

EA Amendment Application - Addendum

Proposed WN1 Pipeline

CLIENT: AGL ENERGY LTD

PROJECT NO. **J001701**
STATUS **FINAL**
DATE **19/01/2024**

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Document Control

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1 Introduction

This document is an addendum to an application by AGL to amend their Environmental Authority (EA) EPPG00304213 for Petroleum Lease (PL) 213. PL213 is in a relatively remote area, approximately 15km north-east of the township of Surat in the Maranoa Regional Council in Queensland (Figure 1). Tenure of PL213 is held by AGL Upstream Gas (Mos) Pty Limited and AGL Gas Storage Pty Limited (AGL collectively).

The original application to amend the EA to which this addendum relates, was submitted by AGL to the Department of Environment and Science (DES) on 29 September 2023 (DES application reference number A-EA-AMD-100414517). The amendment was prepared to facilitate stimulation activities for well West Noorindoo 1 (WN1). However, WN1 is not currently connected to any other infrastructure and would require a pipeline to transfer gas to market (the WN1 pipeline). The original application did not include the proposed construction and operation of the WN1 pipeline.

Pursuant to Section 236 of the *Environmental Protection Act 1994* (EP Act), AGL made a formal change request via email on 15 November 2023 to include the WN1 pipeline in the original EA amendment application. DES required that this addendum be prepared for the WN1 pipeline to support the requested change to the application.

This addendum was prepared in accordance with Sections 226 and 226A of the EP Act and the DES Guidelines *Application Requirements for Petroleum Activities* (EM705) and *Major and Minor Amendments* (ESR/2015/1684). This addendum provides detail regarding the proposed WN1 pipeline directly relating to:

- Site background and context including a description of the proposed WN1 pipeline (Section 2).
- A description of project construction and operation activities (Section 3).
- Requirements under the EP Act and the DES Guidelines *Application Requirements for Petroleum Activities* (EM705) and *Major and Minor Amendments* (ESR/2015/1684)) (Section 4), including:
 - Requirements of Sections 226 and 226A of the EP Act (Section 4).
 - Requirements of Section 223 of the EP Act and determination of a Minor Amendment (Threshold) decision (Section 4.2).
 - The EA conditions directly affected by this addendum and proposed updates (Section 4.3).
- A description of the Environmental Values (EVs) in the vicinity of the proposed WN1 pipeline (Section 5).
- Consideration of wastes associated with construction and operation of the proposed WN1 pipeline (Section 5.5).
- An assessment of the risk of potential impacts to EVs by the proposed WN1 pipeline (Section 6).

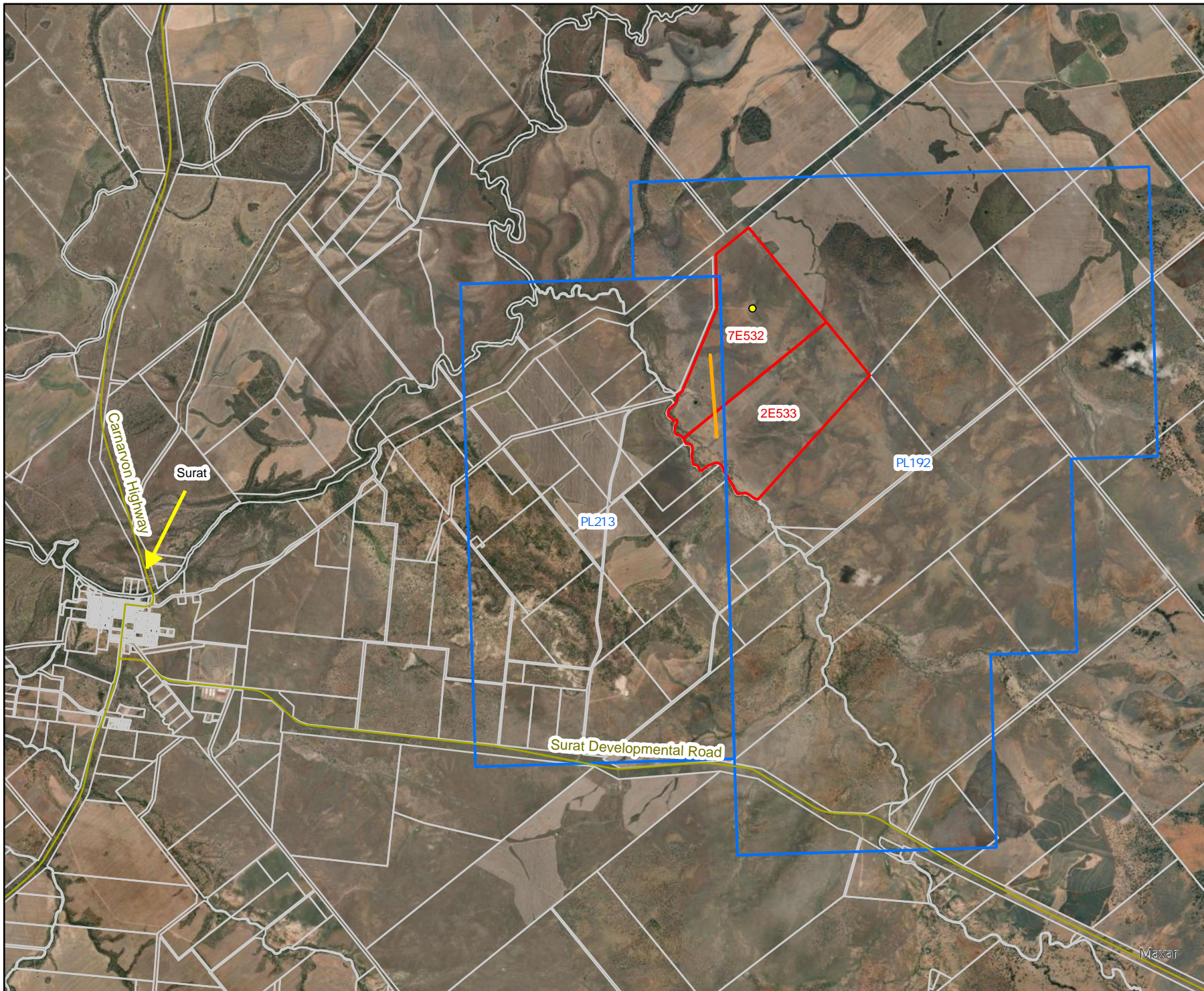


Figure 1 Site Locality

Project: EA Amendment
Addendum

Client: AGL

Project No.: J001701

Compiled by: SkyeMelton Date: 12/01/2024
Approved by: Will Gibson Date: 12/01/2024

0 1,000 2,000 Metres

Legend

- Cadastre
- Roads
- Site Boundary
- QLD Petroleum Leases
- Pipeline ROW
- CPP

The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.

Source: Cadastral data sourced from DNRME (2023). Aerial imagery sourced from NearMap (2023).



2 Site Background and Context

The proposed WN1 pipeline is a gathering line (i.e., an essential petroleum activity) to connect WN1 to Churchie West 1 (CW1) well which are separated by 1.6km (Figure 2). This will facilitate transfer of gas from WN1 to market as CW1 is already connected to market via the Churchie Processing Plant (CPP) (located on AGL's adjacent PL 192) via an existing pipeline. The WN1 pipeline alignment was selected as it minimises land disturbance and potential impacts by utilising the existing connection between the CW1 well and the CPP. No other suitable alternative pipeline alignment was identified by AGL.

Works for the WN1 pipeline are proposed on land formally described as Lot 2 on Plan E533 (WN1) and Lot 7 on Plan E532 (CW1). The land on and in the immediately vicinity of WN1, CW1 and the proposed WN1 pipeline is already highly disturbed, being currently utilised by the landowner for cattle grazing. The site is comprised of mostly native pasture, with scattered paddock trees. There are also other existing gas wells present in the local area.

The Environmentally Sensitive Area (ESA) assessment completed by Range Environmental (2023) (supplied by AGL with the original application documents) found that neither of the wells (WN1 and CW1) nor the proposed WN1 pipeline were within an ESA. The assessment found that the WN1 well and part of the proposed pipeline were within 315 m of Category B ESA (Endangered Regional Ecosystem (remnant biodiversity status)). As such, amendment of the EA to facilitate construction of the proposed WN1 pipeline within 500 m of a Category B ESA is required.

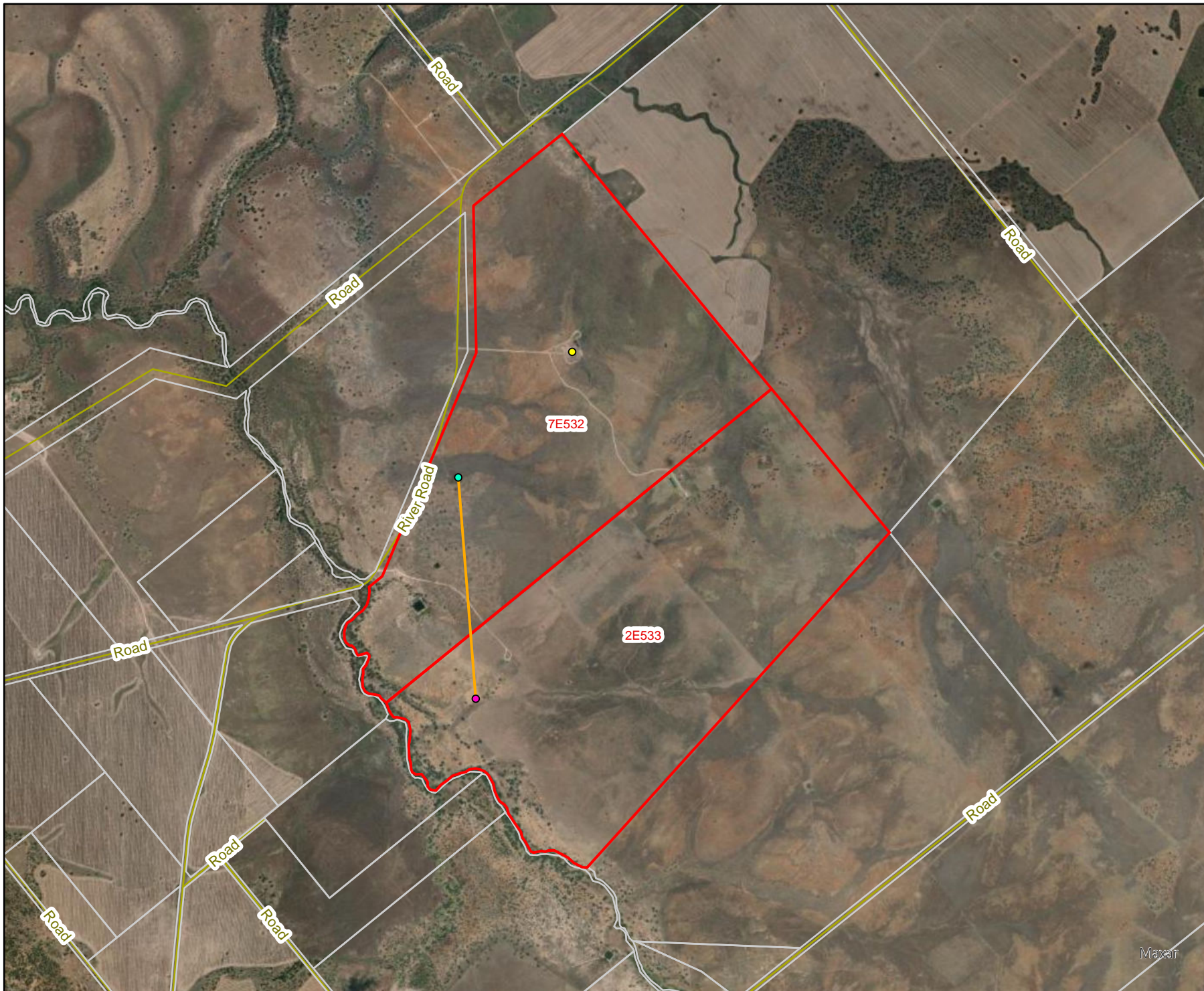


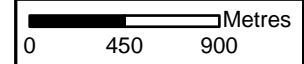
Figure 2 Proposed WN1 Pipeline

Project: EA Amendment
Addendum

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Compiled by: SkyeMelton Date: 12/01/2024
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Legend

- Cadastre
- Roads
- Site Boundary
- Pipeline ROW
- CW1
- WN1
- CPP

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Source: Cadastral data sourced from DNRME (2023). Aerial imagery sourced from NearMap (2023).



3 Description of Project Activities

A description of project activities to facilitate the construction and operation of the proposed WN1 is provided in the following sections. Table 1 summarises the details and preliminary design elements for the WN1 pipeline.

Table 1: Proposed WN1 Pipeline Details and Preliminary Design Elements

Element	Description
General	
Petroleum Lease	213
Environmental Authority	EPPG00304213
Registered Suitable Operator/s	AGL Upstream Gas (Mos) Pty Limited (RSO 659090), and AGL Gas Storage Pty Limited (RSO 663989) (AGL collectively).
Pipeline Purpose	Transfer of gas from WN1 well to CHW1 well for connection to CPP and market.
Pipeline Length	1.6km
WN1 location coordinates	-27.126125, 149.182925
CW1 location coordinates	-27.111951, 149.182156
BIM Block	CHAR 2727
Lot on Plan	Lot 2 on Plan E533 and Lot 7 on Plan E532
Construction	
ROW Width (maximum)	25m
Construction Disturbance Footprint (maximum)	Up to 4 hectares (ha)
Estimated Construction Timeframe	May – October 2024 for dry weather
Pipeline Type	Shawcor Flexpipe (HDPE, fibreglass reinforced)
Pipeline Diameter	130mm (outside), 99mm (inside)
Operation	
ROW Width (maximum)	15m
Operational Footprint (maximum)	2.4ha
Maximum Allowable Operating Pressure (MAOP)	1500psi
Maximum Operating Pressure	1440psi
Safety Management	<ul style="list-style-type: none"> High and low-pressure alarms and trips. Wellhead pressure safety valve. Controlled pressurisation and depressurisation.
Design Life	20 years or on decommissioning of well WN1.
Decommissioning	In-situ

Construction activities will be subject to a site-specific Construction Environmental Management Plan that will be prepared by AGL and distributed to its employees and contractors. AGL has contractor management procedures in place to ensure contractors are pre-qualified for the works and have suitable HSE documentation in place. The construction ROW will be fenced (using either electric fencing or flagging). Mobile fuel tankers will be used to refuel machinery during construction activities. Standard construction site controls (i.e., spill kits, supervised refuelling) to manage spills/leaks during refuelling will be employed.

3.3.2 Temporary Ancillary Infrastructure

Well pads will be utilised to house a temporary site office and laydown area for construction materials during construction activities. All sewage would be contained and removed from site by an appropriately licensed waste contractor (using 'port-a-loos' or similar).

3.3.3 Construction Commencement and Duration

The pipeline will be constructed during the dry months (expected to be between May – October 2024) to align with an anticipated October 2024 commencement date for the proposed stimulation of WN1. The duration of construction will be weather dependent and is anticipated to be between 30-60 days from breaking ground to reinstatement and rehabilitation.

3.3.4 Construction Workforce

The construction workforce would comprise a maximum 10 people onsite at any one time, working from 7am – 4pm Monday through Friday). There will be no accommodation camp required as the workforce will be accommodated locally in Surat. Potable water will likely be sourced from the AGL Churchie facility (treated bore water).

3.3.5 Construction Water Source

Construction water will most likely be sourced from the AGL CPP facility (untreated bore water) or alternatively from the Surat standpipe (operated by Council), should it be required.

3.3.6 Stormwater Management

The proposed WN1 pipeline will be constructed on land that comprises deep cracking black soils which are part of the Mitchell Grasslands land type and are reported to be sodic to strongly sodic below 30 cm (Future Beef, 2022¹). A site-specific Erosion and Sediment Control Plan (ESCP) shall be prepared for the construction phase that considers the soil type and sub-soil sodicity. With the implementation of the ESCP, flat terrain (1.3%), the short construction timeframe, scheduling of the construction during the dry months and proposed soil profile and groundcover reinstatement (refer to Section 3.4) the risk of erosion was deemed low.

Should the site experience heavy storms during construction, there may be a need to dewater the trench. Given the quality of the soil, this will not cause erosion. Any stormwater event will be managed in accordance with AGL's Silver Springs Project Environmental Management Plan (Operations Phase) Version 2.1 – June 2022.

3.4 Construction Rehabilitation

Rehabilitation of the pipeline construction ROW will be undertaken in accordance with the requirements of the EA and will reinstate the land to its former use (native grazing pastures). Rehabilitation activities to be completed during construction will include:

- Backfilling the trench as soon as practicable (during construction) to reinstate the soil profile.

¹ Future Beef. 2022. Maranoa Balonne grazing Land Management Region – Mitchell Grasslands (MBO9). Available online at [MB09-Mitchell-grasslands-v4.0.pdf \(futurebeef.com.au\)](#)

- Re-seeding with native pasture grasses (consistent with the surrounding vegetation and land use).
- Spreading of previously cleared vegetation over the ROW to protect seeds and soil from environmental factors such as rain and wind.
- Monitoring by AGL.

Rehabilitation success will be determined by the following factors:

- A landform which is stable and consistent with the surrounding land features and land use:
- No subsidence or erosion gullies.
- A soil profile consistent with the surrounding soils.
- Revegetated with native pasture grasses suitable for the grazing of cattle (current land use).

The final construction ROW width will be reduced to a maximum of 15m for operations.

The rehabilitation and monitoring of the WN1 pipeline ROW will be managed in accordance with the AGL's Silver Springs Project Environmental Management Plan (Operations Phase) Version 2.1 – June 2022 (Appendix C of original application) and any subsequent editions.

3.5 Pipeline Operation and Maintenance

The WN1 pipeline will be managed as part of AGL's Surat Basin Tenements and in accordance with the AGL's Silver Springs Project Environmental Management Plan (Operations Phase) Version 2.1 – June 2022 (Appendix C of original application) and AS 2885.3: *Pipelines Gas and Liquid Petroleum, Part 3 – Operation and Maintenance*.

The final operational ROW width will be a maximum of 15m, which AGL may consider reducing to 8m, assuming there will be no future pipelines in the ROW. The pipeline will be cleaned regularly using pipeline inspection gauges (PIGs).

3.5.1 Decommissioning

When no longer required, the WN1 pipeline will be decommissioned in-situ and in accordance with AS 2885.3: *Pipelines Gas and Liquid Petroleum, Part 3 – Operation and Maintenance*.

4 Legislative Requirements

This application has been prepared in accordance with Sections 226, 226A and 236 (changing amendment application) of the EP Act, the DES Guidelines *Application Requirements for Petroleum Activities* (EM705) and *Major and Minor Amendments* (ESR/2015/1684) and as such is a properly made application. It is important to note that Section 227 does not apply as AGL does not undertake CSG activities.

The requirements provided in Sections 226 and 226A of the EP Act, determination of a major or minor amendment, and the proposed amendment for the EA, as it applies to the WN1 pipeline, are described in the following sections.

4.1 Requirements for EA Amendment Applications

Section 226 of the EP Act provides the following general requirements for amendment applications (Table 2).

Table 2: EP Act Section 226 - Requirements for amendment applications generally

Requirements for Amendment Applications	Response
(1) An amendment application must—	
(a) be made to the administering authority; and	The original application to amend the EA to which this addendum relates, was submitted by AGL to DES on 29 September 2023 (DES application reference number A-EA-AMD-100414517).
(b) be in the approved form; and	This addendum was prepared in accordance with Sections 226 and 226A of the EP Act and the DES Guidelines <i>Application Requirements for Petroleum Activities</i> (EM705) and <i>Major and Minor Amendments</i> (ESR/2015/1684). This addendum provides detail regarding the proposed WN1 pipeline.
(c) be accompanied by the fee prescribed by regulation; and	The application fee for the EA amendment was paid by AGL on submission of the original amendment.
(d) describe the proposed amendment; and	The proposed WN1 pipeline is to connect WN1 to Churchie West 1 (CW1) well which are separated by a distance of 1.6km. This will facilitate transfer of gas from WN1 to market as CW1 is already connected to market via the Churchie Processing Plant (CPP) (located on AGL's adjacent PL 192) via an existing pipeline.
(e) describe the land that will be affected by the proposed amendment; and	PL213 is located in a relatively remote area, approximately 15km north-east of the township of Surat. Works for the WN1 pipeline are proposed on land formally described as Lot 2 on Plan E533 and Lot 7 on Plan E532. The land on and in the immediately vicinity the proposed WN1 pipeline is already highly disturbed, being currently utilised by the landowner for cattle grazing. The site is comprised of mostly native pasture, with scattered paddock trees. There are also other existing gas wells present in the local area.
(f) include any other document relating to the application prescribed by regulation.	Not applicable.

(2) However, subsection (1)(d) and (e) does not apply to an application for a condition conversion.	This addendum does not relate to a condition conversion.
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Section 226A of the EP Act describes the requirements for EA amendment applications. Table 3 below provides reference to Section 226A as it relates to the WN1 pipeline.

Table 3: EP Act Section 226A – Requirements for Amendment Applications for Environmental Authorities – Response

Requirements for EA Amendment Applications	Response
(1) If the amendment application is for the amendment of an environmental authority, the application must also –	
(a) describe any development permits in effect under the Planning Act for carrying out the relevant activity for the authority; and	The proposed WN1 pipeline will be constructed wholly within the bounds of PL213 and does not relate to any development permit under the <i>Planning Act 2016</i> .
(b) state whether each relevant activity will, if the amendment is made, comply with the eligibility criteria for the activity; and	The proposed WN1 pipeline will not comply with eligibility criterion PPEC 1 for petroleum pipeline activities (Version 2, EM930) as it will be constructed within PL213. Therefore, a Pipeline Licence (PPL) is not required.
(c) if the application states that each relevant activity will, if the amendment is made, comply with the eligibility for the activity – include a declaration that the statement is correct; and	The proposed WN1 pipeline will not comply with the eligibility criterion PPEC 1 for petroleum pipeline activities (Version 2, EM930) as it will be constructed within PL213. Therefore, a Pipeline Licence (PPL) is not required.
(d) state whether the application seeks to change a condition identified in the authority as a standard condition; and	This addendum seeks to Condition 4(b) which does not allow significant disturbance within 500m of a Category B ESA. The proposed location of WN1 is 315 m from a Category B ESA.
(e) if the application relates to a new relevant resource tenure for the authority that is an exploration permit or GHG permit – state whether the applicant seeks an amended environmental authority that is subject to the standard conditions for the relevant activity or authority, to the extent it relates to the permit; and	This addendum does not relate to a new relevant resource tenure for the authority that is an exploration permit or GHG permit.
(f) include an assessment of the likely impact of the proposed amendment on the environmental values, including –	Section 5 of this addendum and Section 3 of original EA amendment application document.
(i) a description of the environmental values likely to be affected by the proposed amendment; and	
(ii) details of emissions or releases likely to be generated by the proposed amendment; and	Section 5 of this addendum and Section 3 of original EA amendment application document.
(iii) a description of the risk and likely magnitude of impacts on the environmental values; and	Section 6 of this addendum and Section 6 of original EA amendment application document.

Requirements for EA Amendment Applications	Response
(iv) details of the management practices proposed to be implemented to prevent or minimise adverse impacts; and	Section 6 of this addendum and Section 6 of original EA amendment application document.
(v) if a PRCP schedule does not apply for each relevant activity – details of how the land the subject of the application will be rehabilitated after each relevant activity ends; and	Section 3.4 of this addendum.
(g) include a description of the proposed measures for minimising and managing waste generated by amendments to the relevant activity; and	Sections 5.5 and 6 of this addendum and Section 3.4 of original EA amendment application document.
(h) include details of any site management plan or environmental protection order that relates to the land the subject of the application.	Lot 7 on Plan E532 and Lot 2 on Plan E533 (the land the subject of this application) are not under any site management plan or environmental protection order. EMR/CLR search results are provided in Appendix A.
(2) Subsection (1)(f) does not apply for an amendment application for an environmental authority if – (a) either – (i) the process under chapter 3 for an EIS for the proposed amendment has been completed; or (ii) the Coordinator-General has evaluated an EIS for the proposed amendment and there are Coordinator-General's conditions that relate to the proposed amendment; and (b) an assessment of the environmental risk of the proposed amendment would be the same as the assessment in the EIS mentioned in paragraph (a)(i) or the evaluation mentioned in paragraph (a)(ii).	The proposed WN1 pipeline does not meet the criteria for the EIS process either under the EP Act, or the <i>State Development and Public Works Organisation Act 1971</i> (SDPWO Act).
(3) Also, subsection (1) (a), (d), (e), (f), (g) and (h) does not apply to an application for a condition conversion.	The proposed WN1 pipeline, the subject of this addendum to the EA amendment application, is not an application for a condition conversion.
(4) Despite subsection (1) (f), (g) and (h), if the amendment application is for an environmental authority for the prescribed ERA mentioned in the <i>Environmental Protection Regulation 2019</i> , Schedule 2, Section 13A – (a) it need only include the matters mentioned in subsection (1) (f) (i) to (iv), (g) and (h) to the extent the matters relate to fine sediment, or dissolved inorganic nitrogen, entering the water of the Great Barrier Reef or Great Barrier Reef catchment waters; and (b) subsection (1) (f) (v) does not apply for the amendment application.	This addendum does not require approval for a prescribed ERA as defined in Schedule 2 of the <i>Environmental Protection Regulation 2019</i> (EP Regulation).

4.2 Minor Amendment Determination

Pursuant to Section 223 of the EP Act, an application to amend an EA may be determined to be a Minor Amendment if it meets the definition for a Minor Amendment (Threshold). Criteria for a Minor Amendment (threshold) of an EA and the corresponding response is provided in Table 4, which demonstrates that the proposed WN1 pipeline meets the legislative criteria for a Minor Amendment (Threshold).

Table 4: EP Act Section 223 – Minor Amendment (Threshold) Criteria – Response

Minor Amendment (Threshold) Criteria	Response
A minor amendment (threshold), for an environmental authority, means an amendment that:	
<p>(a) is not a change to a condition identified in the authority as a standard condition, other than -</p> <ul style="list-style-type: none"> (i) a change that is a condition conversion; or (ii) a change that is not a condition conversion but that replaces a standard condition of the authority with a standard condition for the environmentally relevant activity to which the authority relates; or (iii) a change that will not result in a change to the impact of the relevant activity on an environmental value; and 	<p>COMPLIES</p> <p>The proposed amendment is a change to Standard Condition 4 to reflect contemporary conditioning for petroleum activities as provided in the <i>Streamlined model conditions for petroleum activities</i> (DES, 2016²).</p> <p>The proposed WN1 pipeline is within 315 m of a Category B Endangered RE ESA. Condition 4b of the EA currently prohibits significant disturbance within 500 m of a Category B ESA.</p> <p>The proposed WN1 pipeline is an ‘essential petroleum activity’ (i.e., a gathering line). Biodiversity Condition 8 in the contemporary streamlined model conditions allows for essential petroleum activities within the primary (200m) and secondary (100 m) protection zones of Category B Endangered RE ESA. It is noted that the proposed WN1 pipeline is outside the primary and secondary protection zones of the Category B ESA.</p> <p>The proposed amendment is not a change that will result in a change to the impact of the activity on an environmental value.</p>
<p>(b) does not significantly increase the level of environmental harm caused by the relevant activity; and</p>	<p>COMPLIES</p> <p>The proposed construction and operation of the WN1 pipeline will not significantly increase the level of environmental harm caused by the relevant activity. The WN1 pipeline alignment was selected as it minimises land disturbance and potential impacts by utilising the existing connection between the CW1 well and the CPP. No other suitable alternative pipeline alignment was identified by AGL.</p> <p>The assessment of environmental values and the environmental risk assessment demonstrated that the risk of adverse environmental impacts from the proposed construction and operation of the WN1 pipeline is low, mainly because:</p> <ul style="list-style-type: none"> • The ROW maximises the use of areas of pre-existing disturbance from cattle grazing which have limited environmental values. Works will not occur within a waterbody, ESA, MSES or MNES. • The local area is heavily disturbed and dominated by a grassland community with

² DES. 2016. *Streamlined model conditions for petroleum activities*. ESR/2016/1989 (v2.02).

Minor Amendment (Threshold) Criteria	Response
	<p>only sparse paddock trees. Very limited clearing of woody vegetation or deep-rooted vegetation will be required.</p> <ul style="list-style-type: none"> • Standard construction site controls (i.e., spill kits, supervised refuelling) to manage spills/leaks during refuelling will be employed. • An ESCP will be prepared which will consider soil properties such as potentially dispersive sub-soil chemistry. • Land is relatively flat and very gently falls to the west at a slope of 1.3%. This will minimise erosion risk as well as the short construction timeframe (30-60 days). • The land is in a GDE exclusion zone and therefore has limited groundwater recharge or discharge zone potential. • The ROW will be rehabilitated to minimise land degradation and return the land to a condition suitable for the continuation of grazing. • The proposed WN1 pipeline will not affect landscape ecological connectivity or function as it will not cause isolation, fragmentation, edge effects or dissection of tracts of native vegetation. <p>The proposed amendment required by this addendum is a change to condition 4 of the EA to reflect contemporary streamlined model conditions allows for essential petroleum activities. Under the model conditions, the proposed WN1 pipeline which is an 'essential petroleum activity' would be outside the primary and secondary protection zones of the Category B ESA.</p>
(c) does not change any rehabilitation objectives stated in the authority in a way likely to result in significantly different impacts on environmental values than the impacts previously permitted under the authority; and	<p>COMPLIES</p> <p>The proposed amendment does not change any of the rehabilitation objectives stated in EA likely to result in significantly different impacts on environmental values than the impacts previously permitted under the authority.</p> <p>The proposed amendment required by this addendum is a change to condition 4 of the EA to reflect contemporary streamlined model conditions allows for essential petroleum activities. Under the model conditions, the proposed WN1 pipeline which is an 'essential petroleum activity' would be outside the primary and secondary protection zones of the Category B ESA.</p>
(d) does not significantly increase the scale or intensity of the relevant activity; and	<p>COMPLIES</p> <p>The WN1 pipeline alignment was selected as it minimises land disturbance and potential impacts by utilising the existing connection between the CW1 well and the CPP. No other suitable alternative pipeline alignment was identified by AGL.</p> <p>The proposed EA amendment will not significantly increase the scale or intensity of current activities on PL213, given the proposed pipeline is only some 1600m in length with a total maximum disturbance footprint of up to 4 ha.</p> <p>PL213 has a total area of 4577ha in total area. Based on a maximum disturbance footprint of 4 ha,</p>

Minor Amendment (Threshold) Criteria	Response
	the proposed WN1 pipeline would constitute an area of significant disturbance that is 0.1% of PL213.
(e) does not relate to a new relevant resource tenure for the authority that is - (i) a new mining lease; or (ii) a new petroleum lease; or (iii) a new geothermal lease under the Geothermal Energy Act; or (iv) a new GHG injection and storage lease under the GHG Storage Act; and	NOT APPLICABLE The proposed EA amendment does not relate to a new relevant resource tenure.
(f) involves an addition to the surface area for the relevant activity of no more than 10% of the existing area; and	COMPLIES The proposed EA amendment does not involve an addition to the surface area for the relevant activity of more than 10% of the existing area. PL213 has a total area of 4577ha in total area. Based on a maximum disturbance footprint of 4 ha, the proposed WN1 pipeline would constitute an area of significant disturbance that is 0.1% of PL213.
(g) for an environmental authority for a petroleum activity - (i) involves constructing a new pipeline that does not exceed 150km; or (ii) involves extending an existing pipeline so that the extension does not exceed 10% of the existing length of the pipeline; and	COMPLIES The proposed amendment is for a new 1.6 km pipeline. It does not involve the construction of a new pipeline that exceeds 150km and is not for the extension of an existing pipeline.
(h) if the amendment relates to a new relevant resource tenure for the authority that is an exploration permit or GHG permit - seeks, in the amendment application under Section 224, an amended environmental authority that is subject to the standard conditions for the relevant activity or authority, to the extent it relates to the permit.	NOT APPLICABLE The proposed amendment does not relate to a new relevant resource tenure that is an exploration permit or GHG permit.

4.3 Proposed EA Amendment

To facilitate the construction of the WN1 pipeline, the EA condition provided in Table 5 requires amendment. Justification for the amendment of this condition is provided below.

Table 5: EA Conditions Requiring Amendment

Number	Condition
4 – Environmentally Sensitive Areas	The holder of the environmental authority must ensure that petroleum activities: (b) do not cause a significant disturbance within 1 km of a Category A ESA or within 500m of a Category B ESA.

The well WN1 is already located in the buffer zone of a Category B ESA (located approximately 315m away). Construction of the WN1 pipeline will be unable to meet the requirements of Condition 4(b) as works that cause significant ground disturbance will be required within 315 m of a Category B ESA. The proposed amendment to Condition 4 of the EA is provided in Table 6. The proposed amendment is consistent with Biodiversity Condition 8 of the *Streamlined model conditions for petroleum activities* (DES, 2016).

Table 6: Proposed Amendment to EA EPPG00304213

Number	Condition																																				
4 – Environmentally Sensitive Areas	<p>Where petroleum activities are to be carried out in environmentally sensitive areas or their protection zones, the petroleum activities must be carried out in accordance with Protection of Biodiversity Values, Table 1— Authorised petroleum activities in environmentally sensitive areas and their protection zones.</p> <p>Protecting biodiversity values, Table 1—Authorised petroleum activities in environmentally sensitive areas and their protection zones</p> <table border="1"> <thead> <tr> <th>Environmentally sensitive area</th> <th>Within the environmentally sensitive area</th> <th>Primary protection zone of the environmentally sensitive area</th> <th>Secondary protection zone of the environmentally sensitive area</th> </tr> </thead> <tbody> <tr> <td>Category A environmentally sensitive areas</td> <td>No petroleum activities permitted.</td> <td>Only <u>low impact petroleum activities</u> permitted.</td> <td>Only essential petroleum activities permitted.</td> </tr> <tr> <td>Category B environmentally sensitive areas that are other than 'endangered' regional ecosystems</td> <td>Only low impact petroleum activities permitted.</td> <td>Only low impact petroleum activities permitted.</td> <td>Only essential petroleum activities permitted.</td> </tr> <tr> <td>Category B environmentally sensitive areas that are 'endangered' regional ecosystems</td> <td>Only low impact petroleum activities permitted.</td> <td>Only essential petroleum activities permitted.</td> <td>Only essential petroleum activities permitted.</td> </tr> <tr> <td>Category C environmentally sensitive areas that are 'nature refuges' or 'koala habitat'</td> <td>Only low impact petroleum activities permitted.</td> <td>Only low impact petroleum activities permitted.</td> <td></td> </tr> <tr> <td>Category C environmentally sensitive areas that are 'essential habitat', 'essential regrowth habitat', or 'of concern' regional ecosystems</td> <td>Only low impact petroleum activities permitted.</td> <td>Only essential petroleum activities permitted.</td> <td></td> </tr> <tr> <td>Category C environmentally sensitive areas that are 'regional parks' (previously known as 'resources reserves')</td> <td>Only essential petroleum activities permitted.</td> <td>Only essential petroleum activities permitted.</td> <td></td> </tr> <tr> <td>Category C environmentally sensitive areas that are 'state forests' or 'timber reserves'</td> <td>Only essential petroleum activities permitted.</td> <td>Petroleum activities permitted.</td> <td></td> </tr> <tr> <td>Areas of vegetation that are 'critically limited'</td> <td>Only low impact petroleum activities permitted.</td> <td>Only essential petroleum activities permitted.</td> <td></td> </tr> </tbody> </table>	Environmentally sensitive area	Within the environmentally sensitive area	Primary protection zone of the environmentally sensitive area	Secondary protection zone of the environmentally sensitive area	Category A environmentally sensitive areas	No petroleum activities permitted.	Only <u>low impact petroleum activities</u> permitted.	Only essential petroleum activities permitted.	Category B environmentally sensitive areas that are other than 'endangered' regional ecosystems	Only low impact petroleum activities permitted.	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.	Category B environmentally sensitive areas that are 'endangered' regional ecosystems	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.	Only essential petroleum activities permitted.	Category C environmentally sensitive areas that are 'nature refuges' or 'koala habitat'	Only low impact petroleum activities permitted.	Only low impact petroleum activities permitted.		Category C environmentally sensitive areas that are 'essential habitat', 'essential regrowth habitat', or 'of concern' regional ecosystems	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.		Category C environmentally sensitive areas that are 'regional parks' (previously known as 'resources reserves')	Only essential petroleum activities permitted.	Only essential petroleum activities permitted.		Category C environmentally sensitive areas that are 'state forests' or 'timber reserves'	Only essential petroleum activities permitted.	Petroleum activities permitted.		Areas of vegetation that are 'critically limited'	Only low impact petroleum activities permitted.	Only essential petroleum activities permitted.	
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5 Description of Environmental Values

A description of the environmental values (EVs) which may be impacted by the proposed WN1 pipeline (as required by Section 226A of the EA Act) is provided in the following sections.

- Air and noise.
- Land and land use.
- Biodiversity.
- Waste.
- Waters.

5.1 Air

PL213 is in a pastoral area which is sparsely populated. The closest sensitive receptor to the proposed WN1 pipeline is the landowner's residence approximately 2.5km away (refer Section 4 of original document). Dust suppression will be undertaken as required during construction.

Ambient air quality in the region is expected to be protective of EVs as outlined in the *Environmental Protection (Air) Policy 2019*. It is likely that the Air Quality Objectives to protect air quality at sensitive receptors will be met due to the remote and rural setting in which PL213 is located. Further, combined with the limited construction timeframe and scale, implementation of standard construction dust controls and the limited operational sources of air emissions from the proposed WN1 pipeline, there will be no adverse impacts to air because of the construction and operation of the proposed WN1 pipeline.

5.2 Noise

The background noise levels experienced around PL213 are consistent with a remote and rural setting which experiences pastoral activities. Construction noise levels are expected to be protective of EVs outlined in the *Environmental Protection (Noise) Policy 2019*. It is likely that the Acoustic Quality Objectives to protect noise EVs at sensitive receptors are being met due to the remote and rural setting. Further, the nearest closest sensitive receptor is at a distance, being the landowner's residence located approximately 2.5km from the proposed WN1 pipeline.

In addition, given the limited construction timeframe of 30-60 days and the fact that there will be no operational noise sources from the proposed WN1 pipeline, it is anticipated that there will be no adverse noise impacts to sensitive receptors and noise EVs from construction or operation activities for the WN1 pipeline.

5.3 Land and Land Use

5.3.1 Land Use

As previously discussed, PL213 is in a rural area some 15km north-east of the town of Surat. The local area is highly disturbed due to the dominant land uses of grazing and cropping. The current land use in the immediate vicinity of the proposed WN1 pipeline is cattle grazing, with AGL's infrastructure (gas wells and associated infrastructure) also present. The disturbance area for the construction of the WN1 pipeline will be rehabilitated as per Section 3.4 to allow the ROW to return to cattle grazing use.

5.3.2 Soils

The proposed WN1 pipeline will be constructed on land that comprises deep cracking black soils which are part of the Mitchell Grasslands land type and are reported to be sodic to strongly sodic

below 30 cm (Future Beef, 2022³). An Erosion and Sediment Control Plan (ESCP) shall be prepared for the construction phase that considers the soil type and sub-soil sodicity.

With the implementation of the ESCP, flat terrain (1.3% slope), the short construction timeframe, scheduling of the construction during the dry months and proposed soil profile and groundcover reinstatement (refer to Section 3.4) the risk to soil resources and water quality from erosion and sedimentation was deemed low.

5.3.3 Land Contamination Registers

Lot 7 on Plan 532 and Lot 2 on Plan 533 are not included on the Environmental Management Register (EMR) or Contaminated Land Register (CLR) (Appendix A) and are not under any site management plan.

5.3.4 Acid Sulphate Soils

Acid sulphate soils (ASS) are a characteristic feature of marine and estuarine sediments in low lying coastal environments, particularly where landform elevations are below 5 m Australian Height Datum (AHD). PL213 is at an elevation of 250 m AHD and not located in a suitable geomorphic setting for ASS. Queensland Globe mapping does not show PL213 within an ASS hazard area.

5.3.5 Regional Interest Areas

The WN1 pipeline is not located within or immediately adjacent to a Regional Interest Area (e.g., Priority Agricultural Area (PAA), Priority Living Area (PLA), Strategic Environmental Area (SEA) or Strategic Cropping Area (SCA)) under the *Regional Planning Interests Act 2014*. Land mapped as a SCA is located over 200 m to the south and west of the proposed pipeline, but this area will not be disturbed by construction or operation of the WN1 pipeline.

5.3.6 Heritage

5.3.6.1 Built Heritage

A search of the Queensland Heritage Register found that there were no places of historic significance on or in the vicinity of the proposed WN1 pipeline. The Maranoa Regional Council's Local Plan for Surat, Wycombe, Teelba and District confirmed that the closest historic places to the project site are located in Surat, some 15km south-west of PL213, namely the Astor Theatre and Warroo Shire Hall.

Given these findings, and the remote location of the proposed WN1 pipeline, there will be no adverse impacts to historic heritage because of proposed activities.

5.3.6.2 Cultural Heritage

Mandandanji Cultural Heritage Services conducted a cultural heritage assessment of the proposed WN1 pipeline location on 12 December 2023 (Appendix C). The assessment was conducted in accordance with the *Aboriginal Cultural Heritage Act 2003* and determined that there was no visible evidence to suggest the presence of cultural heritage on site. The activity was cleared to proceed without further involvement.

Should items of cultural heritage be found during construction activities, activities shall immediately cease so further assessment be conducted.

5.4 Biodiversity

The proposed WN1 pipeline has a low potential to adversely impact biodiversity values because of the following:

- The ROW maximises the use of areas of pre-existing disturbance from cattle grazing which have limited biodiversity value (refer to below sections).

³ Future Beef. 2022. Maranoa Balonne grazing Land Management Region – Mitchell Grasslands (MB09). Available online at [MB09-Mitchell-grasslands-v4.0.pdf \(futurebeef.com.au\)](#)

- The local area is heavily disturbed and dominated by a grassland community with only sparse paddock trees. Very limited clearing of woody vegetation or deep-rooted vegetation will be required.
- An ESCP will be prepared which will consider soil properties such as potentially dispersive sub-soil chemistry.
- Land is relatively flat and very gently falls to the west at a slope of 1.3%. This will minimise erosion risk as well as the short construction timeframe.
- The selected ROW avoids areas of biodiversity value, and the works will include rehabilitation to minimise land degradation and return the land to a condition suitable for the continuation of grazing.
- The proposed WN1 pipeline will not affect landscape ecological connectivity or function as it will not cause isolation, fragmentation, edge effects or dissection of tracts of native vegetation.

5.4.1 Threatened Flora and Fauna

Results of the ground truthing study by Range Environmental (2023) for the ESA assessment indicated that there was a low risk of threatened flora and fauna occurring within or adjacent to the WN1 pipeline for the following reasons:

- The previous high level of disturbance by cattle grazing limited habitat for threatened flora and fauna.
- Biomaps mapping showed no conservation significant species recorded within 1 km of the WN1 pipeline.
- The proposed pipeline is not in a high-risk area for protected plants.

5.4.2 Environmentally Sensitive Areas

Range Environmental Consultants completed an assessment of Environmentally Sensitive Areas (ESA) for the land within 500 m of the proposed WN1 pipeline (Appendix A of the original document).

The desktop component of the ESA assessment identified no mapped ESA within the footprint of the proposed WN1 pipeline. However, a mapped Category B Environmentally Sensitive Area (ESA), being regional ecosystem (RE) 11.3.17 (Vegetation Community 2) was located adjacent to the southern end of the proposed WN1 pipeline. RE 11.3.17 comprises scattered native canopy species, limited shrub layer and grasses. Ground-truthing demonstrated that the Category B ESA was located 315m south-west of the proposed pipeline in association with a dry drainage line (Figure 4). The Category B ESA will not be directly or indirectly impacted by the construction and operation of the proposed WN1 pipeline. However, Condition 4(b) of the current EA does not allow significant disturbance within 500m of a Category B ESA. An amendment to the EA is required to facilitate transfer of gas from WN1 to market via the construction and operation of the WN1 pipeline (an essential petroleum activity).

A Category C ESA occurred 500 m south of the proposed pipeline (Figure 4). It consisted of RE 11.3.25 comprising native canopy species, mixed composition understory and grasses (Vegetation Community 3). The Category C ESA will not be directly or indirectly impacted by the construction and operation of the proposed WN1 pipeline.

No Category A ESA occurred within 1 km of the pipeline.

5.4.3 Matters of State Environmental Significance (MSES)

The only mapped MSES within or adjacent to the proposed WN1 pipeline included (Figure 5):

- MSES Regulated Vegetation (defined watercourse) – this mapped feature is intersected by the southern end of the proposed WN1 pipeline near the WN1 well.
- MSES Regulated Vegetation (Category B – Endangered or Of Concern Regional Ecosystem) – mapped 50 m west from the centreline of the proposed WN1 pipeline.

The vegetation intersected by the proposed WN1 pipeline was confirmed by Range Environmental during the ESA assessment to be Category B Regulated Vegetation containing Regional Ecosystem 11.9.3. This RE is classified as a Least Concern RE that has a structure category of Woody Grassland and is a prescribed RE under the Environmental Offsets Regulation 2014. There is a mapped first order stream at the southern end of the proposed WN1 pipeline which is classified as a MSES Regulated Vegetation (defined watercourse). Imagery in Queensland Globe demonstrates that the watercourse mapping at this location is inaccurate, as the defined channel of this watercourse is approximately 50 m south of the mapped location (i.e., outside the WN1 pipeline ROW). Although the WN1 pipeline will not occur within this MSES, a conservative approach was taken and an assessment of the potential impacts of the proposed WN1 pipeline on the mapped MSES was conducted.

Clearing of the least concern grassland RE (11.9.3) will be required for the establishment of the ROW and construction of the proposed pipeline. Based on the MSES mapping, this clearing would occur within the mapped location of the MSES watercourse (as noted earlier this mapping is inaccurate and the watercourse occurs outside the ROW). This would also be within the defined distance of a watercourse (5 m). With reference to Section 2 of the Significant Residual Impact guideline (DEHP, 2014⁴), the proposed works for the WN1 pipeline would not constitute a Significant Residual Impact (SRI) on the MSES Regulated Vegetation (defined watercourse) because the width of clearing the grassland RE will not exceed 25m.

Works for the proposed WN1 pipeline will not involve any clearing of the mapped MSES Regulated Vegetation (Category B – Endangered or Of Concern Regional Ecosystem) to the west (i.e., no direct impacts). Furthermore, controls will be in place such as erosion and sediment controls and rehabilitation to ensure that there are indirect impacts such as sediment deposition on the mapped MSES Regulated Vegetation (Category B – Endangered or Of Concern Regional Ecosystem). With reference to Section 2 of the Significant Residual Impact guideline (DEHP, 2014), the proposed WN1 pipeline will not have an SRI on the mapped MSES Regulated Vegetation (Category B – Endangered or Of Concern Regional Ecosystem).

The construction and operation of the proposed WN1 pipeline will not have an SRI on MSES. Therefore, no environmental offsets are required for the proposed WN1 pipeline under the *Environmental Offsets Act 2014*.

5.4.4 Matters of National Environmental Significance (MNES)

The Protected Matters Search Tool (PMST) (Appendix B) identified three (3) Threatened Ecological Communities (TEC), four (4) threatened flora and 22 threatened fauna species which may potentially occur within one kilometre of the proposed WN1 pipeline (listed under the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)). The PMST is a predictive model and as such, does not necessarily mean that these communities or species have been previously recorded in the area.

Results of the ground truthing study by Range Environmental (2023) for the ESA assessment indicated that there was a low risk of MNES occurring within or adjacent to the WN1 pipeline for the following reasons:

- The previous high level of disturbance by cattle grazing limited habitat for threatened flora and fauna.
- Biomaps mapping showed no conservation significant species recorded within 1 km of the WN1 pipeline.
- Three (3) Regional Ecosystems (RE) were observed within 500 m of the WN1 pipeline, these are summarised below against the TEC criteria:
 - VC1: RE 11.9.3 – This RE is part of the Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin Endangered TEC. However, the location of

⁴ DEHP. 2014. Queensland Environmental Offsets Policy - Significant Residual Impact Guideline. Available online at [Significant Residual Impact Guideline \(des.qld.gov.au\)](https://des.qld.gov.au/significant-residual-impact-guideline)

the WN1 pipeline is within the Brigalow Belt Subregion 29 (Weribone High) in southern QLD which is outside the range of this TEC which occurs in central QLD. Therefore, this RE does not constitute a TEC.

- VC2: RE 11.3.17 – This RE is part of the Poplar Box Grassy Woodlands on Alluvial Plains Endangered TEC and is a Category B ESA. It is located at least 315 m from the WN1 pipeline. It will not be directly or indirectly affected by the construction and operation of the WN1 pipeline.
- VC3: RE 11.3.25 – This RE is not part of a TEC.

The proposed pipeline presents a low risk of significant impact to MNES and does not warrant referral to the Department of Climate Change, Energy, the Environment and Water (DCCEE) under the *Environment Protection and Biodiversity Conservation Act 1999*. No environmental offsets are required for the proposed WN1 pipeline under the EPBC Act.

5.5 Waste

Waste on PL213 is managed by AGL's Silver Springs Project Environmental Management Plan (Operations Phase) Version 2.1 – June 2022 (Appendix C of original document). As such, any waste created during either construction or operation of the proposed WN1 pipeline will be managed under this EM Plan.

The EM Plan assesses the potential environmental risk from waste and defines the waste management requirements for all assets on the lease, including the proposed WN1 pipeline. This includes, but is not necessarily limited to, adherence to the Silver Springs Waste Management Sub-Plan and the requirements of AGL's Waste Standard (AGL-HSE-STP-009.7).

Construction of the proposed WN1 pipeline will create minimal waste including:

- General waste
- Timber
- Packaging
- Steel.

All construction wastes will be removed by contractors or taken to AGL's Silver Springs Facility for removal by third-party licensed waste contractors.

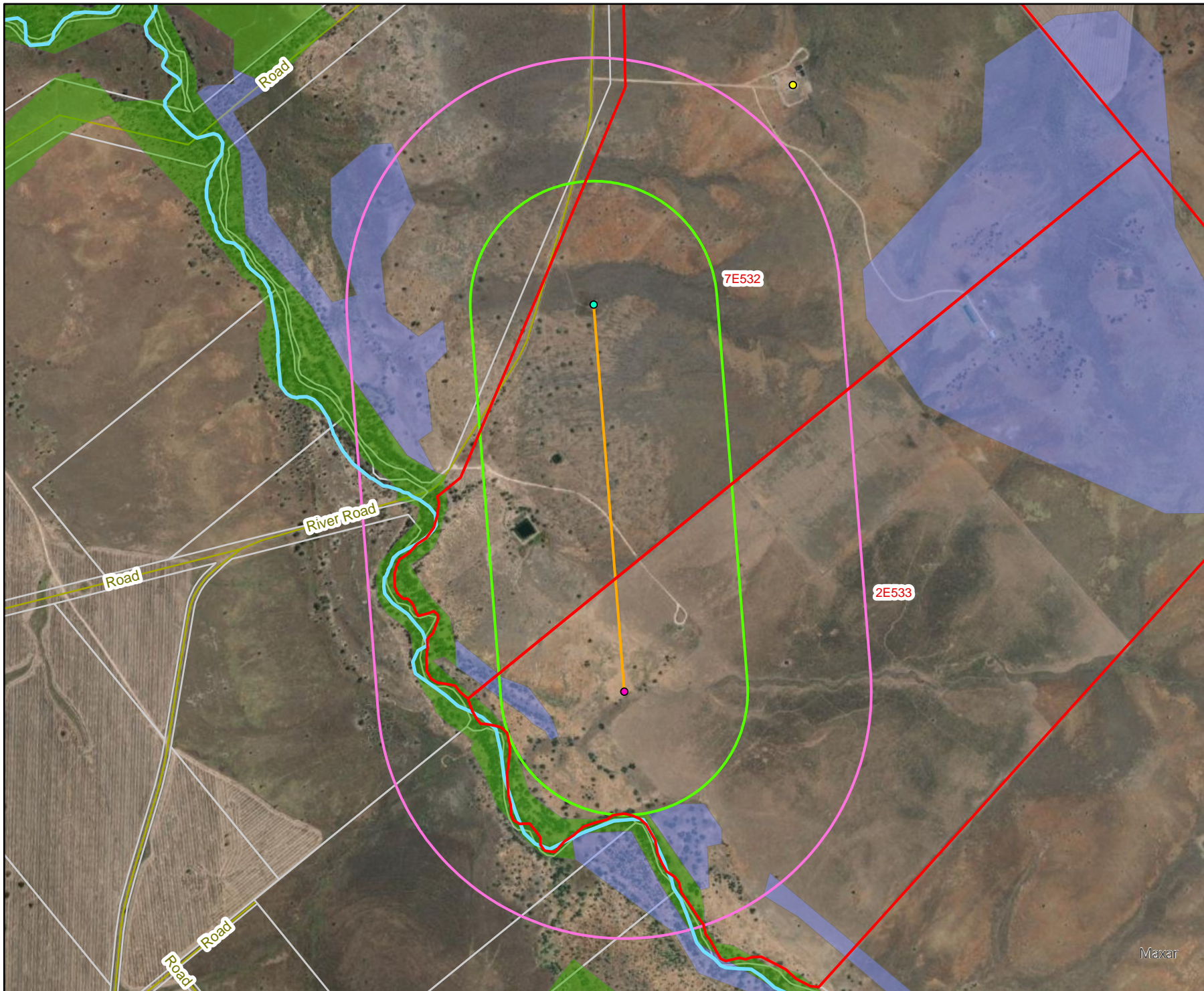


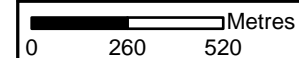
Figure 4
Ground truthed
ESA near the
proposed WN1
pipeline

Project: EA Amendment
 Addendum

Client: AGL

Project No.: J001701

Compiled by: SkyeMelton Date: 12/01/2024
 Approved by: Will Gibson Date: 12/01/2024



Legend

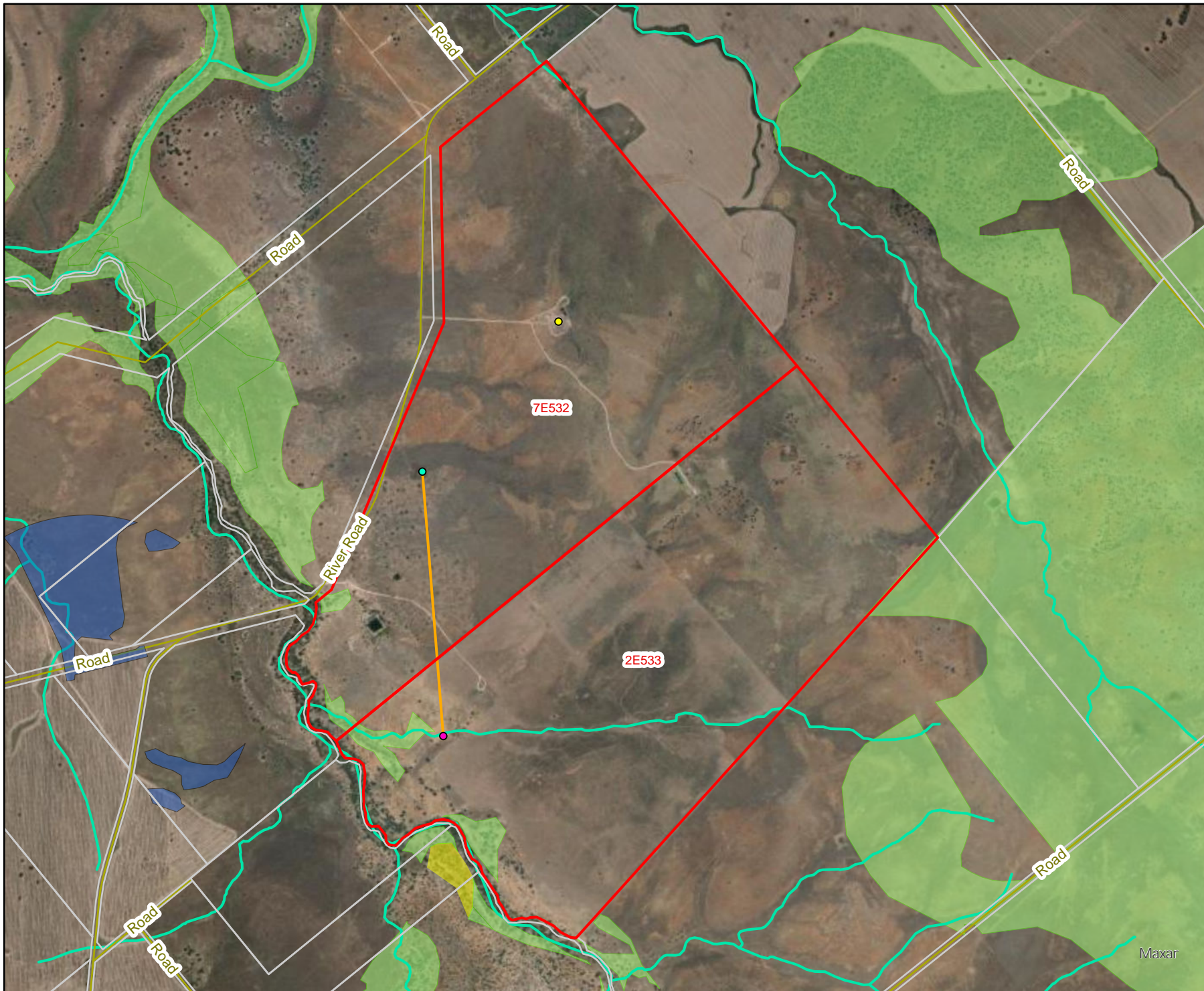
- | | |
|-----------------|---|
| □ Cadastre | Category C: Of Concern |
| — Roads | — Ecosystems (Remnant Biodiversity Status) |
| ▭ Site Boundary | Category B: Endangered Regional |
| — Pipeline ROW | — Ecosystems-Regrowth and Remnant (Biodiversity Status) |
| — 500m Buffer | |
| — 1000m Buffer | |
| — Grimman Creek | |
| ● CW1 | |
| ● WN1 | |
| ● CPP | |

The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.

Source: Cadastral data sourced from DNRME (2023). Aerial imagery sourced from NearMap (2023).



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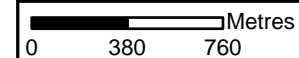
**Figure 5
Mapped
MSES near the
proposed WN1
pipeline**

Project: EA Amendment
Addendum

Client: AGL

Project No.: J001701

Compiled by: SkyeMelton Date: 12/01/2024
Approved by: Will Gibson Date: 12/01/2024



Legend

- Cadastre
- Roads
- Site Boundary
- Pipeline ROW
- CW1
- WN1
- CPP
- MSES- Essential Habitat
- MSES- Regulated vegetation (category B)
- MSES- Regulated vegetation (category C)
- MSES- Regulated vegetation (intersecting a watercourse)

The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.

Source: Cadastral data sourced from DNRME (2023). Aerial imagery sourced from NearMap (2023).



5.6 Waters

The proposed WN1 pipeline has a low potential to adversely impact waters because of the following:

- The ROW maximises the use of areas of pre-existing disturbance from cattle grazing. Works will not occur within a watercourse, flood hazard area, groundwater dependant ecosystem (GDE), wetland or other waters as defined in the EA.
- The local area is heavily disturbed and dominated by a grassland community with only sparse paddock trees. Very limited clearing of woody vegetation or deep-rooted vegetation will be required which will minimise any potential salinity risks.
- Standard construction site controls (i.e., spill kits, supervised refuelling) to manage spills/leaks during refuelling will be employed.
- An ESCP will be prepared which will consider soil properties such as potentially dispersive sub-soil chemistry.
- Land is relatively flat and very gently falls to the west at a slope of 1.3%. This will minimise erosion risk as well as the short construction timeframe (30-60 days).
- The land is in a GDE exclusion zone and therefore has limited groundwater recharge or discharge zone potential.
- The ROW will be rehabilitated to minimise land degradation and return the land to a condition suitable for the continuation of grazing.

5.6.1 Flood Hazard

PL213 is not located within a Flood Hazard Area under the Maranoa Planning Scheme.

5.6.2 Groundwater Dependent Ecosystems

The WN1 pipeline ROW is mapped in Queensland Globe as being within a Groundwater Dependent Ecosystems (GDE) exclusion zone. An exclusion zone is an area with low permeability surfaces with little to no infiltration as water usually quickly runs off these areas. These areas are not considered to be potential GDE aquifers as there is not enough groundwater in exclusion zones to support GDEs.

5.6.3 Surface Waters

The proposed WN1 pipeline does not intersect any *Water Act 2000* watercourses. The nearest *Water Act 2000* watercourse is Griman Creek, located 550 m west of the proposed WN1 pipeline. A first order stream is mapped at the southern end of the proposed WN1 pipeline (Figure 6). However, imagery in Queensland Globe demonstrates that the watercourse mapping at this location is inaccurate as the defined channel of this watercourse is approximately 50 m south of the mapped location (i.e., outside the WN1 pipeline ROW).

The proposed WN1 pipeline is in the Balonne River catchment. The Balonne River is 2.5 km north west of the pipeline. Under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019, the proposed location of WN1 pipeline is classified as follows:

- Basin: Maranoa Balonne Rivers Basin (Basin 422)
- EV Zone: Bungil Creek
- Management Intent: Moderately disturbed
- Water Type: Bungil Creek fresh waters

The surface water EVs are described as:

- Aquatic ecosystems
- Irrigation

- Farm supply
- Stock water
- Aquaculture
- Human consumer
- Primary recreation
- Secondary recreation
- Visual recreation
- Drinking water
- Industrial use
- Cultural and spiritual values

With the proposed controls, such as an ESCP, spill kits and rehabilitation, and the selected alignment of the WN1 pipeline which uses already disturbed grasslands, the risks to surface water EVs is low.

5.6.4 Groundwater

The proposed WN1 pipeline is within the Upper Balonne Alluvial Zone of the Queensland Murray-Darling and Bulloo Basins Groundwater Alluvial Zones under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019. The groundwater EVs for this zone are:

- Aquatic ecosystems
- Farm supply
- Stock water
- Drinking water
- Cultural and spiritual values

Based on the shallow nature of works (1.5 m), soil types (i.e., low permeability, high CEC/contaminant attenuation) and implementation of standard construction site controls for hazardous liquid substances such as fuel and oil, the risks to groundwater EVs is low.

5.6.5 Wetlands

There are no Wetland Protection Areas, Wetland Protection Trigger Areas, High Ecological Value Waters or Wetlands intersected by or within 1 km of the proposed WN1 pipeline.

The non-statutory Queensland wetland mapping layers within QLD Globe show a wetland line feature (a mapped first order stream) at the southern end of the proposed WN1 pipeline (Figure 6). Imagery in Queensland Globe demonstrates that the watercourse mapping at this location is inaccurate as the defined channel of this watercourse is approximately 50 m south of the mapped location (i.e., outside the WN1 pipeline ROW).

With the proposed controls, such as an ESCP and rehabilitation, and the selected alignment of the WN1 pipeline which uses already disturbed grasslands, the risk to wetlands is low.

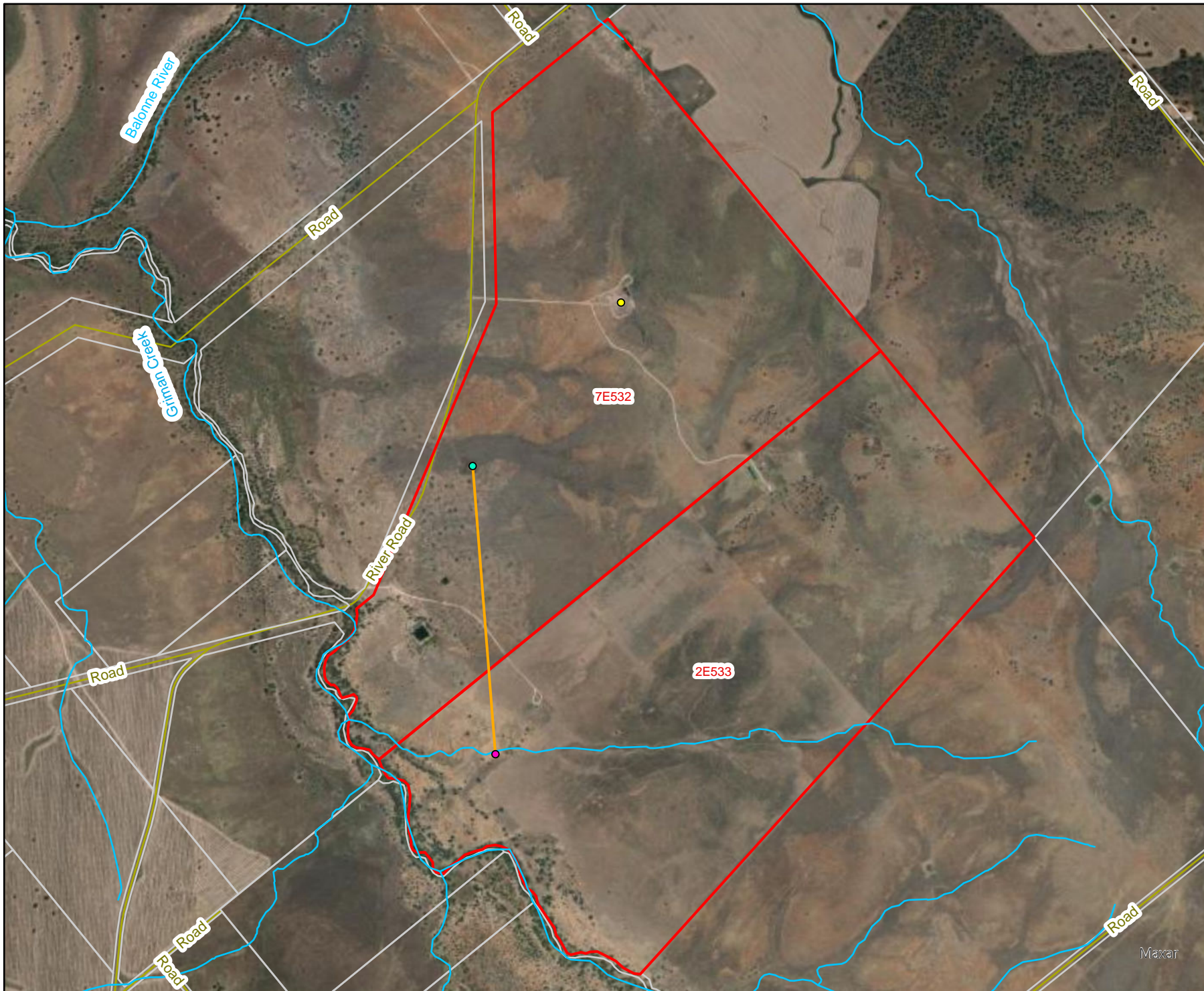


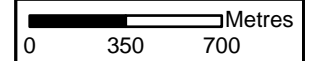
Figure 6
Mapped
watercourses and
wetlands near
the WN1
pipeline

Project: EA Amendment
 Addendum

Client: AGL

Project No.: J001701

Compiled by: SkyeMelton Date: 12/01/2024
 Approved by: Will Gibson Date: 12/01/2024



Legend

- Cadastre
- Roads
- Site Boundary
- Pipeline ROW
- Watercourses
- CW1
- WN1
- CPP

The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.

Source: Cadastral data sourced from DNRME (2023). Aerial imagery sourced from NearMap (2023).



6 Environmental Impact Risk Assessment

A qualitative environmental risk assessment was completed in accordance with HB 203:2006 *Environmental Risk Management - Principles and Process* (Standards Australia, 2006) to assess potential risk the proposed amendment may pose to the environmental values described in Section 5 of this document from the proposed EA amendment for the WN1 pipeline.

6.1 Context

- The proposed EA amendment is to facilitate pipeline construction and operation.
- The proposed WN1 pipeline, will be 1.6 km long and connect WN1 to CH1. AGL require the proposed pipeline to facilitate transfer of gas to market and future petroleum activities.
- The location of the proposed pipeline is heavily disturbed from grazing activities. The WN1 pipeline alignment was selected as it minimises land disturbance and potential impacts by utilising the existing connection between the CW1 well and the CPP. No other suitable alternative pipeline alignment was identified by AGL.

6.2 Scope

The scope of the assessment is to determine the risk of adverse impact to environmental values presented by the proposed construction and operation of the WN1 pipeline.

6.3 Identification of Environmental Risks

The risk of potential adverse impacts to environmental values are identified in Table 7.

6.4 Risk Analysis

A qualitative analysis of environmental risk for the proposed EA amendment is provided in Table 7 and the risk analysis tool is provided in Appendix D.

6.5 Risk Evaluation

As indicated in Table 7, the proposed WN1 pipeline was found to present a low risk of adverse impact to environmental values.

Table 7: Qualitative Environmental Risk Assessment

Environmental Value	Potential Impact	Likelihood	Consequence	Risk	Control Strategies
Air	Dust nuisance from construction activities.	Rare	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Distance to sensitive receptors and project location in a pastoral area combined with short construction timeframe (30-60 days), routine dust controls and rehabilitation works minimise the potential for dust emissions to cause nuisance. The construction of the proposed WN1 pipeline will not result in a significant adverse impact to air quality.
	Fugitive pipeline gas leaks during operations.	Unlikely	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Construction and operation in accordance with AS 2885. Routine pipeline monitoring, inspection and maintenance will reduce the potential for fugitive emissions. The operation of the proposed WN1 pipeline presents a low risk to air quality.
Land and Land Use	Adverse impacts to ongoing pastoral operations.	Rare	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Construction and operation in accordance with AS 2885. Short construction timeframe during dry months (May – October). Well pads utilised for site office and laydown areas etc., construction vehicles to be limited to construction ROW at all times. Construction ROW width minimised as far as reasonably practicable, no more than 25m maximum. Erosion and sedimentation control measures in place as appropriate. Cleared vegetation and soil stockpiled separately. Rehabilitation including replacement of soil in order (subsoil, then topsoil) and the re-establishment of ground cover along the ROW. No risk of significant residual adverse impacts to land or land use was identified because of the proposed WN1 pipeline construction and operation.
	Impacts to soil resources from erosion or salinity.	Occasionally	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Soils are Vertosols and sub-soils are sodic. No evidence of salinity expressions observed during ESA assessment and data suggests limited potential for groundwater recharge/discharge areas to occur in the ROW.

Environmental Value	Potential Impact	Likelihood	Consequence	Risk	Control Strategies
					<ul style="list-style-type: none"> Limited clearing of trees/deep rooted vegetation is required. An ESCP will be prepared and will consider the sub-soil sodicity. Erosion risk mitigated by flat terrain (1.3% slope), the short construction timeframe, scheduling of the construction during the dry months and proposed soil profile and groundcover reinstatement. The proposed construction and operation of the WN1 pipeline presents a low risk to soil resources.
	Disturbance of contaminated soils or ASS.	Rare	Insignificant	Low	<ul style="list-style-type: none"> Land is not on the EMR or CLR. No obvious evidence of sources of soil contaminants based on the grazing land use. ASS do not occur in the region. The proposed construction and operation of the WN1 pipeline presents a low risk in relation to the disturbance of contaminated soils or ASS.
	Adverse impacts to RIA.	Rare	Insignificant	Low	<ul style="list-style-type: none"> The WN1 pipeline is not within or adjoining an RIA. The proposed construction and operation of the WN1 pipeline presents a low risk to RIA.
	Spills or leaks of contaminants to land or waters during pipeline construction or operation.	Occasionally	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Construction and operation in accordance with AS 2885. Routine pipeline monitoring, inspection and maintenance will reduce the potential for pipeline leaks. Use of standard construction site control measures such as spill kits during refuelling and other activities where liquids are handled. Routine maintenance of construction plant and equipment and daily pre-start checks. The proposed construction and operation of the WN1 pipeline presents a low risk of soil contamination.
Biodiversity	The construction and operation of the proposed WN1 pipeline presents a risk to threatened	Rare	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Use of well pads and construction ROW for all construction activities including site office and laydown areas. Alignment utilises land already disturbed by grazing activities which doesn't include any suitable habitat for threatened flora or fauna.

Environmental Value	Potential Impact	Likelihood	Consequence	Risk	Control Strategies
	species ESA, MSES or MNES.				<ul style="list-style-type: none"> Pipeline traverses a Least Concern grassland RE with only sparse paddock trees. Very limited clearing or trees/woody vegetation/deep rooted vegetation will be required. Erosion risk mitigated by flat terrain (1.3% slope), the short construction timeframe, scheduling of the construction during the dry months and proposed soil profile and groundcover reinstatement. The proposed WN1 pipeline will not affect landscape ecological connectivity or function as it will not cause isolation, fragmentation, edge effects or dissection of tracts of native vegetation. A suitably qualified fauna spotter/catcher will be present for any tree clearing activities. Any open trenches will have fauna escapes provided such as ramps/ropes, logs. The ROW will not be within an ESA. There is a Category B ESA located 315 m from the proposed alignment, but it will not be directly or indirectly impacted by the proposed construction or operation of the pipeline. Clearing within a mapped MSES will occur (although imagery suggests that the MSES is located further south and outside of the ROW). Notwithstanding the width of clearing will be a maximum of 25 m. No MNES within or adjacent to the WN1 pipeline. The construction and operation of the proposed WN1 pipeline will not present a risk of significant residual impact to MSES or MNES.
Noise	Noise nuisance from construction and operation activities at sensitive receptors.	Rare	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Distance to sensitive receptors and project location in a pastoral area combined with short construction timeframe (30-60 days) minimise the potential for noise emissions to cause nuisance. Construction will be limited to daylight hours (7am – 6pm). No noise emissions during routine pipeline operations. The proposed WN1 pipeline presents a low risk of noise nuisance impacts.
Heritage	Impacts to heritage from pipeline construction	Rare	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. No built heritage in the local area. A cultural heritage assessment was completed by Mandandanji Cultural Heritage Services who identified no evidence of cultural heritage in the project area.

Environmental Value	Potential Impact	Likelihood	Consequence	Risk	Control Strategies
	and operation activities.				<ul style="list-style-type: none"> Should cultural heritage items or artefacts be located or identified during construction activities, construction will stop immediately for further assessment.
Waste	Environmental harm caused by incorrect waste management from pipeline construction and operations.	Unlikely	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Construction waste will be collected and appropriately contained on site (covered bins etc) prior to removal by contractors. All waste will be removed by contractors or taken to AGL's Silver Springs Facility for removal by third-party licensed waste contractors. There is a low risk to environmental values regarding waste management from the construction and operation of the pipeline.
Waters	Physical disturbance to water bodies from construction and operation of the pipeline.	Rare	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. The WN1 pipeline will not intersect any water bodies. The WN1 pipeline has a mapped watercourse shown at the southern end near WN1 well (although imagery shows that the MSES is actually located further south and outside of the ROW). The ROW will be limited to 25 m width during construction and reduced to 15 m during operations. Erosion and sedimentation risk mitigated by flat terrain (1.3% slope), the short construction timeframe, scheduling of the construction during the dry months and proposed soil profile and groundcover reinstatement. No impacts anticipated to water bodies because of the proposed WN1 pipeline.
	Impacts to water quality from erosion and sedimentation.	Occasionally	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Soils are Vertosols and sub-soils are sodic. An ESCP will be prepared and will consider the sub-soil sodicity. Erosion risk mitigated by flat terrain (1.3% slope), the short construction timeframe, scheduling of the construction during the dry months and proposed soil profile and groundcover reinstatement. The proposed construction and operation of the WN1 pipeline presents a low risk to water quality from sediment deposition.
	Spills or leaks of contaminants to land or waters during pipeline construction or operation.	Occasionally	Insignificant	Low	<ul style="list-style-type: none"> Compliance with EA conditions and the Silver Springs EM Plan. Construction and operation in accordance with AS 2885. No works in waters. Routine pipeline monitoring, inspection and maintenance will reduce the potential for pipeline leaks.

Environmental Value	Potential Impact	Likelihood	Consequence	Risk	Control Strategies
					<ul style="list-style-type: none"> • Use of standard construction site control measures such as spill kits during refuelling and other activities where liquids are handled. • Routine maintenance of construction plant and equipment and daily pre-start checks. • Heavy texture soils with low permeability and high CEC and contaminant attenuation properties. • The proposed construction and operation of the WN1 pipeline presents a low risk of water contamination.

7 Summary

- This document is an addendum to an application to amend the Environmental Authority (EA) EPPG00304213 for Petroleum Lease (PL) 213 (original application). It meets the requirements for a property made application amendment.
- The original application to amend the EA was submitted by AGL to the Department of Environment and Science (DES) on 29 September 2023 (DES application reference number A-EA-AMD-100414517).
- This addendum seeks to facilitate the construction of the WN1 pipeline (an essential petroleum activity), to connect the WN1 well to the CW1 well, the CPP and ultimately to market.
- The proposed WN1 pipeline meets the requirements for a Minor Amendment (Threshold).
- A change to Condition 4 of the EA is required for the proposed WN1 pipeline. The proposed change to this condition is in line with the *Streamlined model conditions for petroleum activities* (DES, 2016).
- The environmental impact risk assessment for the construction and operation of the proposed WN1 pipeline found that it presented a low risk of adverse impact to environmental values.

Appendices

Appendix A EMR/CLR Search Results



Department of Environment and Science (DES)
ABN 46 640 294 485
400 George St Brisbane, Queensland 4000
GPO Box 2454, Brisbane QLD 4001, AUSTRALIA
www.des.qld.gov.au

SEARCH RESPONSE
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Range Environmental Consultants
Office A, 189 Hume Street
Toowoomba QLD 4350

Transaction ID: 50904245 EMR Site Id: 07 December 2023
Cheque Number:
Client Reference:

This response relates to a search request received for the site:
Lot: 7 Plan: E532
960 RIVER RD
NOORINDOO

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

All search responses include particulars of land listed in the EMR/CLR when the search was generated.
The EMR/CLR does NOT include:-

1. land which is contaminated land (or a complete list of contamination) if DES has not been notified
2. land on which a notifiable activity is being or has been undertaken (or a complete list of activities) if DES has not been notified

If you have any queries in relation to this search please email emr.clr.registry@des.qld.gov.au

Administering Authority



Department of Environment and Science (DES)
ABN 46 640 294 485
400 George St Brisbane, Queensland 4000
GPO Box 2454, Brisbane QLD 4001, AUSTRALIA
www.des.qld.gov.au

SEARCH RESPONSE
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Range Environmental Consultants
Office A, 189 Hume Street
Toowoomba QLD 4350

Transaction ID: 50904246 EMR Site Id: 07 December 2023
Cheque Number:
Client Reference:

This response relates to a search request received for the site:

Lot: 2 Plan: E533
RIVER RD
NOORINDOO

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

All search responses include particulars of land listed in the EMR/CLR when the search was generated.
The EMR/CLR does NOT include:-

1. land which is contaminated land (or a complete list of contamination) if DES has not been notified
2. land on which a notifiable activity is being or has been undertaken (or a complete list of activities) if DES has not been notified

If you have any queries in relation to this search please email emr.clr.registry@des.qld.gov.au

Administering Authority

Appendix B Desktop Assessment Search Results



Australian Government

Department of Climate Change, Energy,
the Environment and Water

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. Please see the caveat for interpretation of information provided here.

Report created: 04-Dec-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment 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 (Ramsar)	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	26
Listed Migratory Species:	9

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 <https://www.dcceew.gov.au/parks-heritage/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 Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [[Resource Information](#)]

Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	1100 - 1200km upstream from Ramsar site	In feature area
Narran lake nature reserve	300 - 400km upstream from Ramsar site	In feature area
Riverland	1000 - 1100km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	1300 - 1400km upstream from Ramsar site	In feature area

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.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community likely to occur within area	In feature area
Weeping Myall Woodlands	Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Erythrorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lophochroa leadbeateri leadbeateri Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo [82926]	Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area

FISH

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bidyanus bidyanus Silver Perch, Bidyan [76155]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat likely to occur within area	In feature area
MAMMAL			
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature 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]	Endangered	Species or species habitat known to occur within area	In feature area
PLANT			
Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat may occur within area	In feature area
Lepidium monoplocoides Winged Pepper-cress [9190]	Endangered	Species or species habitat may occur within area	In feature area
Swainsona murrayana Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Anomalopus mackayi Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species

Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area	In feature area

Migratory Wetlands Species

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

EPBC Act Referrals				[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status	

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Coal Seam Gas Field Development for Natural Gas Liquefaction Park, Curtis Island	2008/4059		Post-Approval	In feature area
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Bioregional Assessments

SubRegion	BioRegion	Website	Buffer Status
Maranoa-Balonne-Condamine	Northern Inland Catchments	BA website	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and 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

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

Where little information is available for a 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 detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

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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Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111



Australian Government

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Report created: 04-Dec-2023

[Summary](#)

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Summary

Matters of National Environment 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 (Ramsar)	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	24
Listed Migratory Species:	9

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 <https://www.dcceew.gov.au/parks-heritage/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 Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [[Resource Information](#)]

Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	1100 - 1200km upstream from Ramsar site	In feature area
Narran lake nature reserve	300 - 400km upstream from Ramsar site	In feature area
Riverland	1000 - 1100km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	1300 - 1400km upstream from Ramsar site	In feature area

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.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community likely to occur within area	In feature area
Weeping Myall Woodlands	Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Erythrorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lophochroa leadbeateri leadbeateri Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo [82926]	Endangered	Species or species habitat may occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area

MAMMAL

Scientific Name	Threatened Category	Presence Text	Buffer Status
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature 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]	Endangered	Species or species habitat known to occur within area	In feature area

PLANT

Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat may occur within area	In feature area
Lepidium monoplocoides Winged Pepper-cress [9190]	Endangered	Species or species habitat may occur within area	In feature area
Swainsona murrayana Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat may occur within area	In feature area

REPTILE

Anomalopus mackayi Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area	In feature area
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species [Resource Information]			
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status	
Bird				
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area	
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area	
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area	
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area	
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area	
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area	
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area	
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area	In feature area	
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In feature area	

Scientific Name	Threatened Category	Presence Text	Buffer Status
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Coal Seam Gas Field Development for Natural Gas Liquefaction Park, Curtis Island	2008/4059		Post-Approval	In feature area
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Bioregional Assessments				
SubRegion	BioRegion	Website	Buffer Status	
Maranoa-Balonne-Condamine	Northern Inland Catchments	BA website	In feature area	

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and 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

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

Where little information is available for a 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 detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

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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Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

Appendix C Cultural Heritage Assessment

Cultural Heritage Inspection and Assessment Report




Caring for Country, creating opportunity

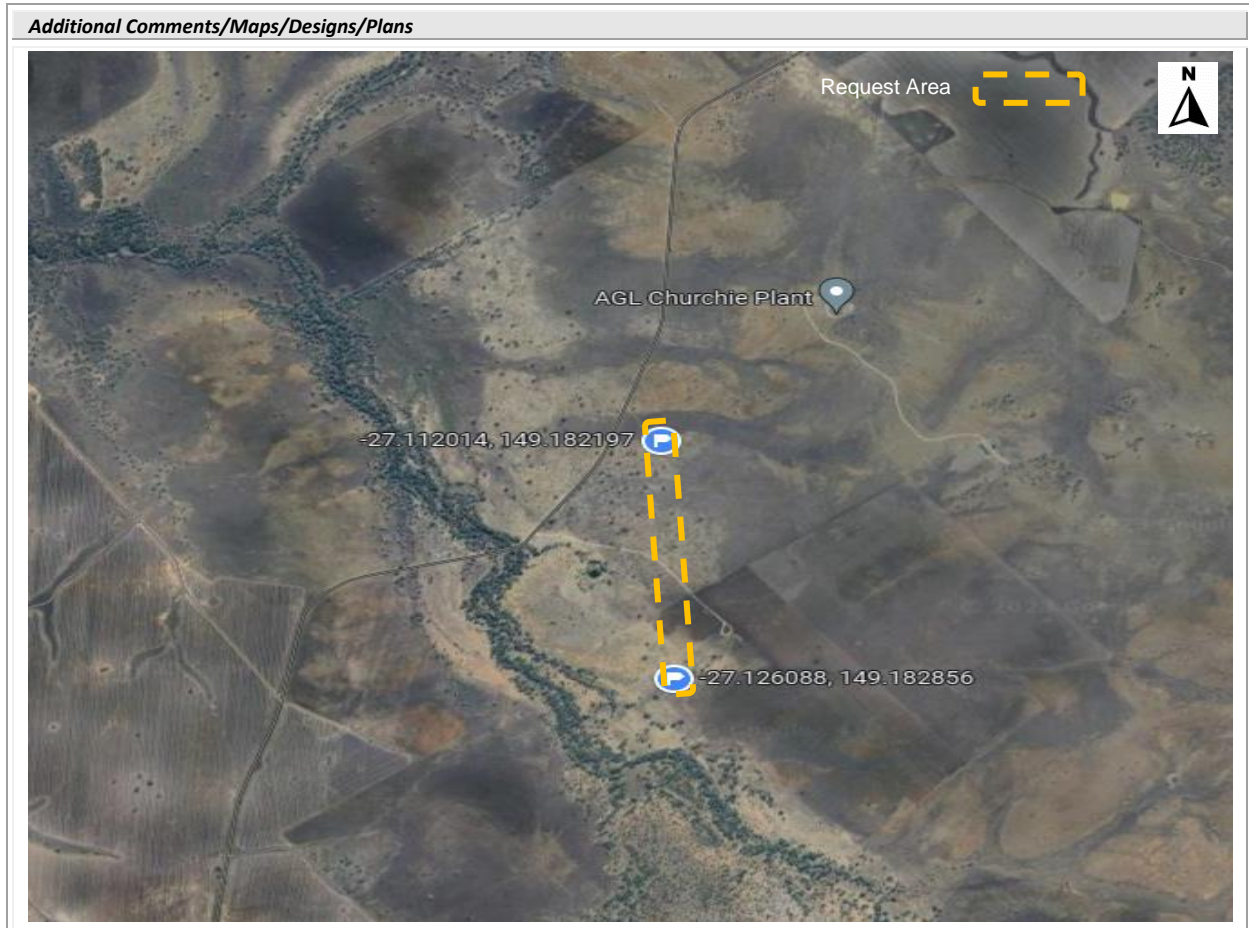
Mandandanji Cultural Heritage Services

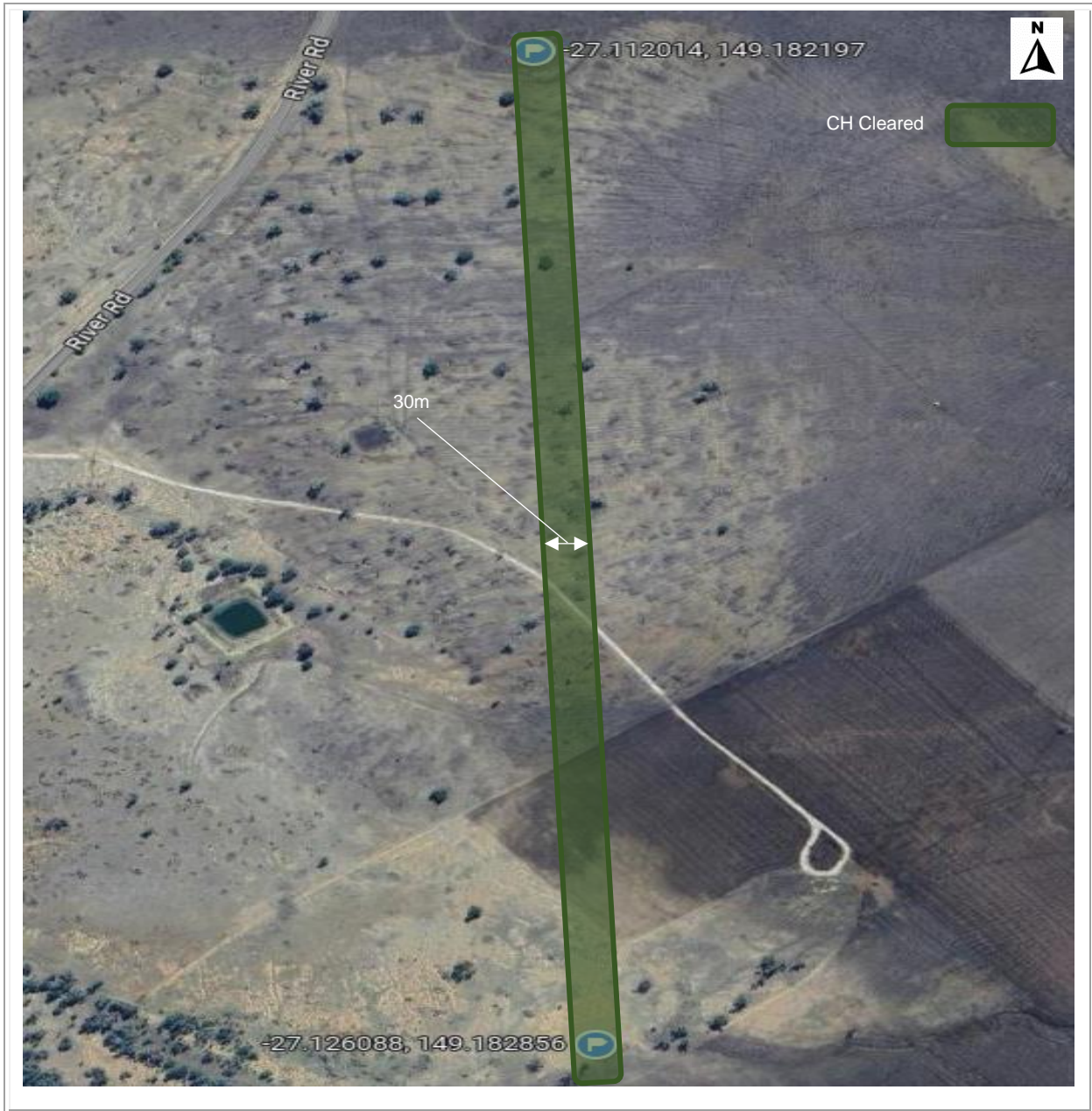
Survey & Activity Details	CH Assessment - AGL		
Request No. (Ref)	18-10-2023 – Via Email		
Asset / Infrastructure type	Pipeline Corridor [-27.126088, 149.182856 -27.112014, 19.182197]		
Activity description	Construction of 30m x 1.2m trench for installation of HP Pipeline		
Activity location	"Noorindoo" (AGL Churchie Plant)		
Cultural Heritage Officer(s)	Tim Klaas		
Company delegate/agent	Kerry Millard-AGL		
Inspection commenced	12-12-2023	Inspection completed	12-12-2023


Evidence of Cultural Heritage identified as defined by the [Aboriginal Cultural Heritage Act 2003 \(PDF\)](#)

 (please circle if applicable)	<p><i>There was no visible evidence to suggest the presence of Cultural Heritage for the scope of works provided. Activity is cleared to proceed without further involvement</i></p>
<p>YES</p> (please circle if applicable)	<p><i>Please complete the Cultural Heritage Discovery form to include;</i></p> <ul style="list-style-type: none"> - <i>Actual or likely harm posed to the Aboriginal objects or place(s) from the proposed activity</i> - <i>Practical measures that may be taken to protect and conserve mitigate and manage any actual or likely harm</i>

Recommendations	
Vegetation Clearing (Please circle if appropriate)	<i>Clearing of existing vegetation is required in order to conduct an unobstructed inspection of the proposed activity area</i>
Relocation (Please circle if appropriate)	<i>Isolated artefacts/objects are to be recorded on the discovery form, to include maps and/or plans that accurately present the location and re-located to an area that will not pose any perceived harm or risk of damage.</i>
Exclusion Zone (Please circle if appropriate)	<i>The specific site area is to be recorded on the discovery form to include maps and/or plans that accurately present the location of the site and the area cordoned off with restricted access arrangements put in place.</i>
Re-route (please circle if appropriate)	<i>The activity/proposed ground disturbance will need to be re-routed, to avoid area(s) of significant cultural substance.</i>
Other (please circle if appropriate)	<i>Eg. Archeological potential for excavation, future development, buffer</i>





Cultural Heritage Representative(s)		
Name	Signature	Date
Tim Klaas		12 December 2023



Mandandanji Cultural Heritage Services

phone 07 4622 3874 email admin@mandandanji.com.au post PO Box 706 Roma QLD 4455 address 71C Arthur St Roma

Caring for Country, creating opportunity

Appendix D Qualitative Risk Assessment Tool

Qualitative Measures of Consequence

Consequence	Natural Environment	Legal/Government	Community/Reputation/Media
Insignificant	Limited damage to minimal area of low significance.	Low-level legal issue. On the spot fine. Technical non-compliance, prosecution unlikely. Ongoing scrutiny/attention from regulator.	Low level social impacts. Public concern restricted to local complaints. Could not cause injury or disease to people.
Minor	Minor effects on biological or physical environment. Minor short-medium term damage to small area of limited significance.	Minor legal issues, non-compliances, and breaches of regulation. Minor prosecution or litigation possible. Significant hardship from regulator.	Minor to medium-term social impact on local population. Could cause first aid injury to people. Minor, adverse local public or media attention or complaints.
Moderate	Moderate effects on biological or physical environment (air, water) but not affecting ecosystem functioning. Moderate short-medium term widespread impacts (e.g., significant spills).	Serious breach of regulation with investigation or report to authority with prosecution or moderate fine possible. Significant difficulties in gaining approvals.	Ongoing social issues. Could cause injury to people which requires medical attention. Attention from regional media and/or heightened concern by local community. Criticism by NGOs. Environmental credentials moderately affected.
Major	Serious environmental effects with some impairment of ecosystem function. Relatively widespread medium-long term impacts.	Major breach of regulation with potential major fine and/or investigation and prosecution by authority. Project approval seriously affected.	Ongoing serious social issues. Could cause serious injury or disease to people. Significant adverse national media/pubic or NGO attention. Environmental credentials significantly affected.
Catastrophic	Very serious environmental effects with impairment of ecosystem function. Long term widespread effects on significant environment (e.g., National Park).	Investigation by authority with significant prosecution and fines. Very serious litigation, including class actions. License to operate threatened.	Very serious widespread social impacts with potential to significantly affect the wellbeing of the local community. Could kill or permanently disable people. Serious public or media outcry (international coverage). Damaging NGO campaign. Reputation severely damaged.

Qualitative Measures of Likelihood

Descriptor	Description	Guideline
Almost certain	Consequence is expected to occur in most circumstances	Occurs more than one per month
Likely	Consequence will probably occur in most circumstances	Occurs once every 1 month to 1 year
Occasionally	Consequence should occur at some time	Occurs once every 1 year to 10 years
Unlikely	Consequence could occur at some time	Occurs once every 10 years to 100 years
Rare	Consequence may only occur in exceptional circumstances	Occurs less than once every 100 years

Qualitative Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	High	High	Extreme	Extreme	Extreme
Likely	Moderate	High	High	Extreme	Extreme
Occasionally	Low	Moderate	High	Extreme	Extreme
Unlikely	Low	Low	Moderate	High	Extreme
Rare	Low	Low	Moderate	High	High



www.rangeenviro.com.au

BRISBANE

Unit 1/7 Birubi Street
Coorparoo Qld 4151

TOOWOOMBA

Office A, 189 Hume St
Toowoomba QLD 4350

T 07 4620 0148

E admin@rangeenviro.com.au