

Permit

Environmental Protection Act 1994

Environmental authority P-EA-100325246

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: P-EA-100325246

Environmental authority takes effect on the date that your related tenure is granted. This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. The payment of the annual fee will be due each year on this day.

An annual return will be due each year on 01 April.

Environmental authority holder(s)

Name(s)	Registered address
QPM ENERGY PTY LTD	Level 17 307 Queen Street BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 08 - A petroleum or GHG storage activity, other than items 1 to 7, that includes an activity from Schedule 2 with an AES	PFL33
Ancillary 09 - Hydrocarbon gas refining - 1(c) - Hydrocarbon gas refining (the relevant activity) consists of refining natural gas or coal seam methane gas - coal seam gas	
Ancillary 15 - Fuel burning - Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	
Schedule 3 - 03 - A petroleum activity that is likely to have a significant impact on a category A or B Environmentally Sensitive Area	PPL2073

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise on the day the authority is issued.

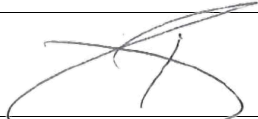
However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the

additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.



Signature

10 July 2023

Date

Tristan Roberts
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
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Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Conditions of environmental authority

This environmental authority incorporates the following schedules:

- Schedule A – General
- Schedule B – Waste
- Schedule C – Noise
- Schedule D – Air
- Schedule E – Land
- Schedule F – Biodiversity
- Schedule G – Water
- Schedule H – Definitions
- Appendix 1- MSES Reference Boundary
- Appendix 2- Operational Reference Boundary

Schedule A- General conditions				
Condition number	Condition			
Authorised activities				
General 1	In the carrying out of the petroleum activity(ies), the holder of this environmental authority must not exceed the number and maximum size for each of the specified petroleum activities listed in <i>Table – Authorised Resource Activities</i> , for each tenure.			
	Table – Authorised Resource Activities			
	Authorised Resource Activities	Scale		Disturbance area
		Maximum	Location	
	Gas Compression Facility	1 facility	PFL33	6ha
High pressure gas pipeline	16.8km	PPL2073	30ha (operation) 51ha (construction)	
Prevent and minimise likelihood of environmental harm				
General 2	This authority does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.			
Maintenance of measures, plant and equipment				
General 3	The holder of this authority must: (a) install measurements, plant and equipment necessary to ensure compliance with the conditions of this authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; and (c) operate such measures, plant and equipment in a proper and efficient manner.			
General 4	No change, replacement or alteration of any plant or equipment is permitted if the change, replacement or alteration increases the risk of environmental harm from the petroleum activities.			
Monitoring				
General 5	All monitoring must be undertaken by a suitably qualified person.			

General 6	All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests.
General 7	Notwithstanding condition (General 6), where there are no NATA accredited laboratories for a specific analyte or substance, then duplicate samples must be sent to at least two separate laboratories for independent testing or evaluation.
General 8	Monitoring and sampling must be carried out in accordance with the requirements of the following documents (as relevant to the sampling being undertaken), as amended from time to time: (a) for waters (including groundwater), the Queensland Government's 'Monitoring and Sampling Manual 2018 - Environmental Protection (Water) Policy 2009'; (b) for noise, the Queensland Government's 'Noise Measurement Manual' (ESR/2016/2195), the relevant Australian Standard and the Environmental Protection Regulation 2019 (Chapter 5, Part 4); (c) for blasting, the Queensland Government's 'Noise and Vibration from Blasting Guideline' (ESR/2016/2169); (d) for ambient air quality including dust, the relevant Australian Standards. If monitoring requirements are not described in the Australian Standards, monitoring protocols must be in accordance with a method approved by any other Australian, European or Northern American jurisdiction/EPAs; (e) for soil, the 'Guidelines for Surveying Soil and Land Resources', 2nd edition (McKenzie et al. 2008), and/or the 'Australian Soil and Land Survey Field Handbook', 3rd edition (National Committee on Soil and Terrain, 2009); and (f) for site assessment of contamination of soil, soil vapour or groundwater, the 'National Environment Protection (Assessment of Site Contamination) Measure 1999' (as amended 2013) and its associated guidelines and the 'PFAS National Environmental Management Plan 2.0' (Department of Agriculture, Water and Environment 2020).
General 9	If requested by the administering authority in relation to investigating a valid complaint, monitoring must be commenced within 10 business days.
Contingency procedures for emergency environmental incidents	
General 10	Petroleum activities involving significant disturbance to land cannot commence until the development of written contingency procedures for emergency environmental incidents which include, but are not necessarily limited to: (a) a clear definition of what constitutes an environmental emergency incident or near miss for the petroleum activity. (b) consideration of the risks caused by the petroleum activity including the impact of flooding and other natural events on the petroleum activity.

	(c) response procedures to be implemented to prevent or minimise the risks of environmental harm occurring. (d) the practices and procedures to be employed to restore the environment or mitigate any environmental harm caused. (e) procedures to investigate causes and impacts including impact monitoring programs for releases to waters and/or land. (f) training of staff to enable them to effectively respond. (g) procedures to notify the administering authority, local government and any potentially impacted landholder.
General 11	Any contravention, or likely contravention, of a condition of this environmental authority must be reported to the administering authority using the 'Resource activities other than mining incident notification form' (ESR/2015/17531) within 24 hours of becoming aware of the contravention.
General 12	Within 28 days (or a longer period agreed to in writing by the administering authority) of making a notification under condition General 11, an investigation must be undertaken to determine: (a) the potential circumstances and actions on site that may have contributed to the contravention; and (b) reasonable measures that could be implemented to address the cause of the contravention to prevent future contraventions of this nature.
General 13	The following details must be recorded for all contraventions of the environmental authority and the report in condition General 11: (a) date and time the contravention occurred (if known); (b) nature and details of the contravention; (c) investigations carried out in response to the contravention as required by condition G12; (d) the results of investigations; and (e) measures taken under condition G12.
General 14	Despite condition General 11, the following non-compliances need only be reported via the annual return for annual return period in which the non-compliance occurred: (a) unauthorised unintentional releases (i.e. spills) of the following volume of contaminants, in any mixture, to land and which does not subsequently enter waters: (i) <200 L of hydrocarbons.

Construction	
General 15	For activities involving significant disturbance to land, control measures that are commensurate to the site-specific risk of erosion, and risk of sediment release to waters must be implemented to: (a) allow stormwater to pass through the site in a controlled manner and at non-erosive flow velocities; (b) minimise soil erosion resulting from wind, rain, and flowing water; (c) minimise the duration that disturbed soils are exposed to the erosive forces of wind, rain, and flowing water; (d) minimise work-related soil erosion and sediment runoff; and (e) minimise negative impacts to land or properties adjacent to the activities (including roads).
General 16	Effective measures to prevent fauna being harmed from entrapment must be implemented during the construction and operation of the activity.
Documents	
General 17	Certification must be prepared by a suitably qualified person within 30 business days of completing every plan, procedure, program and report required to be developed under this environmental authority, which demonstrates that: (a) relevant material, including current published guidelines (where available) have been considered in the written document; (b) the content of the written document is accurate and true; and (c) the document meets the requirements of the relevant conditions of the environmental authority.
General 18	All plans, procedures, programs, reports and methodologies required under this environmental authority must be written and implemented.
General 19	All documents required to be developed under this environmental authority must be kept for five years.
General 20	All documents required to be prepared, held or kept under this environmental authority must be provided to the administering authority upon written request within the requested timeframe.
Complaints	
General 21	A record of all complaints must be kept including the date, complainant's details, source, reason for the complaint, description of investigations and actions undertaken in resolving the complaint.
General 22	Petroleum activities must not cause environmental nuisance at a sensitive place, other than where an alternative arrangement is in place.

Schedule B- Waste conditions	
Condition number	Condition
Waste 1	Measures must be implemented so that waste is managed in accordance with the waste and resource management hierarchy and the waste and resource management principles.
Waste 2	Waste fluids must be contained in either: a) an above ground container; or b) a structure which contains the wetting front.
Waste 3	Waste, including waste fluids, must be transported off-site for lawful re-use, remediation, recycling or disposal.
Waste 4	All regulated waste removed from the site must be removed by a person who holds a current authority to transport such waste under the provisions of the <i>Environmental Protection Act 1994</i> and sent to a facility that is permitted to accept such waste.
Waste 5	Green waste may be used on-site for either rehabilitation or sediment and erosion control, or both.
Treated water	
Waste 6	Despite conditions Waste 2 to Waste 4, treated water may be transferred to a third party to be used off tenure for the following purposes: a) coal washing; b) power generation; c) dust suppression; and/or d) water treatment facilities.
Waste 7	If the responsibility of treated water is given or transferred to a third-party for use off tenure, the holder of environmental authority must ensure that: a) the treated water meets the relevant quality for the intended purpose; b) the responsibility of the treated water is given or transferred in accordance with a written agreement (the third-party agreement) signed by both parties to the agreement; and c) the third party is made aware of the General Environmental Duty (GED) under s.319 of the <i>Environmental Protection Act 1994</i> , environmental sustainability of the water disposal and protection of environmental values of waters.
Waste 8	Written agreement for the use of treated water by a third party required by Waste 7(b), must include the following in writing: a) the intended use of the water;

	b) confirmation that the treated water being provided is compliant with the third party's environmental authority conditions; and c) a current and complete laboratory certificate of analysis that outlines the quality of the treated water is meeting the relevant quality for the intended purpose.
Waste 9	The holder of this environmental authority must cease using, selling or giving away treated water immediately upon becoming aware that: a) the treated water quality does not meet the agreed quality under the written agreement.
Waste 10	When the treated water is transferred to a third party, the holder of the environmental authority must retain the following records: a) contact details for the person responsible for the use of the treated water at the site of use; b) quantity (volume) of the treated water supplied; c) treated water quality laboratory results; and d) any written procedures developed to manage the treated water.
Pipeline wastewater	
Waste 11	Pipeline and process wastewater must be directed to the Gas Compression Facility's oily water separator for treatment.
Stormwater	
Waste 12	Stormwater collected at the Gas Compression Facility may be used for dust suppression during construction and operation provided that it does not result in adverse effects on the composition and structure of soil or subsoils and can be demonstrated to meet the following standards: a) the amount applied does not exceed the amount required to effectively suppress dust; and b) the application: (i) does not cause on-site ponding or runoff; (ii) is directly applied to the area being dust suppressed; (iii) does not harm vegetation surrounding the area being dust suppressed; (iv) is not directly or indirectly released to waters.
Waste 13	If there is any indication that any of the circumstances in condition (Waste 12)(b)(i) to (Waste 12)(b)(iv) is occurring, the use must be ceased immediately, and the affected area must be remediated without delay.

Schedule C- Noise conditions																																	
Condition number	Condition																																
Noise 1	Authorised activities must not cause environmental nuisance at a sensitive place.																																
Noise 2	Noise from the activity must not exceed the limits identified in <i>Table – Noise limits</i> at any sensitive place. Table —Noise limits <table> <tr> <th>Time period</th><th>Metric</th><th>Short term noise event</th><th>Medium term noise event</th><th>Long term noise event</th></tr> <tr> <td>7:00am to 6:00pm</td><td>L_{Aeq,adj,15 min}</td><td>45 dBA</td><td>43 dBA</td><td>40 dBA</td></tr> <tr> <td>6:00pm to 10:00pm</td><td>L_{Aeq,adj,15 min}</td><td>40 dBA</td><td>38 dBA</td><td>35 dBA</td></tr> <tr> <td rowspan="2">10:00pm to 6:00am</td><td>L_{Aeq,adj,15 min}</td><td>28 dBA</td><td>28 dBA</td><td>28 dBA</td></tr> <tr> <td>Max L_{pA, 15 mins}</td><td>55 dBA</td><td>55 dBA</td><td>55 dBA</td></tr> <tr> <td>6:00am to 7:00am</td><td>L_{Aeq,adj,15 min}</td><td>40 dBA</td><td>38 dBA</td><td>35 dBA</td></tr> </table> The noise limits in <i>Table – Noise limits</i> have been set based on the following deemed background noise levels (L_{ABG}): 7:00am—6:00 pm: 35 dBA 6:00pm—10:00 pm: 30 dBA 10:00pm—6:00 am: 25 dBA 6:00am—7:00 am: 30 dBA Associated requirements - Any monitoring of noise emissions from the activity must be undertaken when the activity is in operation. Report what equipment/ mode of operation was in operation at the time the noise measurement was taken. - Measurement must be taken using a class 1 sound level meter as classified under AS IEC 61672. - Noise from the activity must not include substantial low frequency noise components.				Time period	Metric	Short term noise event	Medium term noise event	Long term noise event	7:00am to 6:00pm	L _{Aeq,adj,15 min}	45 dBA	43 dBA	40 dBA	6:00pm to 10:00pm	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA	10:00pm to 6:00am	L _{Aeq,adj,15 min}	28 dBA	28 dBA	28 dBA	Max L _{pA, 15 mins}	55 dBA	55 dBA	55 dBA	6:00am to 7:00am	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA
Time period	Metric	Short term noise event	Medium term noise event	Long term noise event																													
7:00am to 6:00pm	L _{Aeq,adj,15 min}	45 dBA	43 dBA	40 dBA																													
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	Max L _{pA, 15 mins}	55 dBA	55 dBA	55 dBA																													
6:00am to 7:00am	L _{Aeq,adj,15 min}	40 dBA	38 dBA	35 dBA																													
Noise 3	In addition to Noise 1, maintenance of equipment which may exceed <i>Table-Noise limits</i> must be prioritised during daylight hours. Where maintenance cannot be undertaken during daylight hours, or in the event of an emergency event, efforts must be made to notify nearby sensitive receptors of the maintenance event, expected duration and site contact for the maintenance works.																																
Noise 4	Plant equipment must be acoustically treated, where possible, to minimise noise emissions.																																

Noise 5	If the noise subject to a valid complaint is tonal or impulsive, the adjustments detailed in <i>Protecting acoustic values, Table—Adjustments to be added to noise levels at sensitive receptors</i> are to be added to the measured noise level(s) to derive $L_{Aeq, adj, 15 min}$. Protecting acoustic values, Table—Adjustments to be added to noise levels at sensitive receptors <table> <tr> <th>Noise characteristic</th><th>Adjustment to noise</th></tr> <tr> <td>Tonal characteristic is just audible</td><td>+ 2 dBA</td></tr> <tr> <td>Tonal characteristic is clearly audible</td><td>+ 5 dBA</td></tr> <tr> <td>Impulsive characteristic is detectable</td><td>+ 2 to + 5 dBA</td></tr> </table>	Noise characteristic	Adjustment to noise	Tonal characteristic is just audible	+ 2 dBA	Tonal characteristic is clearly audible	+ 5 dBA	Impulsive characteristic is detectable	+ 2 to + 5 dBA
Noise characteristic	Adjustment to noise								
Tonal characteristic is just audible	+ 2 dBA								
Tonal characteristic is clearly audible	+ 5 dBA								
Impulsive characteristic is detectable	+ 2 to + 5 dBA								
Noise 6	Notwithstanding condition (Noise 2), emission of any low frequency noise must not exceed either (a) and (b), or (c) and (d) in the event of a valid complaint about low frequency noise being made to the administering authority: (a) 60 dB(C) measured outside the sensitive receptor; and (b) the difference between the external A-weighted and C-weighted noise levels is no greater than 20 dB; or (c) 50 dB(Z) measured inside the sensitive receptor; and (d) the difference between the internal A-weighted and Z-weighted ($Max L_{pZ, 15 min}$) noise levels is no greater than 15 dB.								
Noise 7	Blasting is not authorised under this environmental authority.								

Schedule D- Air conditions								
Condition number	Condition							
Air 1	A fuel burning or combustion facility must not be operated unless it is listed in <i>Protecting air values, Table –Authorised point sources</i> .							
	Protecting air values, Table—Authorised point sources							
	Release Point(s)	Source(s)	Minimum Release Height (m)	Minimum Efflux Velocity ¹ (m / sec)	NOx as Nitrogen Dioxide		Carbon Monoxide	
					Maximum concentration (mg / Nm ³)	Maximum Mass emission rate (g / sec)	Maximum concentration (mg / Nm ³)	Maximum Mass emission rate (g / sec)
	RP1 to RP13 (13 in total)	Compressors	8	60	500	0.53	573	0.53
	RP14 toRP15 (2 in total)	Reboiler stacks	5	15	25	0.0067	20	0.0056
	RP16 (1 in total)	Emergency diesel generator	2	35.6	No max	0.111	No max	0.015
	RP17 to RP18 (2 in total)	Gas generators	4.5	37.2	500	0.416	501	0.194
	RP19 (1 in total)	Flare	15	267	No max	15.6	No max	84.8
Air 2	The flare release point RP19 authorised under <i>Protecting air values, Table —Authorised point sources</i> must be constructed and operated in a way to avoid the release or formation of contaminants at a concentration or mass capable of causing environmental harm or environmental nuisance.							
Air 3	Unless venting is authorised under the <i>Petroleum and Gas (Production and Safety) Act 2004</i> or the <i>Petroleum Act 1923</i> , waste gas must be flared in a manner that complies with all of (a) and (b) and (c), or with (d): (a) an automatic ignition system is used; and							

¹ Note: Minimum velocity measured at 100% load.

	(b) a flame is visible at all times while the waste gas is being flared; and (c) there are no visible smoke emissions other than for a total period of no more than 5 minutes in any 2 hours; or (d) it uses an enclosed flare.
Air 4	Point source air monitoring for each fuel burning or combustion facility listed in <i>Protecting air values, Table — Authorised point sources</i> must: (a) be undertaken once: i. in the first three months after each facility is first commissioned, and then ii. every year thereafter (b) be carried out when the facility the subject of the sampling is operating under maximum operating conditions for the annual period; and (c) demonstrate compliance with the limits listed in <i>Protecting air values, Table — Authorised point sources</i> at each release point reference.
Air 5	All specifically authorised discharge points to air must be signed with a unique reference name or number, consistent with the release points in <i>Protecting air values, Table — Authorised point sources</i>, in such a way that it is clearly observable.
Airbourne contaminants	
Air 6	Odours or airborne contaminants from the activity must not cause an environmental nuisance to any sensitive or commercial place.
Air 7	Dust and particulate matter emissions from the activity must not exceed the following concentrations at any sensitive place or commercial place: (a) dust deposition of 120 milligrams per square metre per day, averaged over 30 days, when monitored in accordance with the most current edition of Australian Standard AS 3580.10.1; or (b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most current edition of the relevant Australian Standards.

Schedule E- Land conditions	
Condition number	Condition
Land 1	Contaminants must not be directly or indirectly released to land.
Erosion and Sediment Control	
Land 2	Topsoil must be managed in a manner that preserves its biological and chemical properties.
Land 3	Control measures that are commensurate to the site-specific risk of erosion, and risk of sediment release to waters must be implemented and maintained at all times to: (a) minimise soil erosion resulting from wind, rain, and flowing water; (b) minimise the duration that disturbed soils are exposed to the erosive forces of wind, rain, and flowing water; (c) minimise work-related soil erosion and sediment runoff; (d) minimise negative impacts to land or properties adjacent to the activities (including roads); and (e) prevent the release of sediment from areas disturbed by the activity to land or waters.
Land 4	An erosion and sediment management plan must: (a) be developed: (i) by an appropriately qualified person; (ii) prior to the commencement of any ground disturbance associated with the activity; and (iii) to ensure compliance with conditions Land 2 and Land 3. (b) include best practice erosion and sediment control measures; (c) be revised as necessary to ensure that all times the plan covers all areas disturbed by the activity; and (d) be implemented at all times.
Chemical storage	
Land 5	Chemicals and fuels stored, must be effectively contained and where relevant, meet Australian Standards, where such a standard is applicable.
Pipeline operation, maintenance, reinstatement and revegetation	
Land 6	Pipeline operation and maintenance must be in accordance, to the greatest practicable extent, with the relevant section of the APIA Code of Environmental Practice: Onshore Pipelines (2009).

Land 7	Pipeline trenches must be backfilled, and topsoils reinstated within three months after pipe laying.
Land 8	Reinstatement and revegetation of the pipeline right of way must commence within 6 months after cessation of petroleum activities for the purpose of pipeline construction.
Land 9	Backfilled, reinstated and revegetated pipeline trenches and right of ways must be: (a) a stable landform; (b) re-profiled to a level consistent with surrounding soils; (c) re-profiled to original contours and established drainage lines; and (d) vegetated with groundcover which is not a declared pest species, and which is established and growing.

Schedule F- Biodiversity conditions	
Condition number	Condition
Confirming biodiversity values	
Biodiversity 1	Prior to undertaking activities that result in significant disturbance to land in areas of native vegetation, confirmation of on-the-ground biodiversity values of the native vegetation communities at that location must be undertaken by a suitably qualified person.
Biodiversity 2	A suitably qualified person must develop and certify a methodology so that condition Biodiversity 1 can be complied with, and which is appropriate to confirm on-the-ground biodiversity values.
Biodiversity 3	For conditions Biodiversity 4 to Biodiversity 8, where mapped biodiversity values differ from those confirmed under conditions Biodiversity 1 and Biodiversity 2, the activity may proceed in accordance with the conditions of the environmental authority based on the confirmed on-the-ground biodiversity values.
Planning for land disturbance	
Biodiversity 4	The location of the activity must be selected in accordance with the following site planning principles: (a) maximise the use of areas of pre-existing disturbance; (b) in order of preference, avoid, minimise or mitigate any impacts, including cumulative impacts, on areas of native vegetation or other areas of ecological value; (c) minimise disturbance to land that may result in land degradation; (d) in order of preference, avoid then minimise isolation, fragmentation, edge effects or dissection of tracts of native vegetation; and (e) in order of preference, avoid then minimise clearing of native mature trees.
Biodiversity 5	Linear infrastructure construction corridors must: (a) maximise co-location; (b) be minimised in width to the greatest practicable extent; and (c) for linear infrastructure that is an essential petroleum activity authorised in an environmentally sensitive area or its protection zone, be no greater than 30m in total width.
Biodiversity 6	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 <i>Protection</i>

of Biodiversity Values, Table —Authorised petroleum activities in environmentally sensitive areas and their protection zones.

Protection of Biodiversity Values, Table —Authorised petroleum activities in environmentally sensitive areas and their protection zones.

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 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.	

Biodiversity 7

Despite condition Biodiversity 6, the activity may be located in environmentally sensitive areas and/or their primary and/or their secondary protection zones as specified in *Table – Petroleum activity exemptions in environmentally sensitive areas* and identified on Appendix 1- MSES Reference Boundary.

Table – Petroleum activity exemptions in environmentally sensitive areas

Tenure	Description of Infrastructure	ESA and ESA Protection Zone	Maximum Disturbance footprint (ha)	Location on Appendix 1- MSES Reference Boundary ²			
PPL2073 PFL33	Access road and Pipeline	Category B ESA	8.04 ha	Chainage reference	Map reference	Latitude and Longitude Start chainage	Latitude and Longitude End chainage
				CH0 – CH2	MSES reference boundary 1 of 6	-21.612442 148.022296	-21.615684 148.003516
				CH3 – CH9	MSES Reference Boundary: 2 of 6 and MSES Reference Boundary: 3 of 6	-21.618829 147.984489	-21.637784 147.950948
				CH16.5 to CH17.5	MSES Reference Boundary: 5 of 6 and MSES Reference Boundary: 6 of 6	-21.667532 147.907344	-21.667231 147.897686
PPL2073 PFL33	Access road, Gas Compression Facility and Pipeline	Category B ESA Primary protection zone	23.88 ha	Chainage reference	Map reference	Latitude and Longitude Start chainage	Latitude and Longitude End chainage
				CH0 – CH2.5	MSES Reference Boundary: 1 of 6	-21.612442 148.022296	-21.616470 147.998759

² The chainage reference 'CH' is identified as 'Chainage along the project-km' in Appendix 1- MSES Reference Boundary.

					CH3 – CH9	MSES Reference Boundary: 2 of 6 and MSES Reference Boundary: 3 of 6	-21.618829 147.984489	-21.637784 147.950948
					CH16 to CH17.5	MSES Reference Boundary: 5 of 6 and MSES Reference Boundary: 6 of 6	-21.667744 147.912171	-21.667231 147.897686
	PPL2073 PFL33	Access road, Gas Compression Facility and Pipeline	Category B ESA Secondary protection zone	26.24 ha	Chainage reference	Map reference	Latitude and Longitude Start chainage	Latitude and Longitude End chainage
					CH0 – CH2.5	MSES Reference Boundary: 1 of 6	-21.612442 148.022296	-21.616470 147.998759
					CH3 – CH9	MSES Reference Boundary: 2 of 6 and MSES Reference Boundary: 3 of 6	-21.618829 147.984489	-21.637784 147.950948
					CH16 to CH17.5	MSES Reference Boundary: 5 of 6 and MSES Reference Boundary: 6 of 6	-21.667744 147.912171	-21.667231 147.897686
	PPL2073	Access road and Pipeline	Category C ESA	0.37 ha	Chainage reference	Map reference	Latitude and Longitude Start chainage	Latitude and Longitude End chainage
					CH2 – CH2.5	MSES reference boundary 1 of 6	-21.615684 148.003516	-21.616470 147.998759
					CH4 – CH5	MSES reference boundary 2 of 6	-21.618829 147.984489	-21.620402 147.974975

	PPL2073	Access road, Gas Compression Facility and Pipeline	Category C ESA Primary protection zone	4.44 ha	Chainage reference	Map reference	Latitude and Longitude Start chainage	Latitude and Longitude End chainage
					CH1.5 - 3	MSES reference boundary 1 of 6 and MSES reference boundary 2 of 6	-21.614898 148.008273	-21.617257 147.994002
					CH4 – CH5	MSES reference boundary 2 of 6	-21.618829 147.984489	-21.620402 147.974975

Prescribed environmental matters - matters of State environmental significance									
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Biodiversity 8	Impacts to matters of State environmental significance (MSES) as a result of carrying out the activity must only occur within the locations and to the maximum extents stated in <i>Table – Authorised impacts to MSES</i> and identified in on Appendix 1- MSES Reference Boundary and Appendix 2- Operational Reference Boundary ³ maps.								
Table – Authorised impacts to MSES									
Matters of State environmental significance		Location of impact				Significant residual impact	Offset Required	Maximum extent of impact	
REGULATED VEGETATION									
Endangered regional ecosystem– RE 11.4.9		RE 11.4.9 is located on the Access Road, PPL2073 and PFL33 between the below chainage reference points:				Yes	Yes	3.41ha	
		Chainage	Map reference	Latitude and	Latitude and				

³ The chainage reference 'CH' is identified as 'Chainage along the project-km' in Appendix 1- MSES Reference Boundary and Appendix 2- Operational reference boundary maps.

		reference		Longitude Start point	Longitude End point			
		CH0 to CH2.5	MSES Reference Boundary: 1 of 6	-21.612442 148.022296	-21.616470 147.998759			
		CH4 to CH5.5	MSES Reference Boundary: 2 of 6	-21.618829 147.984489	-21.621187 147.970218			
		CH16.5 to CH17.5	MSES Reference Boundary: 5 of 6 and MSES Reference Boundary: 6 of 6	-21.667532 147.907344	-21.667231 147.897686			
	Regional ecosystems (not within an urban area) within the defined distance from the defining banks of a relevant watercourse or relevant drainage feature – RE 11.8.5	RE 11.8.5 is located on PPL2073 at Goonyella Creek crossing between the below chainage reference points:				No	No	0.26ha
		Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point			
		CH3.5 to CH5	MSES Reference Boundary: 2 of 6	-21.618043 147.989246	-21.619615 147.979732			
PROTECTED WILDLIFE HABITAT								
	Habitat for an animal that is	Koala habitat is located on PPL2073 and PFL33 between the below chainage reference points:				No	No	5.0ha (potential)

	critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal – Koala <i>Phascolarctos cinereus</i> <table><tr><th>Chainage reference</th><th>Map reference</th><th>Latitude and Longitude Start point</th><th>Latitude and Longitude End point</th></tr><tr><td>CH3.5 to CH7.5</td><td>Operational Reference Boundary</td><td>-21.618043 147.989246</td><td>-21.624330 147.951190</td></tr><tr><td>CH8 to CH8.5</td><td>Operational Reference Boundary</td><td>-21.628750 147.950948</td><td>-21.633267 147.950948</td></tr></table>	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point	CH3.5 to CH7.5	Operational Reference Boundary	-21.618043 147.989246	-21.624330 147.951190	CH8 to CH8.5	Operational Reference Boundary	-21.628750 147.950948	-21.633267 147.950948			habitat)			
Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point																
CH3.5 to CH7.5	Operational Reference Boundary	-21.618043 147.989246	-21.624330 147.951190																
CH8 to CH8.5	Operational Reference Boundary	-21.628750 147.950948	-21.633267 147.950948																
Habitat for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal – Ornamental snake <i>Denisonia maculata</i> <table><tr><th>Chainage reference</th><th>Map reference</th><th>Latitude and Longitude Start point</th><th>Latitude and Longitude End point</th></tr><tr><td>CH0 to CH5</td><td>Operational Reference Boundary</td><td>-21.612442 148.022296</td><td>-21.620402 147.974975</td></tr><tr><td>CH7 to CH8</td><td>Operational Reference Boundary</td><td>-21.623544 147.955947</td><td>-21.628750 147.950948</td></tr><tr><td>CH8.5 to CH19.8</td><td>Operational Reference Boundary</td><td>-21.633267 147.950948</td><td>-21.666940 147.875390</td></tr></table>	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point	CH0 to CH5	Operational Reference Boundary	-21.612442 148.022296	-21.620402 147.974975	CH7 to CH8	Operational Reference Boundary	-21.623544 147.955947	-21.628750 147.950948	CH8.5 to CH19.8	Operational Reference Boundary	-21.633267 147.950948	-21.666940 147.875390	Ornamental snake habitat is located on the Access Road, PPL2073 and PFL33 between the below chainage reference points: Yes	Yes	55.67ha
Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point																
CH0 to CH5	Operational Reference Boundary	-21.612442 148.022296	-21.620402 147.974975																
CH7 to CH8	Operational Reference Boundary	-21.623544 147.955947	-21.628750 147.950948																
CH8.5 to CH19.8	Operational Reference Boundary	-21.633267 147.950948	-21.666940 147.875390																
Habitat for an animal that is critically	Squatter pigeon habitat is located on the Access Road, PPL2073 and PFL33 between the below chainage reference points:	Yes	Yes	31.68ha															

endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal- Squatter pigeon <i>Geophaps scripta scripta</i>	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point			
	CH0 to CH8.5	Operational Reference Boundary	-21.612442 148.022296	-21.633267 147.950948			
	CH16.5 to CH17.5	Operational Reference Boundary	-21.667532 147.907344	-21.667231 147.897686			
Habitat for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal- Greater Glider <i>Petauroides volans volans</i>	Greater Glider habitat is located on PPL2073 and PFL33 between the below chainage reference points:				No	No	5.0ha
	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point			
	CH3.5 to CH4.5	Operational Reference Boundary	-21.618043 147.989246	-21.619615 147.979732			
	CH5 to CH7.5	Operational Reference Boundary	-21.620402 147.974975	-21.624330 147.951190			
	CH8 to CH8.5	Operational Reference Boundary	-21.628750 147.950948	-21.633267 147.950948			
Habitat for an animal that is critically	White- throated Needletail habitat is located on the Access Road, PPL2073 and PFL33 between the below chainage reference points:				No	No	65.05ha

	endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal- White-throated Needletail <i>Hirundapus caudacutus</i>	<table><tr><th>Chainage reference</th><th>Map reference</th><th>Latitude and Longitude Start point</th><th>Latitude and Longitude End point</th></tr><tr><td>CH0 to CH19.8</td><td>Operational Reference Boundary</td><td>-21.612442 148.022296</td><td>-21.666940 147.875390</td></tr></table>	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point	CH0 to CH19.8	Operational Reference Boundary	-21.612442 148.022296	-21.666940 147.875390			
	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point									
	CH0 to CH19.8	Operational Reference Boundary	-21.612442 148.022296	-21.666940 147.875390									
Habitat for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal- Fork-tailed Swift <i>Apus pacificus</i>	Fork-tailed Swift habitat is located on the Access Road, PPL2073 between the below chainage reference points: <table><tr><th>Chainage reference</th><th>Map reference</th><th>Latitude and Longitude Start point</th><th>Latitude and Longitude End point</th></tr><tr><td>CH0 to CH19.8</td><td>Operational Reference Boundary</td><td>-21.612442 148.022296</td><td>-21.666940 147.875390</td></tr></table>	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point	CH0 to CH19.8	Operational Reference Boundary	-21.612442 148.022296	-21.666940 147.875390	No	No	65.05ha	
Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point										
CH0 to CH19.8	Operational Reference Boundary	-21.612442 148.022296	-21.666940 147.875390										
Habitat for an animal that is critically endangered	Latham's Snipe habitat is located on PPL2073 between the below chainage reference points:	No	No	36.05ha									

	wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal- Latham's Snipe <i>Gallinago hardwickii</i>	Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point			
		CH7 to CH8	Operational Reference Boundary	-21.623544 147.955947	-21.628750 147.950948			
		CH8.5 to CH19.8	Operational Reference Boundary	-21.633267 147.950948	-21.666940 147.875390			
WATERWAY PROVIDING FOR FISH PASSAGE								
	Any part of a waterway (not in an urban area) providing for passage of fish – Goonyella Creek	The Goonyella Creek waterway providing for fish passage is located on PPL2073 between the below chainage reference points:				No	No	<0.1ha
		Chainage reference	Map reference	Latitude and Longitude Start point	Latitude and Longitude End point			
		CH3.5	Operational Reference Boundary	-21.618043 147.989246	-21.618043 147.989246			

Biodiversity 9	All impacts to MSES must be determined, documented, and mapped by an appropriately qualified person.
Biodiversity 10	Records of impacts to MSES in condition Biodiversity 8 must be kept for the life of the environmental authority and include: (a) the size and extent of impact; (b) details about the condition of the MSES (e.g., dominant vegetation and remnant status); and (c) a determination of whether the impact is a significant residual impact.
Environmental Offset	
Biodiversity 11	An environmental offset must be made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offsets Policy, Version 1.12, for the maximum extent of impact to each prescribed environmental matter requiring an offset as listed in <i>Table – Authorised impacts to MSES</i> . Note: Deemed conditions provided in section 16 of the <i>Environmental Offsets Act 2014</i> also apply to this authority. Any contravention of a deemed condition will be dealt with under the <i>Environmental Protection Act 1994</i> .
Biodiversity 12	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> unless the impact is specified in <i>Table - Authorised impacts to MSES</i> or the same, or substantially the same, impact on the same, or substantially the same, prescribed environmental matter has been assessed under a relevant Commonwealth Act.
Spatial records	
Biodiversity 13	Spatial records sufficient to demonstrate compliance with conditions Biodiversity 1, Biodiversity 10(a) and Biodiversity 11 must be kept for the life of the environmental authority. For clarity, this includes mapped biodiversity values, confirmed on-the-ground biodiversity values, location of the activity, environmentally sensitive areas and their protection zones, prescribed environmental matters and impacts to prescribed environmental matters.

Schedule G- Water conditions	
Condition number	Condition
Water 1	Contaminants must not be released to any waters.
Water 2	Contaminants must not be released to groundwaters or at a location where they are likely to release to groundwaters.
Authorised activities in waters	
Water 3	Only construction or maintenance of linear infrastructure is permitted in or within a watercourse.
Water 4	The construction or maintenance of linear infrastructure in a watercourse not result in the clearing of riparian vegetation outside of the minimum area practicable to carry out the works.
Water 5	After the construction or maintenance works for linear infrastructure in a watercourse are completed, the linear infrastructure must not: (a) drain or fill the watercourse; (b) prohibit the flow of surface water in or out of the watercourse; (c) lower or raise the water table and hydrostatic pressure outside the bounds of natural variability that existed before the activities commenced; (d) result in ongoing negative impacts to water quality; (e) result in bank instability; or (f) result in fauna ceasing to use adjacent areas for habitat, feeding, roosting or nesting.
Water 6	The construction or maintenance of linear infrastructure activities in a watercourse must be conducted in the following preferential order: (a) firstly, in times where there is no water present; (b) secondly, in times of no flow; or (c) thirdly, in times of flow, providing a bankfull situation is not expected and that flow is maintained.
Water 7	The construction or maintenance of linear infrastructure authorised under condition Water 3 must comply with the water quality limits as specified in <i>Protecting water values, Table—Release limits for construction or maintenance of linear infrastructure</i>. Protecting water values, Table—Release limits for construction or maintenance of linear infrastructure.

	<table><tr><th>Water quality parameters</th><th>Units</th><th>Water quality limits</th></tr><tr><td rowspan="2">Turbidity</td><td rowspan="2">Nephelometric Turbidity Units (NTU)</td><td>For a watercourse, if background water turbidity is above 45 NTU, no greater than 25% above background water turbidity measured within 50m downstream of the construction or maintenance activity.</td></tr><tr><td>For a watercourse, if background water turbidity is equal to, or below 45 NTU, a turbidity limit of no greater than 55 NTU applies, measured within 50m downstream of the construction or maintenance activity.</td></tr><tr><td>Hydrocarbons</td><td>-</td><td>For a watercourse, no visible sheen or slick.</td></tr></table>	Water quality parameters	Units	Water quality limits	Turbidity	Nephelometric Turbidity Units (NTU)	For a watercourse, if background water turbidity is above 45 NTU, no greater than 25% above background water turbidity measured within 50m downstream of the construction or maintenance activity.	For a watercourse, if background water turbidity is equal to, or below 45 NTU, a turbidity limit of no greater than 55 NTU applies, measured within 50m downstream of the construction or maintenance activity.	Hydrocarbons	-	For a watercourse, no visible sheen or slick.
Water quality parameters	Units	Water quality limits									
Turbidity	Nephelometric Turbidity Units (NTU)	For a watercourse, if background water turbidity is above 45 NTU, no greater than 25% above background water turbidity measured within 50m downstream of the construction or maintenance activity.									
		For a watercourse, if background water turbidity is equal to, or below 45 NTU, a turbidity limit of no greater than 55 NTU applies, measured within 50m downstream of the construction or maintenance activity.									
Hydrocarbons	-	For a watercourse, no visible sheen or slick.									
Water 8	Monitoring to demonstrate compliance with condition Water 7 must be undertaken every 12 hours: (a) once construction or maintenance of linear infrastructure has commenced in a wetland of general environmental significance or watercourse; and (b) for 48 hours after construction or maintenance of linear infrastructure in a wetland of other environmental value or watercourse has ceased.										
Register of activities in watercourses											
Water 9	A register must be kept of all linear infrastructure construction and maintenance activities in a watercourse, and must include: (a) location of the activity (e.g. GPS coordinates (GDA2020) and watercourse name); (b) estimated flow rate of surface water at the time of the activity; (c) duration of works, and (d) results of impact monitoring carried out under condition Water 8.										
Stormwater management											
Water 10	Stormwater that is not contaminated by the activity must be diverted away from areas where it may become contaminated by the activity. Stormwater that is contaminated by the activity must be directed to a treatment system.										

Schedule G- Rehabilitation conditions	
Condition number	Condition
Rehabilitation 1	A Rehabilitation Plan must: 1. be developed and documented before commencement of the activity by an appropriately qualified person; 2. include: a) map/s showing pre-disturbance land uses; b) map/s showing pre-disturbance biodiversity values; c) rehabilitation goals; d) rehabilitation success criteria; e) rehabilitation indicators and the monitoring program to be used; f) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation; g) detail rehabilitation methods applied to areas; h) success criteria for areas and itemise revegetation criteria; i) a minimum of three (3) reference and three (3) rehabilitation sites to be used; j) a contingency plan for rehabilitation maintenance or redesign. k) procedures to be undertaken for rehabilitation that will: i. achieve the requirements of conditions Rehabilitation 2 to Rehabilitation 4, inclusive; and ii. provide for appropriate monitoring and maintenance; and 3. be implemented at all times following the commencement of the activity.
Transitional rehabilitation	
Rehabilitation 2	Within 12 months of works associated with the activity ceasing over an area of land, disturbance on the land caused by the activity must be rehabilitated to meet the following acceptance criteria and be maintained until the final acceptance criteria in conditions Rehabilitation 3 or Rehabilitation 4 is met: (a) contaminated land resulting from petroleum activities is remediated and rehabilitated; (b) the areas are: i. non-polluting; ii. a stable landform; iii. re-profiled to contours consistent with the surrounding landform; (c) surface drainage lines are re-established; (d) top soil is reinstated; and (e) either: i. groundcover, that is not a declared pest species and environmental weeds, is growing; or ii. an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained.

Final rehabilitation acceptance criteria in areas that do not have biodiversity values	
Rehabilitation 3	Disturbance caused by the activity to areas that do not have biodiversity values, which are not being or intended to be utilised by the landholder or overlapping tenure holder, must be rehabilitated to meet the following final rehabilitation acceptance criteria measured against either the highest ecological value of the adjacent land use or the pre-disturbed land use: (a) greater than or equal to 70% of native ground cover species richness (b) greater than or equal to the total per cent of ground cover (c) less than or equal to the per cent species richness of declared plant pest species; and (d) where the adjacent land use contains, or the pre-disturbed land use contained, one or more regional ecosystem, then the disturbed land must be rehabilitated to have at least one regional ecosystem from the same broad vegetation group and with the equivalent biodiversity status or a biodiversity status with a higher conservation value.
Final rehabilitation acceptance criteria in areas with biodiversity values	
Rehabilitation 4	Disturbance caused by the activity to areas with biodiversity values must be rehabilitated to meet the following final rehabilitation acceptance criteria as measured against the pre-disturbance biodiversity values assessment for that area required by condition Biodiversity 1: (a) greater than or equal to 70% of native ground cover species richness; (b) greater than or equal to the total per cent ground cover; (c) less than or equal to the per cent species richness of declared plant pest species; (d) greater than or equal to 50% of organic litter cover; (e) greater than or equal to 50% of total density of coarse woody material; and (f) all predominant species in the ecologically dominant layer, that define the pre-disturbance regional ecosystem(s) are present.
Rehabilitation 5	Conditions (Rehabilitation 2), (Rehabilitation 3) and (Rehabilitation 4) continue to apply after this environmental authority has ended or ceased to have effect.

Schedule H- Definitions

Note: these definitions are specific to petroleum activities. The definitions in the common model conditions will also apply.

Where a word or phrase in this document is defined in this Schedule, it has its corresponding meaning. Where a word or phrase in this document is not defined in this Schedule, it has the meaning given to it in (in order of priority):

- the *Environmental Protection Act 1994* (EP Act), its regulations or its environmental protection policies;
- *Environmental Offsets Act 2014*;
- *Regional Planning Interests Act 2014*;
- *Waste Reduction and Recycling Act 2011*;
- the *Acts Interpretation Act 1954*;
- the Macquarie Dictionary (taking account of the context in which the word or phrase is used in this document).

For example, environmental value, environmental harm, environmental nuisance, material environmental harm, serious environmental harm and relevant act are defined in the EP Act and groundwater is defined in the Environmental Protection Regulation 2019.

Defined words or phrases in the singular include the plural and vice versa.

Acceptable standards for release to land means untreated produced water or pipeline waste water which:

- (a) meets the limits in *Table – Acceptable standards for release to land*; and
- (b) does not contain biocides.

Table – Acceptable standards for release to land

Contaminant	Limit	Limit type
electrical conductivity (EC)	3000 µs/cm	Maximum
sodium adsorption ratio (SAR)	8	Maximum
pH	6.0-9.0	Range
Aluminium	20 mg/L	Maximum
Arsenic	2 mg/L	Maximum
Boron	1 mg/L	Maximum
Cadmium	0.05 mg/L	Maximum
Chromium	1 mg/L	Maximum
Cobalt	0.1 mg/L	Maximum
Copper	5 mg/L	Maximum
Fluoride	2 mg/L	Maximum
Iron	10 mg/L	Maximum
Lithium	2.5 mg/L	Maximum
Lead	5 mg/L	Maximum
Manganese	10 mg/L	Maximum
Mercury	0.002 mg/L	Maximum

Molybdenum	0.05 mg/L	Maximum
Nickel	2 mg/L	Maximum
Zinc	5 mg/L	Maximum

Adjacent land use means the ecosystem function adjacent to an area of disturbance, or where there is no ecosystem function, the use of the land. An adjacent land use does not include an adjacent area that shows evidence of edge effect.

Alternative arrangement means a written agreement about the way in which a particular impact from the activity will be dealt with at a sensitive place, and may include an agreed period of time for which the arrangement is in place. An alternative arrangement may include, but is not limited to, a range of nuisance abatement measures to be installed at the sensitive place, or provision of alternative accommodation for the duration of the relevant nuisance impact.

Approved quality criteria for the purposes of residual drilling materials, means the residual drilling material meet the following quality standards:

Part A In all cases:

Parameter	Maximum concentration
pH	6–10.5 (range)
Electrical Conductivity	20dS/m (20,000µS/cm)
Chloride*	8000mg/L

*Chloride analysis is only required if an additive containing chloride was used in the drilling process

The limits in Part A must be measured in the clarified filtrate of oversaturated solids prior to mixing.

Part B If any of the following metals are a component of the drilling fluids, then for that metal:

Parameter	Maximum concentration
Arsenic	20mg/kg
Selenium	5mg/kg
Boron	100mg/kg
Cadmium	3mg/kg
Chromium (total)	400mg/kg
Copper	100mg/kg
Lead	600mg/kg

The limits in Part B and Part C refer to the post soil/by-product mix.

Part C If a hydrocarbon sheen is visible, the following hydrocarbon fractions:

TPH	Maximum concentration
-----	-----------------------

C6-C10	170mg/kg
C10-C16	150mg/kg
C16-C34	1300mg/kg
C34-C40	5600mg/kg
Total Polycyclic Aromatic Hydrocarbons (PAHs)	20mg/kg
Phenols (halogenated)	1mg/kg
Phenols (non-halogenated)	60mg/kg
Monocyclic aromatic hydrocarbons (Total sum of benzene, toluene, ethyl benzene, xylenes (includes ortho, para and meta xylenes) and styrene)	7mg/kg
Benzene	1mg/kg

Areas of pre-existing disturbance means areas where environmental values have been negatively impacted as a result of anthropogenic activity and these impacts are still evident. Areas of pre-existing disturbance may include areas where legal clearing, logging, timber harvesting, or grazing activities have previously occurred, where high densities of weed or pest species are present which have inhibited re-colonisation of native regrowth, or where there is existing infrastructure (regardless of whether the infrastructure is associated with the activity). The term 'areas of pre-existing disturbance' does not include areas that have been impacted by wildfire/s, controlled burning, flood or natural vegetation die-back.

Bankfull means the channel flow rate that exists when the water is at the elevation of the channel bank above which water begins to spill out onto the floodplain. The term describes the condition of the channel relative to its banks (e.g. overbank, in-bank, bankfull, low banks, high bank).

Biodiversity values means environmentally sensitive areas, prescribed environmental matters and wetlands.

Category A Environmentally Sensitive Area has the meaning in the Environmental Protection Regulation 2019.

Category B Environmentally Sensitive Area has the meaning in the Environmental Protection Regulation 2019.

Category C Environmentally Sensitive Area means any of the following areas:

- nature refuges as defined in the conservation agreement for that refuge under the *Nature Conservation Act 1992*;
- koala habitat areas as defined under the Nature Conservation (Koala) Conservation Plan 2017;
- state forests or timber reserves as defined under the *Forestry Act 1959*;
- resources reserves under the *Nature Conservation Act 1992*;
- an area validated from ground-truthing surveys as 'essential habitat' for 'protected wildlife' in accordance with the *Vegetation Management Act 1999*; and
- 'of concern regional ecosystems' that are remnant vegetation and identified in the database called 'Regional ecosystem description database' containing regional ecosystem numbers and descriptions.

Clearing —

- (a) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining; but
- (b) does not include destroying standing vegetation by stock, or lopping a tree.

Commercial place means a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

Declared pest species are species listed as:

- 'prohibited matter' or 'restricted matter' species under the *Biosecurity Act 2014*; or
- 'Weeds of National Significance' under the Australian Weeds Strategy 2017–2027.

Designated precinct as defined in section 15 of the Regional Planning Interest Regulation 2014.

Ecologically dominant layer has the meaning in the Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 5.1 March 2020) and means the layer making the greatest contribution to the overall biomass of the site and the vegetation community (NLWRA 2001). This is also referred to as the ecologically dominant stratum or the predominant canopy in woody ecosystems.

Ecosystem function means the interactions between and within living and nonliving components of an ecosystem and generally correlates with the size, shape and location of the vegetation community.

Enclosed flare means a device where the residual gas is burned in a cylindrical or rectilinear enclosure that includes a burning system and a damper where air for the combustion reaction is admitted.

Environmental offset as defined in section 7 of the *Environmental Offsets Act 2014*.

Environmentally sensitive area or **ESA** means Category A, B or C environmentally sensitive areas.

Essential activities mean activities that are essential to bringing the resource to the surface and are only the following:

- low impact activities
- geophysical, geotechnical, geological, topographic and cadastral surveys (including seismic, sample/test/geotechnical pits, core holes)
- single well sites not exceeding 1 hectare disturbance and multi-well sites not exceeding 1.5 hectare disturbance
- well sites with monitoring equipment (including monitoring bores):
 - for single well sites, not exceeding 1.25 hectares disturbance
 - for multi-well sites, not exceeding 1.75 hectares disturbance
- well sites with monitoring equipment (including monitoring bores) and tanks (minimum 1 ML) for above ground fluid storage:
 - for single well sites, not exceeding 1.5 hectares disturbance
 - for multi-well sites, not exceeding 2.0 hectares disturbance
- associated infrastructure located on a well site necessary for the construction and operations of wells:
 - water pumps and generators
 - flare pits
 - chemical / fuel storages
 - sumps for residual drilling material and drilling fluids
 - tanks, or dams which are not significant or high consequence dams to contain wastewater (e.g., stimulation flow back waters, produced water)
 - pipe laydown areas
 - soil and vegetation stockpile areas

- a temporary camp associated with a drilling rig that may involve sewage treatment works that are no release works
- temporary administration sites and warehouses
- dust suppression activities using water that meets the quality and operational standards approved under the environmental authority
- communication and power lines that are necessary for the undertaking of activities and that are located within well sites, well pads and pipeline right of ways without increasing the disturbance area of activities
- supporting access tracks
- gathering / flow pipelines from a well head to the initial compression facility
- activities necessary to achieve compliance with the conditions of the environmental authority in relation to another essential activity (e.g., sediment and erosion control measures, rehabilitation).

Flare pit means a containment area where any hydrocarbon that is discovered in an over-pressured reservoir during a drilling and work over process on a petroleum well is diverted to for combustion.

Flare precipitant means waste fluids which result from the operation of a flare.

Floodplains has the meaning in the *Water Act 2000*.

GDA means Geocentric Datum of Australia.

Groundwater dependent ecosystem or **GDE** means ecosystems which require access to groundwater on a permanent or intermittent basis to meet all or some of their water requirements so as to maintain their communities of plants and animals, ecological processes and ecosystem services.

For the purposes of the environmental authority, groundwater dependent ecosystems do not include those mapped as “unknown”.

High ecological value waters see the Environmental Protection (Water and Wetland Biodiversity) Policy 2019, schedule 2.

$L_{Aeq, adj, T}$ means the A-weighted sound pressure level of a continuous steady sound, adjusted for tonality (+ 5 dBA if present) and impulsiveness (+ 5 dBA if present), that within any 15 minute period has the same square sound pressure as a sound level that varies with time.

Land degradation has the meaning in the *Vegetation Management Act 1999*.

Linear infrastructure means powerlines, pipelines, flowlines, roads and access tracks.

Linear Infrastructure Register means a singular register that includes all of the following information for all linear infrastructure construction and maintenance activities in a wetland of general environmental significance and watercourses:

- (a) location of the activity (e.g. GPS coordinates (GDA2020) and watercourse name);
- (b) estimated flow rate of surface water at the time of the activity;
- (c) duration of works; and
- (d) results of impact monitoring carried out under conditions WT5.4 and WT5.5.

Long term noise event means a noise exposure, when perceived at a sensitive place, persists for a period of greater than five (5) days, even when there are respite periods when the noise is inaudible within those five (5) days.

Low impact activities mean activities which do not result in the clearing of native vegetation, cause disruption to soil profiles through earthworks or excavation or result in significant disturbance to land which cannot be rehabilitated immediately using hand tools after the activity is completed. Examples of such activities include but are not necessarily limited to soil surveys (excluding test pits), topographic surveys, cadastral surveys and ecological surveys, may include installation of monitoring equipment provided that it is within the meaning of low impact and traversing land by car or foot via existing access tracks or routes or in such a way that does not result in permanent damage to vegetation.

Map of Queensland wetland environmental values see the Environmental Protection (Water and Wetland Biodiversity) Policy 2019, schedule 2.

Max $L_{pA,T}$ means the absolute maximum instantaneous A-weighted sound pressure level, measured for not less than 15 minutes.

Max L_p,T means the absolute maximum instantaneous sound pressure level, measured for not less than 15 minutes.

Maximum extent of impact means the total, cumulative, residual extent and duration of impact to a prescribed environmental matter that will occur over a project's life after all reasonable avoidance and reasonable on-site mitigation measures have been, or will be, undertaken.

Medium term noise event is a noise exposure, when perceived at a sensitive place, persists for an aggregate period not greater than five (5) days and does not re-occur for a period of at least four (4) weeks. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a difference source or source location.

Mix-bury-cover method means the stabilisation of residual drilling solids in the bottom of a sump by mixing with subsoil and which occurs in accordance with the following methodology:

- the base of the subsoil and residual solid mixture must be separated from the groundwater table by at least one metre of a continuous layer of impermeable subsoil material ($k_w=10-8\text{m/s}$) or subsoil with a clay content of greater than 20%;
- the residual solids are mixed with subsoil in the sump and cover;
- the subsoil and residual solids are mixed at least three parts subsoil to one part waste (v/v);
- a minimum of one metre of clean subsoil must be placed over the subsoil and residual solids mixture; and
- topsoil is replaced.

Monitor, monitored and monitoring means monitoring the impact of an activity on the receiving environment and includes analysing, assessing, examining, inspecting, measuring, modelling or reporting any of the following matters—

- (a) the quantity, quality, characteristics, timing and variability of the release of any contaminant; and
- (b) the effectiveness of any control measure; and
- (c) the characteristics of, and impact on, the receiving environment; and
- (d) the effectiveness of remedial or rehabilitation measures (if applicable to the relevant monitoring requirement).

Prescribed environmental matters has the meaning in the *Environmental Offsets Act 2014*.

Pipeline waste water means hydrostatic testing water, flush water or water from low point drains.

Pre-disturbed land use means the function or use of the land as documented prior to significant disturbance occurring at that location.

Predominant species has the meaning in the Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 5.1 March 2020) and means a species that contributes most to the overall above-ground biomass of a particular stratum.

Primary protection zone means an area within 200m from the boundary of any Category A, B or C ESA.

Produced water has the meaning in the *Petroleum and Gas (Production and Safety) Act 2004*.

Protected wildlife has the meaning in the *Vegetation Management Act 1999*.

Protection zone means the primary protection zone of any Category A, B or C ESA or the secondary protection zone of any Category A or B ESA.

Regional ecosystem has the meaning in the Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 5.1 March 2020) and means a Vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil.

Reinstate or reinstatement for pipelines, means the process of bulk earth works and structural replacement of pre-existing conditions of a site (i.e. soil surface topography, watercourses, culverts, fences and gates and other landscape(d) features) and is detailed in the most current edition of the APGA Code of Environmental Practice: Onshore Pipelines.

Reporting limit means the lowest concentration that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes, the reporting limit is selected as the lowest non-zero standard in the calibration curve. Results that fall below the reporting limit will be reported as “less than” the value of the reporting limit. The reporting limit is also referred to as the practical quantitation limit or the limit of quantitation. For polycyclic aromatic hydrocarbons, the reporting limit must be based on super-ultra trace methods and, depending on the specific polycyclic aromatic hydrocarbon, will range between 0.005 ug/L–0.02 ug/L.

Residual drilling material means waste drilling materials including muds and cuttings or cement returns from well holes, and which have been left behind after the drilling fluids are pumped out.

Secondary protection zone in relation to a Category A or Category B ESA means an area within 100 metres from the boundary of the primary protection zone.

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:

- (a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- (b) a motel, hotel or hostel; or
- (c) a kindergarten, school, university or other educational institution; or
- (d) a medical centre or hospital; or
- (e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
- (f) a public park or garden; or
- (g) for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.

Short term noise event is a noise exposure, when perceived at a sensitive place, persists for an aggregate period not greater than eight hours and does not re-occur for a period of at least seven (7) days. Re-occurrence is deemed to apply where a noise of comparable level is observed at the same receptor location for a period of one hour or more, even if it originates from a different source or source location.

Significant residual impact as defined in section 8 of the *Environmental Offsets Act 2014*.

Species richness means the number of different species in a given area.

Stable has the meaning in Schedule 8 of the Environmental Protection Regulation 2019.

Strategic environmental area has the meaning in the *Regional Planning Interest Act 2014*.

Substantial low frequency noise means a noise emission that has an unbalanced frequency spectrum shown in a one-third octave band measurements, with a predominant component within the frequency range 10 to 200 Hz. It includes any noise emission likely to cause an overall sound pressure level at a noise sensitive place exceeding 55 dB(Z).

Sump means a pit in which waste residual drilling material or drilling fluids are stored only for the duration of drilling activities.

Suitably qualified and experienced person in relation to regulated structures means a person who is an RPEQ under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:

- For regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.

- For regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments. Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology in relation to carrying out a hazard category assessment on a structure means a person who is a RPEQ under the provisions of the *Professional Engineers Act 2002*, who is a civil engineer with the required qualifications in dam safety and dam design and has demonstrated competency and relevant experience.

Third-party means a raw gas supplier.

Treated water means treated water from the oily water separator at the gas compression facility.

Topsoil means the surface (top) layer of a soil profile, which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.

Total density of coarse woody material means the total length of logs on the ground greater than or equal to 10cm diameter per hectare and number of logs on the ground greater than or equal to 10cm diameter per hectare.

Vegetation management wetlands map see the *Vegetation Management Act 1999*, section 20AA.

Waters includes a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

Waste fluids has the meaning in section 13 of the *Environmental Protection Act 1994* in conjunction with the common meaning of “fluid” which is “a substance which is capable of flowing and offers no permanent resistance to changes of shape”.

Wetland of high ecological significance means a ‘GBR wetland of high ecological significance’ or a ‘Wetland of high ecological significance’ shown on the map of Queensland wetland environmental values.

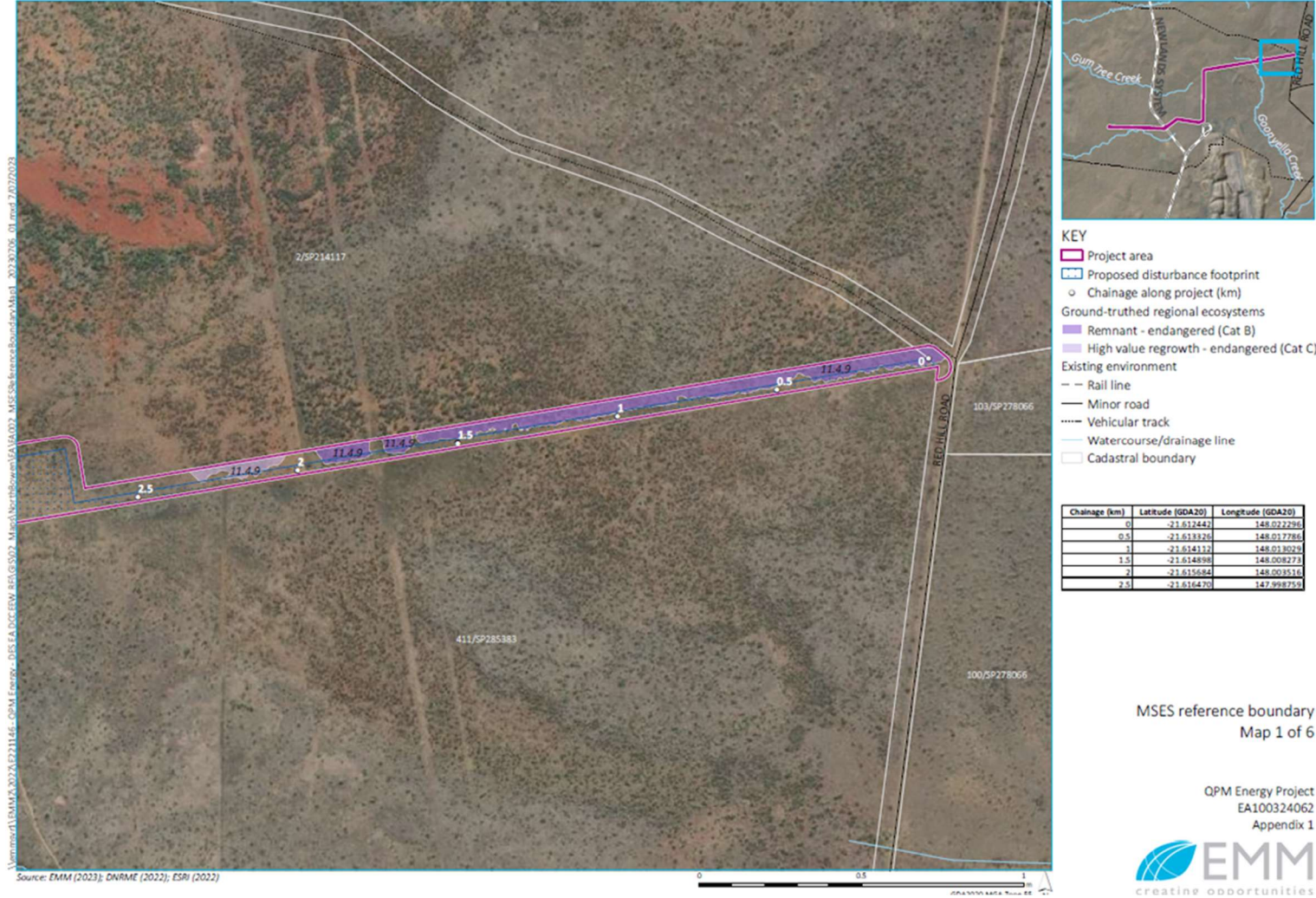
Wetland of general environmental significance means a ‘Wetland of general ecological significance’ shown on the map of Queensland wetland environmental values.

Wetland protection area means an area shown as a wetland protection area on the map of Great Barrier Reef wetland protection areas.

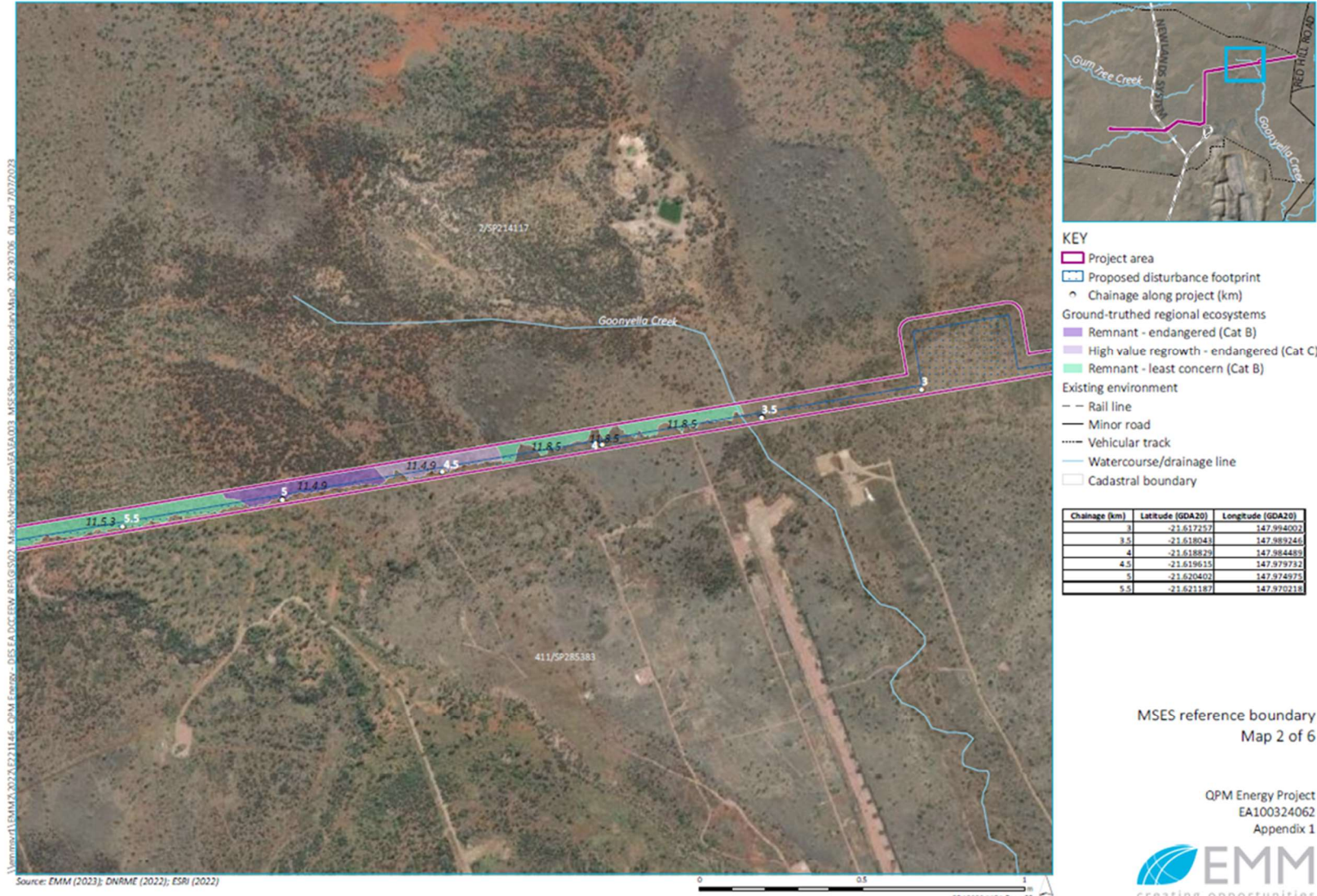
Written correspondence means a signed letter from a delegate of the administering authority.

Appendix 1- MSES Reference Boundary

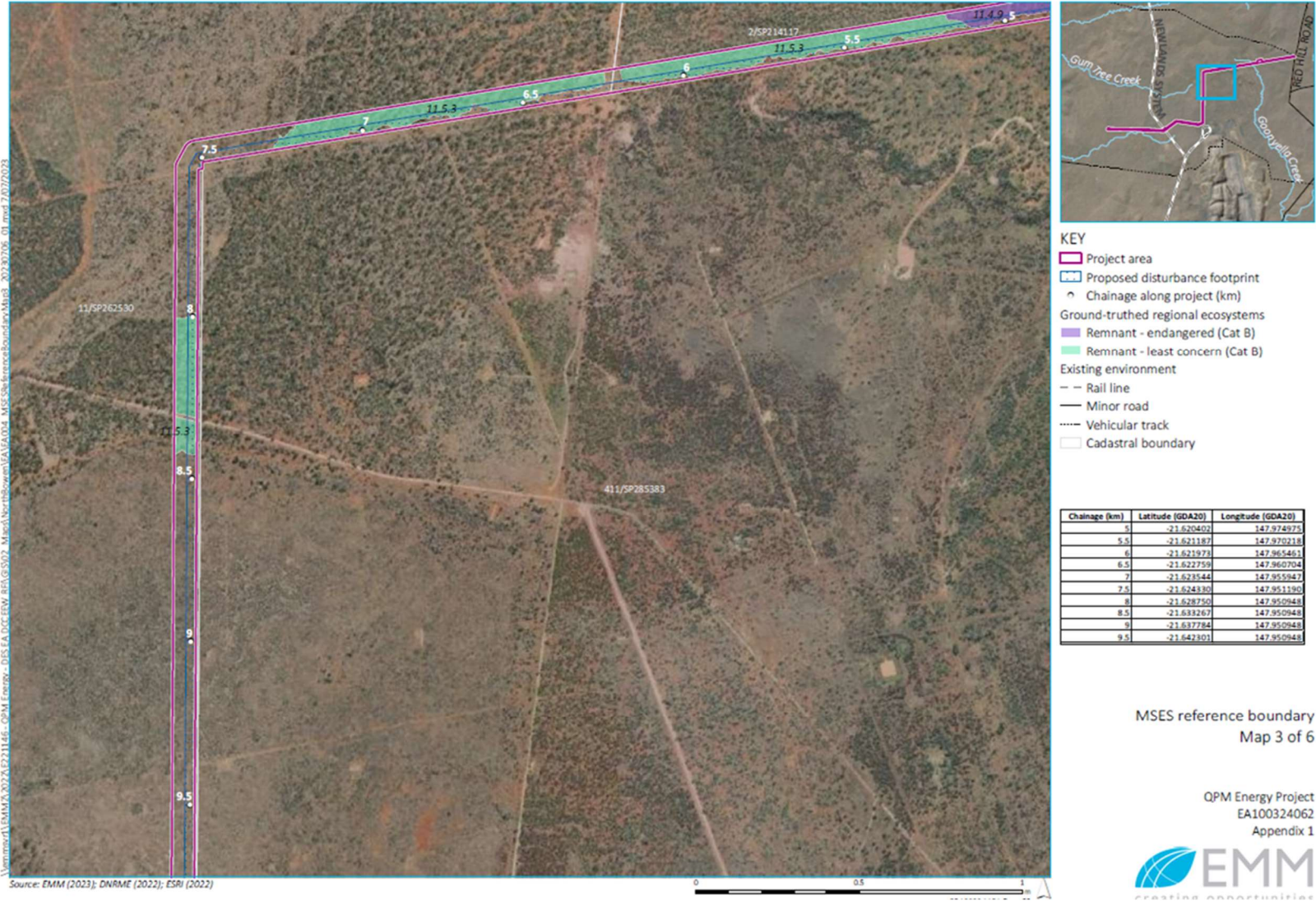
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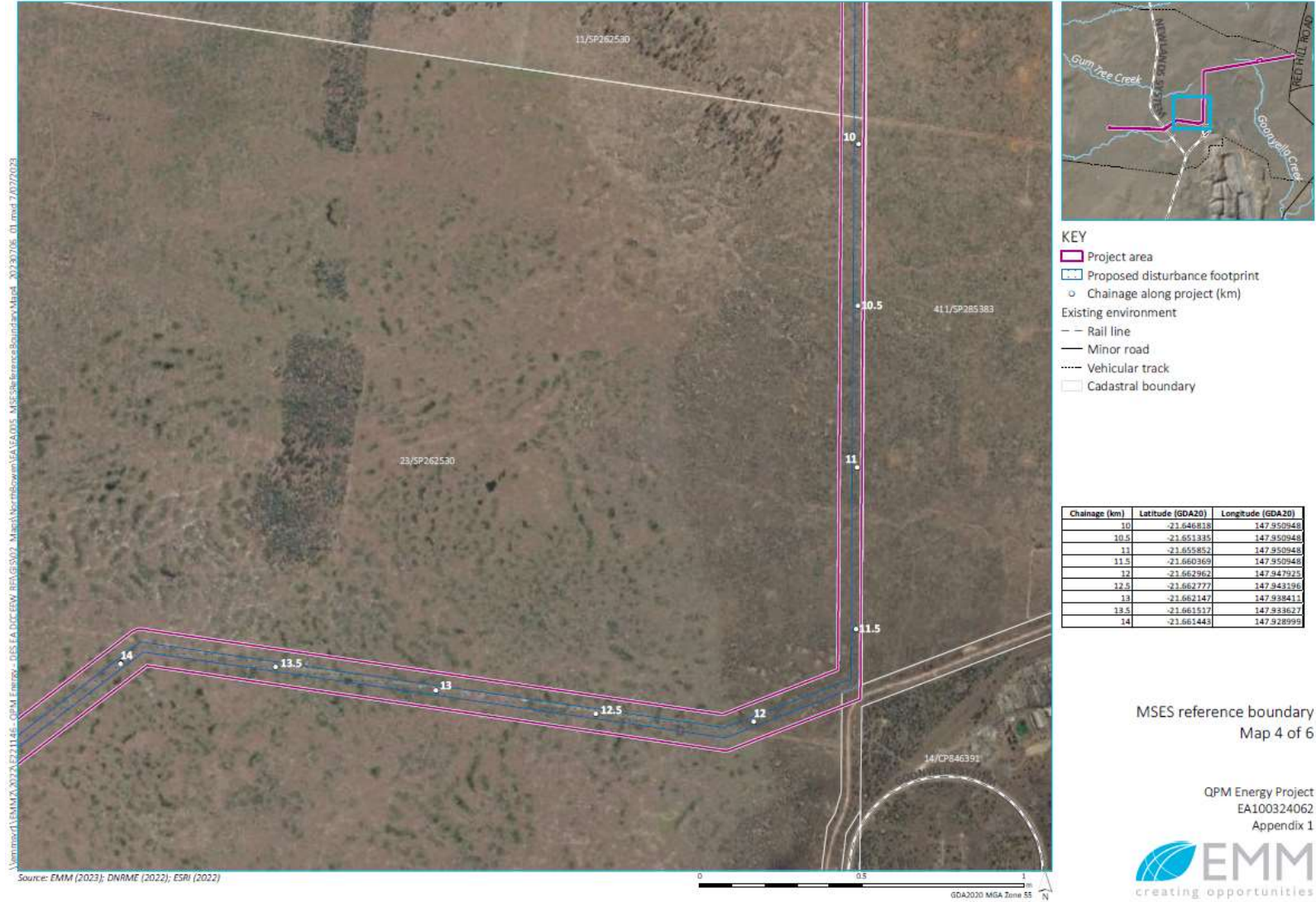
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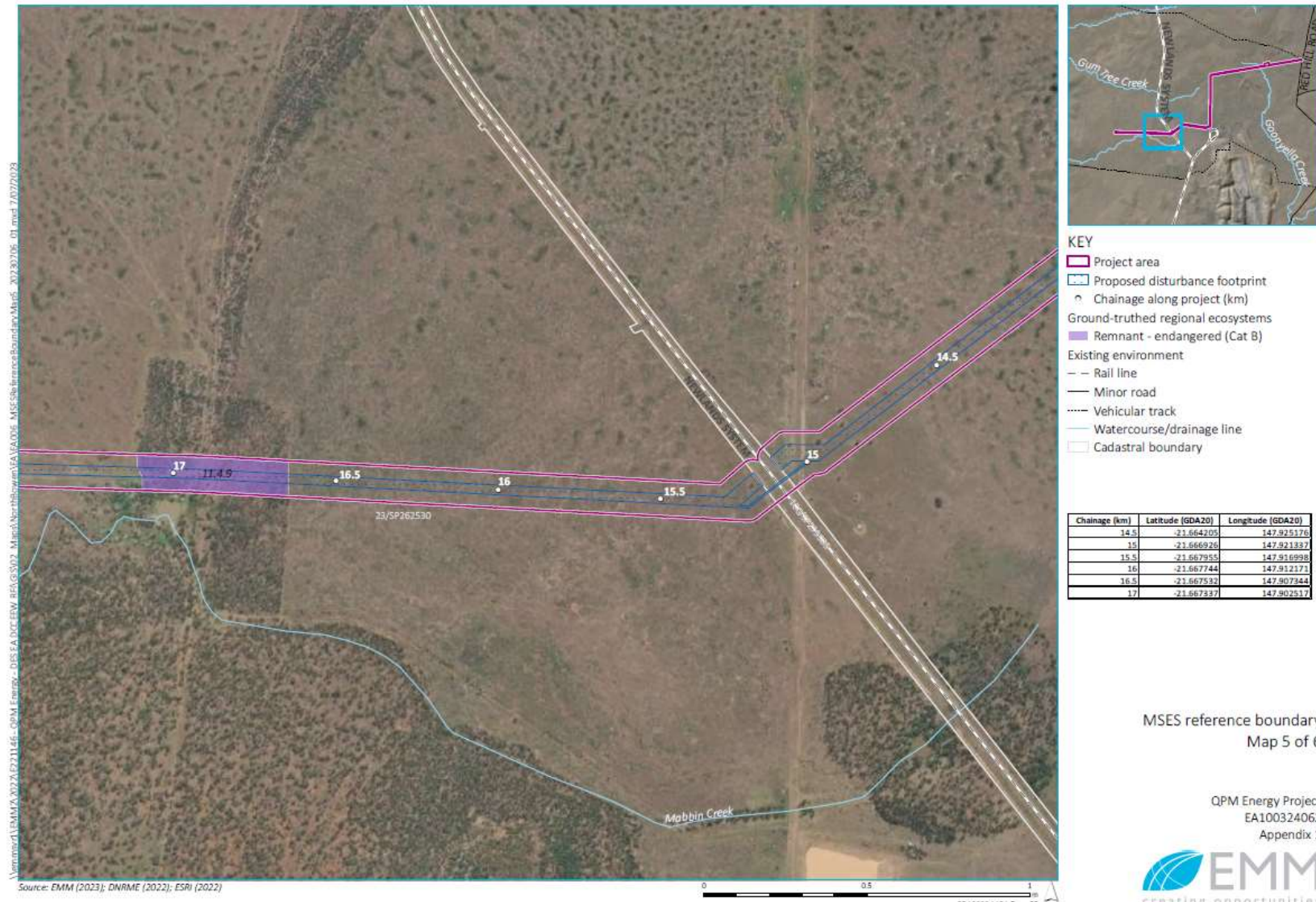
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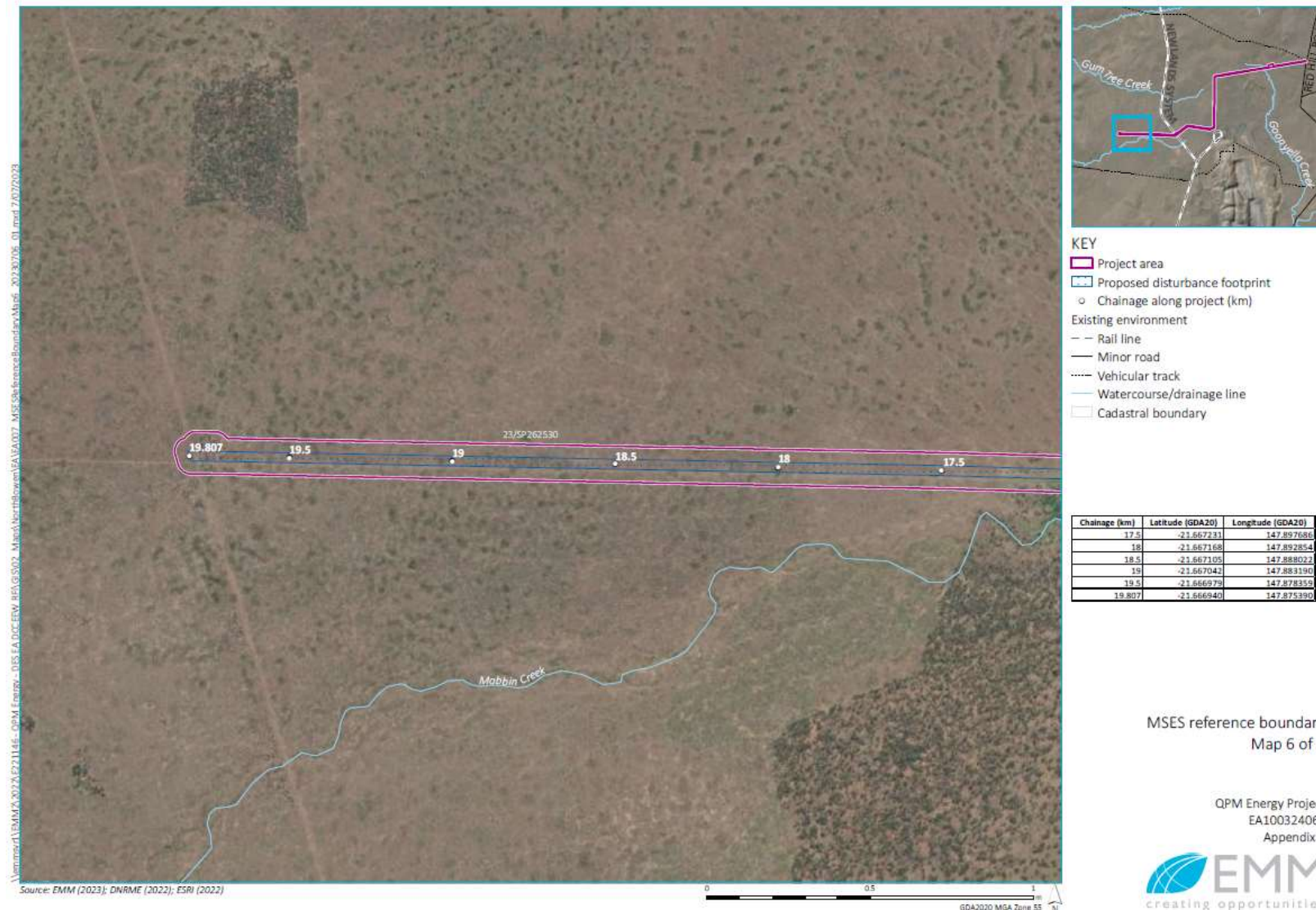
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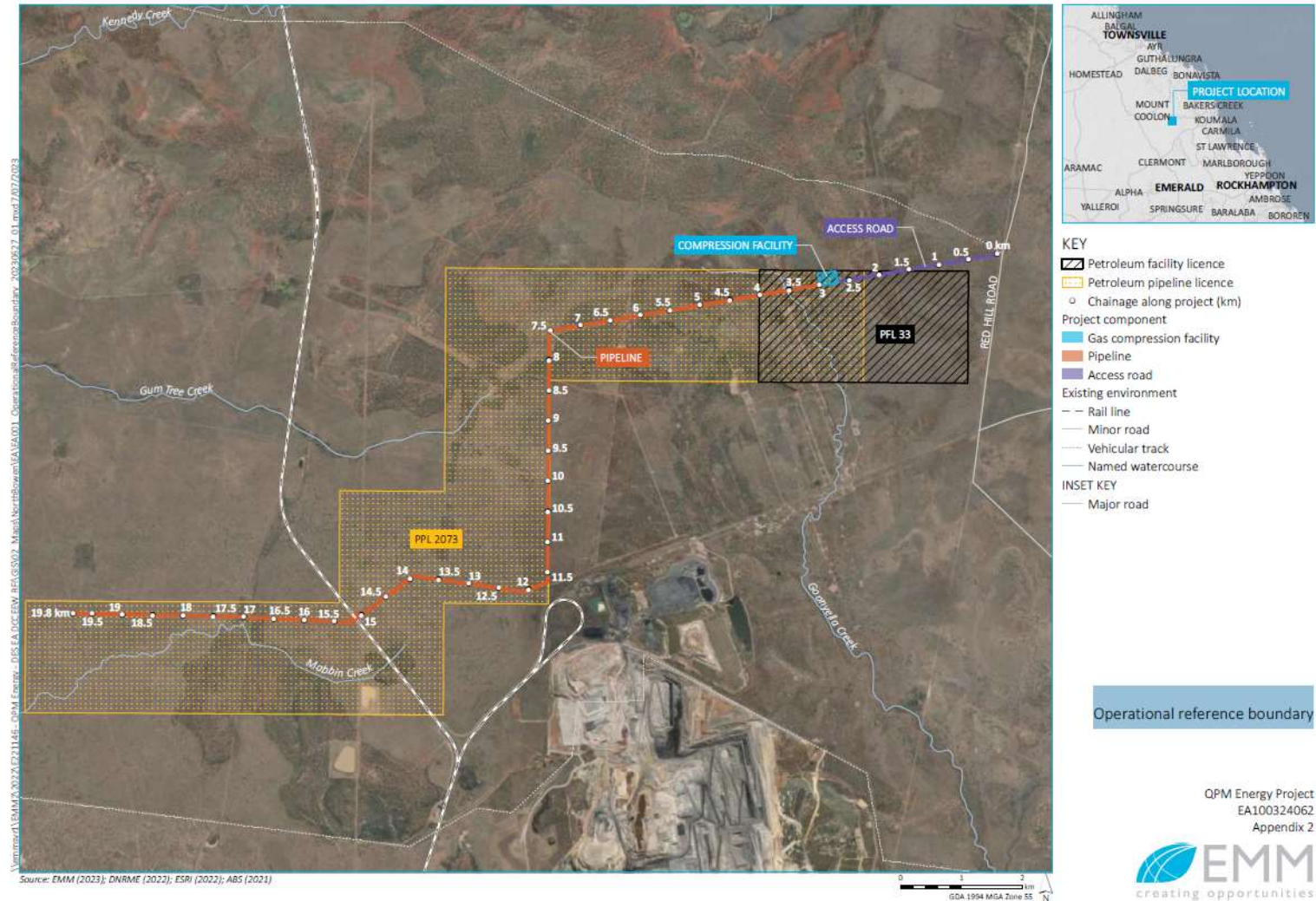
MSES reference boundary 5 of 6



MSES reference boundary 6 of 6



Appendix 2- Operational reference boundary



END OF ENVIRONMENTAL AUTHORITY