kurri Lateral Pipeline
Scoping Report

Constraints mapping
Sheet 9 of 9

Project No. 12548720
Revision No. 0
Date 08/06/2021

FIGURE A9

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Print date: 08 Jun 2021 - 11:38

Appendix B

PMST search report

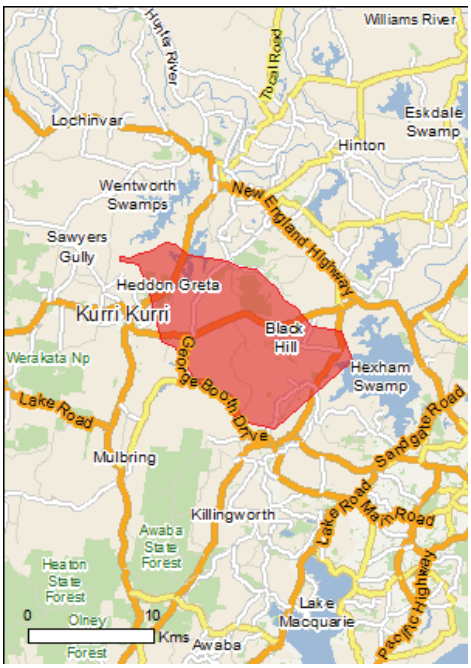
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 19/04/21 09:19:15



Coordinates
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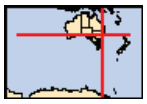

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	48
Listed Migratory Species:	32

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	41
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	3
Regional Forest Agreements:	1
Invasive Species:	45
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Hunter estuary wetlands	Within 10km of Ramsar

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Central Hunter Valley eucalypt forest and woodland	Critically Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area
Thinornis cucullatus cucullatus Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Frogs		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat may occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Endangered	Species or species habitat likely to occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat known to occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat known to occur within area
Angophora inopina Charmhaven Apple [64832]	Vulnerable	Species or species habitat may occur within area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
Eucalyptus glaucina Slaty Red Gum [5670]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus parramattensis subsp. decadens Earp's Gum, Earp's Dirty Gum [56148]	Vulnerable	Species or species habitat known to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat may occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat may occur within area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat known to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Rutidosis heterogama		
Heath Wrinklewort [13132]	Vulnerable	Species or species habitat known to occur within area
Syzygium paniculatum		
Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known to occur within area
Tetratheca juncea		
Black-eyed Susan [21407]	Vulnerable	Species or species habitat known to occur within area
Reptiles		
Delma impar		
Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus		
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus		
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis		
Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus		
Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres		
Ruddy Turnstone [872]		Species or species habitat known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Species or species habitat known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Australian Telecommunications Commission

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat known to occur

Name	Threatened	Type of Presence within area
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Species or species habitat known to occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Species or species habitat known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]		Species or species habitat known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat known to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Species or species habitat known to occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Pambalong	NSW
Sugarloaf	NSW
Werakata	NSW

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
North East NSW RFA	New South Wales

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		

Name	Status	Type of Presence
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within

Name	Status	Type of Presence
		area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.785906 151.478802,-32.785906 151.478807,-32.785906 151.478807,-32.785846 151.478046,-32.782942 151.4785,-32.783822 151.485338,-32.780492 151.49161,-32.780434 151.499285,-32.774039 151.509543,-32.775154 151.517289,-32.782252 151.52685,-32.783954 151.541015,-32.785713 151.555878,-32.789115 151.563833,-32.789996 151.575696,-32.796448 151.582604,-32.80161 151.589861,-32.809176 151.595095,-32.812988 151.603818,-32.82413 151.614913,-32.827766 151.635428,-32.845297 151.643662,-32.886197 151.588566,-32.881098 151.563828,-32.876176 151.557548,-32.869377 151.5505,-32.860292 151.544709,-32.858475 151.533613,-32.837077 151.516796,-32.833794 151.508144,-32.808108 151.499771,-32.787578 151.491223,-32.785906 151.478802

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Appendix C

Scoping worksheets

Scoping Worksheet for Proposal:			*Central Corridor*		Stage of Proposal:				*Scoping*			Date:	14/04/2021	
What matters might be impacted?			What activities might cause an impact?		What are the characteristics of the impact?						How will the impact be managed?	What are the community & other stakeholders views?	What type of assessment and engagement is required in the EIS stage?	
Environmental and social matters these are natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *for more information about the matters click the link above*			Without any mitigation, will the proposal impact on the matter?	If there is a "likely" impact: 1. list the activities likely to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. clearing 100ha EEC, or construction noise nearby school* If "unlikely", why? has the impact been actively avoided through project design or site location?	Is the impact, without mitigation, likely to cause a material effect with regard to its …				Does the impact need assessment in the EIS? (*auto fills*)	Is the impact, without mitigation, likely to have a material cumulative effect with other impacts from emerging projects?	What safeguards and management measures are likely to be required to address the impact?	Are there community & other stakeholder concerns regarding the impact or activity? *(requires consultation)*	Likely level of assessment and/or engagement required *(auto fills)*	Relevant Section in Scoping Report
					Extent	Duration	Severity	Sensitivity						
What does the proposal mean for people?	AMENITY	noise	Likely	Construction activities including using machinery, clearing and excavation. Construction activities would be transient and temporary. Noise emissions from compressor, including cumulative impacts with the Hunter Power Project. Only three sensitive receivers located within 1.5km.	Y	Y	Y	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		visual	Likely	Construction activities and surface infrastructure, including offtake station and compressors.	Y	Y	N	Y	Yes	Unknown	Standard	Yes	Other Issue + Focussed Engagement	6.2
		odour	Unlikely	The project is not expected to generate odour.		N	N	N	No			No	Scoping Report	6.2
		vibration	Likely	Construction activities including using machinery, clearing and excavation.	N	N	Y	Y	Yes	Unknown	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	ACCESS	access to property	Likely	Construction activities around roads and property.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		traffic and parking	Likely	Construction activities around roads and property.	Y	Y	Y	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		port and airport facilities	n/a										No assessment necessary - Worksheet only	6.2
		road and rail facilities	Likely	Construction activities around roads and railways.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	BUILT ENVIRONMENT	private property	Likely	The pipeline alignment would traverse private property	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		public land	Likely	The pipeline alignment would traverse roads and public areas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		public infarstructure	Likely	Construction around roads, railways and utility easements.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	HERITAGE	natural	Likely	The pipeline alignment would intersect one heritage landscape item (South Maitland Railway System).	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		historic	Likely	The pipeline alignment would intersect one listed historic heritage item: Collieries of the South Maitland Coalfields/Greta Coal Measures Group (1340721) (Neath Colliery).	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		Aboriginal	Likely	A large number of known Aboriginal heritage sites are located within and in the vicinity of the pipeline alignment.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		other - please specify												
	SOCIAL	health	Likely	Construction activities and associated air quality impacts.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		safety	Likely	Bushfire during construction. Gas fire or explosion during operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		community services and facilities	Likely	Construction activities in the vicinity of services and facilities, including Kurri Kurri TAFE.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		housing availability	Unlikely	Construction workforce requiring temporary accommodation.		Y	N	Y	Yes	Unknown	Standard	Unknown	Other Issue	6.2
		social cohesion	Likely	The pipline alignment would impact on private property. Potential opposition to gas fired electricity generation.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
	ECONOMIC	natural resource use	Unlikely	Consumption of construction materials. Transport of natural gas.		N	N	N	No			No	Scoping Report	6.2
		livelihood	Likely	Creation of jobs during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		opportunity cost	Unlikely	The option choosen will consider efficient use of scarce resources.		N	N	N	No			No	Scoping Report	6.2
		other - please specify												

Scoping Worksheet for Proposal:			Central Corridor		Stage of Proposal:				Scoping			Date:	14/04/2021	
What matters might be impacted?			What activities might cause an impact?		What are the characteristics of the impact?						How will the impact be managed?	What are the community & other stakeholders views?	What type of assessment and engagement is required in the EIS stage?	
Environmental and social matters these are natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *for more information about the matters click the link above*			Without any mitigation, will the proposal impact on the matter?	If there is a "likely" impact: 1. list the activities likely to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. clearing 100ha EEC, or construction noise nearby school* If "unlikely", why? has the impact been actively avoided through project design or site location?	Is the impact, without mitigation, likely to cause a material effect with regard to its …				Does the impact need assessment in the EIS? (*auto fills*)	Is the impact, without mitigation, likely to have a material cumulative effect with other impacts from emerging projects?	What safeguards and management measures are likely to be required to address the impact?	Are there community & other stakeholder concerns regarding the impact or activity? *(requires consultation)*	Likely level of assessment and/or engagement required *(auto fills)*	Relevant Section in Scoping Report
					Extent	Duration	Severity	Sensitivity						
What does the proposal mean for the natural environment?	AIR	particulate matter	Likely	Construction activities, particularly earthworks, generating dust.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		gases	Likely	Construction, including operation of machinery, and surface infrastructure.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		atmospheric emissions	Likely	Atmospheric emissions during operation, including potential fugitives.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												
	BIODIVERSITY	conservation areas	Likely	The pipeline alignment would intersect areas zoned for Environmental Conservation.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		terrestrial flora and fauna	Likely	Construction activities, including clearing, in vegetated areas and potential fauna habitat.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		aquatic flora and fauna	Likely	Construction of the pipeline through waterways, including Swamp Creek and Wallis Creek.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		other - please specify												
	LAND	stability	Likely	Construction activities, including excavation, exposing soils to wind and water erosion.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		soil chemistry	Likely	Potential contamination and disturbance of acid sulfate soils during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		capability	Unlikely	Construction activities, including excavation, in natural/agricultural landscapes.		N	N	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		topography	Unlikely	Pipeline alignment is relatively flat and disturbed areas would be restored following construction.		N	N	N	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												
	WATER	water quality	Likely	Construction activities, including excavation, near waterways, swamps, groundwater.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		water availability	Unlikely	Construction activities involving the use of water, including dust suppression.		N	N	Y	Unknown	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		hydrology	Likely	Construction activities, including excavation, near waterways, swamps, groundwater.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
What risks does the proposal face?	HAZARDS AND RISKS	biosecurity	Likely	Construction activities have potential to spread weeds and pathogens.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		bushfire	Likely	Construction activities, including hot work, and reticulation of flammable gas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		coastal hazards	n/a										No assessment necessary - Worksheet only	
		dams safety	n/a										No assessment necessary - Worksheet only	
		dangerous goods	Likely	Transport and reticulation of flamable gas. The pipeline will be designed in accordance with Australian Standard AS 2885.0—2008 Pipelines—Gas and liquid petroleum and Code of Environmental Practice Onshore Pipelines.	Y	Y	Y	Y	Yes	Yes	Standard	No	Other Issue + CIA	6.2
		flooding	Likely	Construction activities and surface infrastructure near waterways.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		groundwater contamination	Likely	Construction activities, including excavation, near, groundwater.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		hazardous and offensive development	Likely	Operation of gas infrastructure with potential for gas fire or explosion. The pipeline will be designed in accordance with Australian Standard AS 2885.0—2008 Pipelines—Gas and liquid petroleum and Code of Environmental Practice Onshore Pipelines.	Y	Y	Y	Y	Yes	Yes	Project Specific	No	Key Issue + CIA	6.2
		land contamination	Likely	Potential contamination during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		land movement	Likely	The pipeline alignment would traverse a number of Mine Subsidence Districts.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		waste	Likely	Generation of waste during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												

Scoping Worksheet for Proposal:	Northern Corridor	Stage of Proposal:	Scoping	Date:	14/04/2021	
What matters might be impacted?	What activities might cause an impact?	What are the characteristics of the impact?		How will the impact be managed?	What are the community & other stakeholders views?	What type of assessment and engagement is required in the EIS stage?	

		Environmental and social matters these are natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *for more information about the matters click the link above*	Without any mitigation, will the proposal impact on the matter?	If there is a "likely" impact: 1. list the activities likely to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. clearing 100ha EEC, or construction noise nearby school* If "unlikely", why? has the impact been actively avoided through project design or site location?	Is the impact, without mitigation, likely to cause a material effect with regard to its …				Does the impact need assessment in the EIS? (*auto fills*)	Is the impact, without mitigation, likely to have a material cumulative effect with other impacts from emerging projects?	What safeguards and management measures are likely to be required to address the impact?	Are there community & other stakeholder concerns regarding the impact or activity? *(requires consultation)*	Likely level of assessment and/or engagement required *(auto fills)*	Relevant Section in Scoping Report
					Extent	Duration	Severity	Sensitivity						
What does the proposal mean for people?	AMENITY	noise	Likely	Construction activities including using machinery, clearing and excavation. Construction activities would be transient and temporary. Noise emissions from compressor, including cumulative impacts with the Hunter Power Project. Only three sensitive receivers located within 1.5km.	Y	Y	Y	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		visual	Likely	Construction activities and surface infrastructure, including offtake station and compressors.	Y	Y	N	Y	Yes	Unknown	Standard	Yes	Other Issue + Focussed Engagement	6.2
		odour	Unlikely	The project is not expected to generate odour.		N	N	N	No			No	Scoping Report	6.2
		vibration	Likely	Construction activities including using machinery, clearing and excavation.	N	N	Y	Y	Yes	Unknown	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	ACCESS	access to property	Likely	Construction activities around roads and property.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		traffic and parking	Likely	Construction activities around roads and property.	Y	Y	Y	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		port and airport facilities	n/a										No assessment necessary - Worksheet only	
		road and rail facilities	Likely	Construction activities around roads and railways.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	BUILT ENVIRONMENT	private property	Likely	The pipeline alignment would traverse private property	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		public land	Likely	The pipeline alignment would traverse roads and public areas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		public infarstructure	Likely	Construction around roads, railways and utility easements.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	HERITAGE	natural	Likely	There are no known natural heritage items in proximity to the route.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		historic	Likely	There are no known historic heritage items in proximity to the route.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		Aboriginal	Likely	A large number of known Aboriginal heritage sites are located within and in the vicinity of the pipeline alignment.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		other - please specify												
	SOCIAL	health	Likely	Construction activities and associated air quality impacts.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		safety	Likely	Bushfire during construction. Gas fire or explosion during operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		community services and facilities	Unlikely	Construction activities are not expected in the vicinity of any community services or facilities		N	N	Y	Unknown	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		housing availability	Unlikely	Construction workforce requiring temporary accommodation.		Y	N	Y	Yes	Unknown	Standard	Unknown	Other Issue	6.2
		social cohesion	Likely	The pipline alignment would impact on private property. Potential opposition to gas fired electricity generation.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
	ECONOMIC	natural resource use	Unlikely	Consumption of construction materials. Transport of natural gas.		N	N	N	No			No	Scoping Report	6.2
		livelihood	Likely	Creation of jobs during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		opportunity cost	Unlikely	The option chosen will consider efficient use of scarce resources		N	N	N	No			No	Scoping Report	6.2
		other - please specify												

Scoping Worksheet for Proposal:			Northern Corridor		Stage of Proposal:				Scoping			Date:	14/04/2021	
What matters might be impacted?			What activities might cause an impact?		What are the characteristics of the impact?						How will the impact be managed?	What are the community & other stakeholders views?	What type of assessment and engagement is required in the EIS stage?	
Environmental and social matters these are natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *for more information about the matters click the link above*			Without any mitigation, will the proposal impact on the matter?	If there is a "likely" impact: 1. list the activities likely to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. clearing 100ha EEC, or construction noise nearby school* If "unlikely", why? has the impact been actively avoided through project design or site location?	Is the impact, without mitigation, likely to cause a material effect with regard to its …				Does the impact need assessment in the EIS? (*auto fills*)	Is the impact, without mitigation, likely to have a material cumulative effect with other impacts from emerging projects?	What safeguards and management measures are likely to be required to address the impact?	Are there community & other stakeholder concerns regarding the impact or activity? *(requires consultation)*	Likely level of assessment and/or engagement required *(auto fills)*	Relevant Section in Scoping Report
					Extent	Duration	Severity	Sensitivity						
What does the proposal mean for the natural environment?	AIR	particulate matter	Likely	Construction activities, particularly earthworks, generating dust.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		gases	Likely	Construction, including operation of machinery, and surface infrastructure.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		atmospheric emissions	Likely	Atmospheric emissions during operation, including potential fugitives.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												
	BIODIVERSITY	conservation areas	Likely	The pipeline alignment would intersect areas zoned for Environmental Conservation.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		terrestrial flora and fauna	Likely	Construction activities, including clearing, in vegetated areas and potential fauna habitat.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		aquatic flora and fauna	Likely	Construction of the pipeline through waterways, including Swamp Creek and Wallis Creek.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		other - please specify												
	LAND	stability	Likely	Construction activities, including excavation, exposing soils to wind and water erosion.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		soil chemistry	Likely	Potential contamination and disturbance of acid sulfate soils during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		capability	Unlikely	Construction activities, including excavation, in natural/agricultural landscapes.		N	N	Y	Unknown	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		topography	Unlikely	Pipeline alignment is relatively flat and disturbed areas would be restored following construction.		N	N	N	No	No	Standard	No	Other Issue	6.2
		other - please specify												
	WATER	water quality	Likely	Construction activities, including excavation, near waterways, swamps, groundwater.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		water availability	Unlikely	Construction activities involving the use of water, including dust suppression.		N	N	Y	Unknown	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		hydrology	Likely	Construction activities, including excavation, near waterways, swamps, groundwater.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
What risks does the proposal face?	HAZARDS AND RISKS	biosecurity	Likely	Construction activities have potential to spread weeds and pathogens.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		bushfire	Likely	Construction activities, including hot work, and reticulation of flammable gas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		coastal hazards	n/a										No assessment necessary - Worksheet only	
		dams safety	n/a										No assessment necessary - Worksheet only	
		dangerous goods	Likely	Transport and reticulation of flamable gas. The pipeline will be designed in accordance with Australian Standard AS 2885.0—2008 Pipelines—Gas and liquid petroleum and Code of Environmental Practice Onshore Pipelines.	Y	Y	Y	Y	Yes	Yes	Standard	No	Other Issue + CIA	6.2
		flooding	Likely	Construction activities and surface infrastructure near waterways. The pipeline alignment would traverse land within the Maitland Flood Planning Area.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		groundwater contamination	Likely	Construction activities, including excavation, near, groundwater.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		hazardous and offensive development	Likely	Operation of gas infrastructure with potential for gas fire or explosion. The pipeline will be designed in accordance with Australian Standard AS 2885.0—2008 Pipelines—Gas and liquid petroleum and Code of Environmental Practice Onshore Pipelines.	Y	Y	Y	Y	Yes	Yes	Project Specific	No	Key Issue + CIA	6.2
		land contamination	Likely	Potential contamination during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		land movement	Likely	The pipeline alignment would traverse a number of Mine Subsidence Districts.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		waste	Likely	Generation of waste during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												

Scoping Worksheet for Proposal:			*Southern Corridor*		Stage of Proposal:				*Scoping*			Date:	14/04/2021	
What matters might be impacted?			What activities might cause an impact?		What are the characteristics of the impact?						How will the impact be managed?	What are the community & other stakeholders views?	What type of assessment and engagement is required in the EIS stage?	
Environmental and social matters these are natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *for more information about the matters click the link above*			Without any mitigation, will the proposal impact on the matter?	If there is a "likely" impact: 1. list the activities likely to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. clearing 100ha EEC, or construction noise nearby school* If "unlikely", why? has the impact been actively avoided through project design or site location?	Is the impact, without mitigation, likely to cause a material effect with regard to its …				Does the impact need assessment in the EIS? (*auto fills*)	Is the impact, without mitigation, likely to have a material cumulative effect with other impacts from emerging projects?	What safeguards and management measures are likely to be required to address the impact?	Are there community & other stakeholder concerns regarding the impact or activity? *(requires consultation)*	Likely level of assessment and/or engagement required *(auto fills)*	Relevant Section in Scoping Report
					Extent	Duration	Severity	Sensitivity						
What does the proposal mean for people?	AMENITY	noise	Likely	Construction activities including using machinery, clearing and excavation. Construction activities would be transient and temporary. Noise emissions from compressor, including cumulative impacts with the Hunter Power Project. Only three sensitive receivers located within 1.5km.	Y	Y	Y	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		visual	Likely	Construction activities and surface infrastructure, including offtake station and compressors.	Y	Y	N	Y	Yes	Unknown	Standard	Yes	Other Issue + Focussed Engagement	6.2
		odour	Unlikely	The project is not expected to generate odour.		N	N	N	No			No	Scoping Report	6.2
		vibration	Likely	Construction activities including using machinery, clearing and excavation.	N	N	Y	Y	Yes	Unknown	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	ACCESS	access to property	Likely	Construction activities around roads and property.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		traffic and parking	Likely	Construction activities around roads and property.	Y	Y	Y	Y	Yes	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		port and airport facilities	n/a										No assessment necessary - Worksheet only	6.2
		road and rail facilities	Likely	Construction activities around roads and railways.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	BUILT ENVIRONMENT	private property	Likely	The pipeline alignment would traverse private property	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		public land	Likely	The pipeline alignment would traverse roads and public areas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		public infarstructure	Likely	Construction around roads, railways and utility easements.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		other - please specify												
	HERITAGE	natural	Likely	The pipeline alignment would intersect one heritage landscape item (South Maitland Railway System).	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		historic	Likely	The pipeline alignment would intersect two listed historic heritage item: Collieries of the South Maitland Coalfields/Greta Coal Measures Group (1340721) (Neath Colliery) and Richmond Vale Railway.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		Aboriginal	Likely	A large number of known Aboriginal heritage sites are located within and in the vicinity of the pipeline alignment.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
	SOCIAL	health	Likely	Construction activities and associated air quality impacts.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		safety	Likely	Bushfire during construction. Gas fire or explosion during operation.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		community services and facilities	Likely	Construction activities in the vicinity of services and facilities, including Kurri Kurri TAFE.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		housing availability	Unlikely	Construction workforce requiring temporary accommodation.		Y	N	Y	Yes	Unknown	Standard	Unknown	Other Issue	6.2
		social cohesion	Likely	The pipline alignment would impact on private property. Potential opposition to gas fired electricity generation.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
	ECONOMIC	natural resource use	Unlikely	Consumption of construction materials. Transport of natural gas.		N	N	N	No			No	Scoping Report	6.2
		livelihood	Likely	Creation of jobs during construction and operation.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		opportunity cost	Unlikely	The option chosen will consider efficient use of scarce resources		N	N	N	No			No	Scoping Report	6.2
		other - please specify												

Scoping Worksheet for Proposal:			Southern Corridor		Stage of Proposal:				Scoping			Date:	14/04/2021	
What matters might be impacted?			What activities might cause an impact?		What are the characteristics of the impact?						How will the impact be managed?	What are the community & other stakeholders views?	What type of assessment and engagement is required in the EIS stage?	
Environmental and social matters these are natural or human assets or values aggregated at the level most appropriate for informing management and assessment requirements *for more information about the matters click the link above*			Without any mitigation, will the proposal impact on the matter?	If there is a "likely" impact: 1. list the activities likely to cause the impact; and 2. if applicable, list the receptor being impacted and its status. *E.g. clearing 100ha EEC, or construction noise nearby school* If "unlikely", why? has the impact been actively avoided through project design or site location?	Is the impact, without mitigation, likely to cause a material effect with regard to its …				Does the impact need assessment in the EIS? (*auto fills*)	Is the impact, without mitigation, likely to have a material cumulative effect with other impacts from emerging projects?	What safeguards and management measures are likely to be required to address the impact?	Are there community & other stakeholder concerns regarding the impact or activity? *(requires consultation)*	Likely level of assessment and/or engagement required *(auto fills)*	Relevant Section in Scoping Report
					Extent	Duration	Severity	Sensitivity						
What does the proposal mean for the natural environment?	AIR	particulate matter	Likely	Construction activities, particularly earthworks, generating dust.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		gases	Likely	Construction, including operation of machinery, and surface infrastructure.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		atmospheric emissions	Likely	Atmospheric emissions during operation, including potential fugitives.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												
	BIODIVERSITY	conservation areas	Likely	The pipeline alignment would intersect areas zoned for Environmental Conservation and National Parks and Nature reserves.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		terrestrial flora and fauna	Likely	Construction activities, including clearing, in vegetated areas and potential fauna habitat.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		aquatic flora and fauna	Likely	Construction of the pipeline through waterways, including Swamp Creek and Wallis Creek.	Y	Y	Y	Y	Yes	Yes	Project Specific	Yes	Key Issue + CIA + Focussed Engagement	6.2
		other - please specify												
	LAND	stability	Likely	Construction activities, including excavation, exposing soils to wind and water erosion.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		soil chemistry	Likely	Potential contamination and disturbance of acid sulfate soils during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		capability	Unlikely	Construction activities, including excavation, in natural/agricultural landscapes.		N	N	Y	Unknown	Yes	Standard	Yes	Other Issue + CIA + Focussed Engagement	6.2
		topography	Likely	Pipeline alignment traverses steep terrain for approximately 6 km at the eastern extent. Construction activities, including excavation, in steep areas would have the potential to affect topography.	Y	N	Y	N	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												
	WATER	water quality	Likely	Construction activities, including excavation, near waterways, swamps, groundwater.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		water availability	Unlikely	Construction activities involving the use of water, including dust suppression.		N	N	Y	Unknown	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		hydrology	Likely	Construction activities, including excavation, near waterways, swamps, groundwater.	Y	Y	Y	Y	Yes	No	Project Specific	Yes	Key Issue + Focussed Engagement	6.2
		other - please specify												
What risks does the proposal face?	HAZARDS AND RISKS	biosecurity	Likely	Construction activities have potential to spread weeds and pathogens.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		bushfire	Likely	Construction activities, including hot work, and reticulation of flammable gas.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		coastal hazards	n/a										No assessment necessary - Worksheet only	
		dams safety	n/a										No assessment necessary - Worksheet only	
		dangerous goods	Likely	Transport and reticulation of flamable gas. The pipeline will be designed in accordance with Australian Standard AS 2885.0—2008 Pipelines—Gas and liquid petroleum and Code of Environmental Practice Onshore Pipelines.	Y	Y	Y	Y	Yes	Yes	Standard	No	Other Issue + CIA	6.2
		flooding	Likely	Construction activities and surface infrastructure near waterways. The pipeline alignment would traverse land within the Maitland Flood Planning Area.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		groundwater contamination	Likely	Construction activities, including excavation, near, groundwater.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		hazardous and offensive development	Likely	Operation of gas infrastructure with potential for gas fire or explosion. The pipeline will be designed in accordance with Australian Standard AS 2885.0—2008 Pipelines—Gas and liquid petroleum and Code of Environmental Practice Onshore Pipelines.	Y	Y	Y	Y	Yes	Yes	Project Specific	No	Key Issue + CIA	6.2
		land contamination	Likely	Potential contamination during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		land movement	Likely	The pipeline alignment would traverse a number of Mine Subsidence Districts.	Y	Y	Y	Y	Yes	No	Standard	Yes	Other Issue + Focussed Engagement	6.2
		waste	Likely	Generation of waste during construction.	Y	Y	Y	Y	Yes	No	Standard	No	Other Issue	6.2
		other - please specify												

Appendix D

Scoping summary table

Table D.1 Scoping summary table

Level of assessment	Matter/ issue	CIA	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Heritage - Aboriginal	√	√	*National Parks and Wildlife Act 1974* Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011 Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010	Table 6.1 and Section 6.3
	Social - social cohesion		√	Crime Prevention and the Assessment of Development Applications (section 79C of the *Environmental Planning and Assessment Act 1979*) Social Impact Assessment for State Significant Resource Projects (Department of Planning and Environment, 2017) Voluntary Land Acquisition and Migration Policy	Table 6.1 and Section 6.3
	Biodiversity - conservation areas	√	√	<u>Terrestrial</u> *Biodiversity Conservation Act 2016* Guidance on the biodiversity offset scheme Biodiversity assessment method (and associated guidance) Guidelines for development adjoining land managed by OEH <u>Aquatic</u> *Fisheries Management Act 1994* Policy and guidelines for fish habitat conservation and management NSW State groundwater dependent ecosystems policy Risk assessment guidelines for groundwater dependent ecosystems NSW wetlands policy <u>Commonwealth</u> *Environment Protection and Biodiversity Conservation Act 1999* Significant Impact Guidelines 1.1 - Matters of National Environmental Significance	Table 6.1 and Section 6.3
	Biodiversity - terrestrial flora and fauna	√	√		Table 6.1 and Section 6.3
	Biodiversity - aquatic flora and fauna	√	√		Table 6.1 and Section 6.3
	Water - hydrology		√	*Water Management Act 2000* NSW Water Sharing Plans Groundwater Quantity Management Policy NSW Aquifer Interference Policy Guidelines for Activities on Waterfront Land NSW State Rivers and Estuaries Policy	Table 6.1 and Section 6.3

Level of assessment	Matter/ issue	CIA	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Amenity - noise	√	√	*Protection of the Environment Operations Act 1997* State Environmental Planning Policy (Infrastructure) 2007 Noise Policy for Industry (2017) Interim Construction Noise Guidelines 2009 NSW Road Noise Policy 2011 Rail Infrastructure Noise Guideline 2013 Development Near Rail corridors and Busy Roads Interim Guideline 2008 Assessing Vibration: a Technical Guideline 2006 Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration 1990	Table 6.1 and Section 6.3
	Amenity - vibration		√		Table 6.1 and Section 6.3
	Amenity - visual		√	State Environmental Planning Policy No 64 (SEPP 64) - Advertising and Signage Draft Guidelines for Landscape and Visual Impact Assessment (3rd edition) Dark Sky Guideline 2016	Table 6.1 and Section 6.3
	Access - access to property		√	State Environmental Planning Policy (Infrastructure) 2007 Austroads Guide to Traffic Management – Parts 1-13 Supplements to Austroads guide NSW Bicycle Guidelines (RTA, 2005) AS 1742.9:2018 Manual of uniform traffic control devices Bicycle facilities	Table 6.1 and Section 6.3
	Access - traffic and parking	√	√		Table 6.1 and Section 6.3
	Access - road and rail facilities		√		Table 6.1 and Section 6.3
	Built environment - private property		√	*Land Acquisition (Just Terms Compensation) Act 1991*	Table 6.1 and Section 6.3
	Built environment - public land		√	*Crown Land Management Act 2016* *Local Government Act 1993*	Table 6.1 and Section 6.3
	Built environment - public infrastructure		√	*Crown Land Management Act 2016* *Local Government Act 1993*	Table 6.1 and Section 6.3
	Heritage - natural		√	*Heritage Act 1977* Australia ICOMOS Charter for the Conservation of Places of Significance, Burra Charter 2013 Assessing Significance for Historical Archaeological Sites and 'Relics' 2009 Altering Heritage Assets Design in Context – Guidelines for Infill Development in the Historic Environment 2006 Skeletal Remains; Guidelines for Management of Human Skeletal Remains 1998	Table 6.1 and Section 6.3
	Heritage - historic		√		Table 6.1 and Section 6.3

Level of assessment	Matter/ issue	CIA	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
	Social - safety		√	Social Impact Assessment for State Significant Resource Projects (Department of Planning and Environment, 2017)	Table 6.1 and Section 6.3
	Social - community services and facilities		√	Social Impact Assessment for State Significant Resource Projects (Department of Planning and Environment, 2017)	Table 6.1 and Section 6.3
	Land - capability	√	√	*Soil Conservation Act 1938* The Land and Soil Capability Scheme (Office of Environment and Heritage, 2012) Soil and Land Survey Handbooks (CSIRO, 2021) Agricultural Land Use Mapping Resources in NSW (Department of Primary Industries, 2017) Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land	Table 6.1 and Section 6.3
	Water - water quality		√	*Protection of the Environment Operations Act 1997* Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 Guidelines for Groundwater Protection in Australia (Commonwealth of Australia 2013) NSW Water and River Flow Objectives (https://www.environment.nsw.gov.au/ieo/) Using the ANZECC Guidelines and Water Quality Objectives in NSW (Department of Environment and Conservation 2006) Managing Urban Stormwater: Soils and Construction (Landcom 2004)	Table 6.1 and Section 6.3
	Water - water availability		√	*Water Management Act 2000* NSW Water Sharing Plans	Table 6.1 and Section 6.3
	Hazards and risks - biosecurity		√	*Biosecurity Act 2015* NSW Biosecurity Strategy 2013-2021	Table 6.1 and Section 6.3
	Hazards and risks - bushfire		√	*Rural Fires Act 1997* Planning for Bushfire Protection (NSW Rural Fire Service, 2006)	Table 6.1 and Section 6.3
	Hazards and risks - dangerous goods	√	√	*Dangerous Goods (Road and Rail Transport) Act 2008* *Environmentally Hazardous Chemicals Act 1985* *Radiation Control Act 1990* Australian Dangerous Goods Code	Table 6.1 and Section 6.3
	Hazards and risks - flooding		√	Flood Risk Management Guideline - Practical Consideration of Climate Change Floodplain Development Manual: The management of flood liable land	Table 6.1 and Section 6.3

Level of assessment	Matter/ issue	CIA	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
	Hazards and risks - hazardous and offensive development	√		SEPP 33 – Hazardous and Offensive Development Applying SEPP 33 Multi-level risk assessment Hazardous industry planning advisory papers (HIPAP, specifically, HIPAP no. 6)	Table 6.1 and Section 6.3
	Hazards and risks - land movement		√	*Coal Mine Subsidence Compensation Act 2017* Landslide risk management concepts and guidelines (Australian Geomechanics Society, 2000)	Table 6.1 and Section 6.3 Table 6.1 and Section 6.3
Minor	Social - housing availability			Social Impact Assessment for State Significant Resource Projects (Department of Planning and Environment, 2017)	Table 6.1 and Section 6.3
	Social - health			Social Impact Assessment for State Significant Resource Projects (Department of Planning and Environment, 2017)	Table 6.1 and Section 6.3
	Economic - livelihood			*Pipelines Act 1967* State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007	Table 6.1 and Section 6.3
	Air - particulate matter			*Protection of the Environment Operations Act 1997* National environment protection (ambient air quality) measure Approved methods for modelling and assessment of air pollutants in NSW (and related guidance) NSW climate change policy framework National greenhouse accounts factors	Table 6.1 and Section 6.3
	Air - gases				Table 6.1 and Section 6.3
	Air - atmospheric emissions				Table 6.1 and Section 6.3
	Land - stability			*Coal Mine Subsidence Compensation Act 2017* Landslide risk management concepts and guidelines (Australian Geomechanics Society, 2000)	Table 6.1 and Section 6.3
	Land - soil chemistry			Acid Sulfate Soils Manual (Acid Sulfate Soil Management Advisory Committee, 1998)	Table 6.1 and Section 6.3
	Land - topography			LIDAR – NSW Spatial Services	Table 6.1 and Section 6.3
	Hazards and risks - groundwater contamination			*Protection of the Environment Operations Act 1997* Guidelines for the assessment and management of groundwater contamination	Table 6.1 and Section 6.3

Level of assessment	Matter/ issue	CIA	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
	Hazards and risks - land contamination			*Protection of the Environment Operations Act 1997* *Contaminated Land Management Act 1997* Managing Land Contamination: Planning Guideline (SEPP 55) Guidelines on the Duty to Report Land Contamination (EPA, 2015) SEPP 55 – Remediation of Land National environment protection (assessment of site contamination) measure	Table 6.1 and Section 6.3
	Hazards and risks - waste			*Protection of the Environment Operations Act 1997* *Waste Avoidance and Resource Recovery Act 2001* Waste classification guidelines (EPA 2014) Guidance for managing industrial waste (EPA) Solid waste landfills guideline (EPA, 2016) Composting and related organics processing facilities guideline (Department of Environment and Conservation NSW, 2004) NSW energy from waste policy statement (EPA, 2015)	Table 6.1 and Section 6.3

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