

Permit

Environmental Protection Act 1994

Environmental authority EA0001473

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

Environmental authority number: EA0001473

Environmental authority takes effect on 15 December 2020

Environmental authority holder(s)

Name(s)	Registered address
ARROW CSG (AUSTRALIA) PTY LTD	Level 39 111 Eagle Street BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled Petroleum Activity Petroleum Pipeline Licence - PPL	PPL2033

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 *Sustainable Planning Act 2009* 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.

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.

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

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Date issued: 15 December 2020

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)

Legislative requirements and conditions of environmental authority

Legislative requirements

Standard conditions

This environmental authority contains standard conditions. Standard conditions are identified by (S) after the condition number.

Eligibility criteria

	Eligibility criteria
PPEC 1	The applicant for the environmental authority is the holder of, or an applicant for a Pipeline Licence (PPL) tenure type issued under the <i>Petroleum and Gas (Production and Safety) Act 2004</i> .
PPEC 2	The petroleum activities are authorised petroleum activities for the purposes of the <i>Petroleum and Gas (Production and Safety) Act 2004</i> .
PPEC 3	The petroleum activity does not include extending an existing pipeline by more than 150 kilometres under a petroleum authority.
PPEC 4	The petroleum activity does not include constructing a new pipeline of more than 150 kilometres under a petroleum authority.
PPEC 5	The petroleum activities do not occur in <u>coastal waters</u> of Queensland.
PPEC 6	The petroleum activity is not, or will not be, carried out under an environmental authority under which any of the following is, or is to be, authorised: (a) the injection of a waste fluid or gas for gas storage into a natural underground reservoir or <u>aquifer</u> (b) a regulated dam (c) the carrying out of the following <u>environmentally relevant activities</u> (ERAs): i. ERA 8 – Chemical Storage ii. ERA 60(1a) – (1d) – Regulated waste disposal iii. ERA 60(2d) – (2h) – General waste disposal > 10,000t/year iv. ERA 63(1a)(ii) – (1b)(ii), (1c) – (1g) – Sewage treatment with a total daily peak design capacity of greater than 21 equivalent persons (EP) which releases to other than an infiltration trench or irrigation scheme or where the sewage treatment activities have a total combined daily peak design capacity exceeding 1500 equivalent persons (EP) v. ERA 64(2a) and (2b) and (4a) and (4b) – Water treatment where desalination of more than 0.5ML of water is treated, allowing the release of waste to <u>waters</u> other than seawater; or carrying out, in a day, advanced treatment of 5ML or more of water, allowing the release of waste only to seawater; or to waters other than seawater.

Conditions of environmental authority

Condition number	Condition
Schedule A – Authorised activities	
PPSCA 1 (S)	All reasonable steps must be taken to ensure the petroleum activities comply with the <u>eligibility criteria</u> for the activity.
PPSCA 2 (S)	The following types of petroleum activities are not authorised: (a) processing or storing petroleum or petroleum by-products that are not necessarily associated with pipeline construction or operation (b) extracting earthen materials (other than drilling waste rock or trench spoil) of more than 100,000t/year (c) extracting by dredging more than 1000t/year of material from the bed of naturally occurring surface waters (d) construction of power lines (either above or below ground) outside the right of way necessary for the pipeline. Explanatory Note: Standard Condition PPSCA 2(d) does not authorise additional significant disturbance to land. The construction of power lines must be within the pipeline's right of way.
PPSCA 3 (S)	Only <u>low impact petroleum activities</u> can be undertaken within <u>Category A Environmentally Sensitive Areas (ESAs)</u>, or <u>Category B ESAs</u> or <u>Category C ESAs</u> other than state forests or timber reserves, or within the ESAs' <u>primary protection zone</u>. Explanatory Note: Standard condition (PPSCA 3) does not allow for petroleum activities other than low impact petroleum activities within the mentioned ESAs, therefore negative impacts are not authorised to environmental or biodiversity values that are required to be offset under any relevant Queensland Offset Policy. In the event that standard condition (PPSCA 3) needs to be varied to allow for such impacts, offsets under any relevant Queensland Offset Policy may be required.
PPSCA 4 (S)	<u>Non-linear infrastructure</u> is permitted within the <u>secondary protection zone</u> of ESAs provided the location is justified given other constraints and can not be avoided and it can be demonstrated that there will be no negative impacts on the ESA.
PPSCA 5 (S)	Records demonstrating compliance with standard condition (PPSCA 4) must be kept. Explanatory Note: A risk assessment of the environmental values, impacts and mitigation measures can be developed to help demonstrate compliance with standard conditions (PPSCA 4) and (PPSCA 5).

Variation 1	Despite condition PPSCA 3, linear infrastructure may be constructed and maintained in, or within 200m of, the following Category C ESAs: (a) 'Of Concern' regional ecosystems, (b) State Forests (c) Essential Habitat areas (d) Regional Parks (e) Essential Regrowth Habitat
Variation 2	Where linear infrastructure is to be constructed in, or within 200m of, the Category C ESAs specified in Condition (Variation 1), the holder of this environmental authority must: (a) be able to demonstrate that no reasonable or practicable alternative exists; and (b) where the ESA is a State Forest or Timber Reserve: i. obtain written approval from the authority responsible for the administration of the Forestry Act 1959; ii. comply with all restrictions and conditions contained within the approval required under Condition (Variation 2)(b)(i); iii. where the conditions of the approval required under Condition (Variation 2)(b)(i) conflict with the conditions of this environmental authority, comply with the conditions of this environmental authority; and iv. provide a copy of the written approval required under Condition (Variation 2)(b)(i) to the administering authority upon request.
Variation 3	Where linear infrastructure is to be constructed in, or within 200m of, the Category C ESAs specified in Condition (Variation 1), disturbance to land must only be located and carried out in areas according to the following order of preference: (a) pre-existing cleared areas or significantly disturbed areas less than 200m from a Category C ESA; (b) undisturbed areas less than 200m from a Category C ESA; (c) pre-existing areas of significant disturbance within a Category C ESA (e.g. areas where significant clearing or thinning has been undertaken within a RE, and/or areas containing high densities of weed or pest species which has inhibited re-colonisation of native regrowth); (d) areas where clearing of a Category C ESA is unavoidable.
Biodiversity 1	Prior to undertaking activities that result in significant disturbance to land in areas of native vegetation, confirmation of on-the-ground <u>biodiversity values</u> 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) and (Biodiversity 9), where mapped biodiversity values differ from those confirmed under conditions (Biodiversity 1) and (Biodiversity 2), petroleum activities may proceed in accordance with the conditions of the environmental authority based on the confirmed on-the-ground biodiversity value.

Biodiversity 4	The location of the petroleum activity(ies) must be selected in accordance with the following site planning principles: (a) maximise the use of <u>areas of pre-existing disturbance</u> (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 <u>clearing</u> of native mature trees.
Biodiversity 9	A report must be prepared for each <u>annual return period</u> for all petroleum activities that involved clearing of any environmentally sensitive area or protection zone which includes: (a) records able to demonstrate compliance with conditions (Variation 1 to Variation 3), (Biodiversity 4) and (PPSCD 2) (b) a description of the works (c) a description of the area and its pre-disturbance values (which may include maps or photographs, but must include GPS coordinates for the works); and (d) d) based on the extent of environmentally sensitive areas and primary protection zones on the relevant resource authority(ies), the proportion of native vegetation cleared per environmentally sensitive area and primary protection zone, including regional ecosystem type, over the annual return period.

Biodiversity 10

Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014*, unless the impact(s) is specified in ***Protecting biodiversity values, Table 1—Significant residual impacts to prescribed environmental matters***.

Protecting biodiversity values, Table 1—Significant residual impacts to prescribed environmental matters

Prescribed environmental matter		Location of impact	<u>Maximum extent of impact</u> <<OR <u>Maximum extent of impact – stage 1>></u>
REGULATED VEGETATION			
Of concern regional ecosystem (not within an urban area) 11.3.25		Pipeline RoW on PPL2033	0.3 ha
Regional ecosystems (not within an urban area) within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map	11.3.25	Pipeline RoW on PPL2033	0.1 ha
	11.7.7	Pipeline RoW on PPL2033	0.2 ha

Biodiversity 11	Records demonstrating that each impact to a prescribed environmental matter not listed in <i>Protecting biodiversity values, Table 1—Significant residual impacts to prescribed environmental matters</i> did not, or is not likely to, result in a significant residual impact to that matter must be: (a) completed by an <u>appropriately qualified person</u> ; and (b) kept for the life of the environmental authority.
Biodiversity 12	An <u>environmental offset</u> made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in <i>Protecting biodiversity values, Table 1—Significant residual impacts to prescribed environmental matters</i> , unless a lesser extent of the impact has been approved in accordance with condition (Biodiversity 18).
Biodiversity 18	Prior to the commencement of any impacts to a prescribed environmental matter for which an environmental offset is required by condition (Biodiversity 12), a report completed by an appropriately qualified person that contains an analysis of the estimated maximum extent of impact to each prescribed environmental matter must be provided to the administering authority.
Biodiversity 19	The report required by condition (Biodiversity 18) must be approved by the administering authority before the notice of election, if applicable, is given to the administering authority.
Biodiversity 20	The notice of election for the environmental offset required by condition (Biodiversity 12), if applicable, must be provided to the administering authority no less than three months before the proposed commencement of the significant residual impacts for which the environmental offset is required.
Schedule B – Protecting environmental values	
PPSCB 1 (S)	Petroleum activities that cause <u>significant disturbance to land</u> must not be carried out until <u>financial assurance</u> has been given to the <u>administering authority</u> as security for compliance with the environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the <i>Environmental Protection Act 1994</i> .
PPSCB 2 (S)	Petroleum activities must not cause <u>environmental nuisance</u> from dust, odour, light, smoke or noise at a <u>sensitive place</u> , other than where an <u>alternative arrangement</u> is in place.
PPSCB 3 (S)	Contaminants must not be directly or indirectly <u>released</u> to land or air except for those releases authorised by standard conditions (PPSCC 9), (PPSCC 13), (PPSCC 14), (PPSCC 15), (PPSCC 16), (PPSCE 4), (PPSCE 8), (PPSCE 11), (PPSCE 12),(PPSCF 3) and condition Variation 4.
PPSCB 4 (S)	<u>Only low impact petroleum activities</u> are permitted in a <u>designated precinct</u> of a <u>Strategic Environmental Area</u> .
PPSCB 6 (S)	Where significant disturbance to land is to occur, records demonstrating compliance with condition Biodiversity 4 must be kept.

Schedule C – Operating standards	
Documentation	
PPSCC 1 (S)	All plans, procedures and reports must: (a) be <u>certified</u> by a <u>suitably qualified person</u> (b) be kept on record for a minimum of 5 years.
PPSCC 2 (S)	All plans and procedures required to be developed must be implemented.
Plant and equipment	
PPSCC 3 (S)	All plant and equipment reasonably necessary to ensure compliance with the standard conditions must be installed.
PPSCC 4 (S)	All plant and equipment must be maintained and operated in their proper and effective condition.
PPSCC 5 (S)	All measures reasonably necessary to ensure compliance with the standard conditions must be implemented.
Contingency and emergency response	
PPSCC 6 (S)	Petroleum activities involving significant disturbance to land or which have the potential to cause <u>environmental harm</u> can only commence after the development of written contingency procedures which address the risks of non-compliance with Schedule B standard conditions.
PPSCC 7 (S)	The contingency procedures must include, but not necessarily be limited to: (a) environmental nuisance and complaint management procedures including: i. a description of the petroleum activities that might result in non-compliance with Schedule B standard conditions and what mitigation measures are required to be implemented; and ii. the action that will be undertaken when a member of the public makes a <u>valid complaint</u>. (b) management procedures including details of what actions will be taken to protect environmental values and minimise potential environmental harm from petroleum activities as a result of floods, severe storms and fires (c) environmental emergency management procedures including details of the response and mitigation measures that will be actioned to reduce negative impacts to environmental values in the event of a non-compliance with Schedule B standard conditions. <i>Explanatory note:</i> The contingency procedures may incorporate other <u>documents</u> by reference and may include the emergency response procedures required under the Petroleum and Gas (Production and Safety) Act 2004.
Soil management	
PPSCC 8 (S)	Measures must be implemented and maintained to minimise stormwater entry onto significantly disturbed land.

PPSCC 9 (S)	Sediment and erosion control measures to prevent soil loss and deposition beyond significantly disturbed land must be implemented and maintained.
PPSCC 10 (S)	The measures required by standard conditions (PPSCC 8) and (PPSCC 9) must be in accordance, to the greatest practicable extent, with the International Erosion Control Association (IECA) <i>Best Practice Erosion and Sediment Control (BPESC) document</i> and/or the Australian Pipeline Industry Association (APIA) <i>Code of Environmental Practice: Onshore Pipelines</i> (2009).
Chemical storage	
PPSCC 11 (S)	Chemicals and fuels on the relevant tenures must be stored in, or serviced by, an effective containment system that meets Australian Standards, where such a standard is relevant.
Waste management	
PPSCC 12 (S)	Measures must be implemented so that waste is managed in accordance with the <u>waste and resource management hierarchy</u> and the <u>waste and resource management principles</u> .
PPSCC 13 (S)	For waste fluids that can be stored in a container that is other than a <u>low hazard dam</u> , the container must either be an above ground container or a <u>structure</u> which contains the wetting front.
PPSCC 14 (S)	Waste, including waste fluids, must be transported off-site for lawful re-use, remediation, recycling or disposal unless the waste is specifically authorised by standard conditions (PPSCC 15), (PPSCC 16), (PPSCE 8) and (PPSCF 3) to be disposed of or used on-site.
PPSCC 15 (S)	<u>Green waste</u> may be used on-site for <u>rehabilitation</u> and/or sediment and erosion control purposes.
Coal Seam Gas Water (CSG) Use	
Variation 4	Despite condition PPSCC 14 (S), CSG water may be reused for construction and dust suppression purposes subject to conditions Variation 5 to Variation 9:
Variation 5	Written approval from the relevant Local Government must be obtained prior to the application of CSG water on any local government controlled roads in accordance with Condition (Variation 6).

Variation 6	CSG water may be used for dust suppression provided the following criteria are met; (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; and iv. Does not cause visible salting.
Variation 7	CSG water may be used for construction and operation purposes provided the use: (a) Does not result in negative impacts on the composition and structure of soil or subsoils; (b) Is not directly or indirectly released to waters; (c) Does not result in runoff from the construction site; and (d) Does <u>not harm vegetation surrounding the construction site.</u>
Variation 8	If there is any indication that any of the circumstances in condition (Variation 6)(b)(i) to (Variation 6)(b)(iv)) or (Variation 7) (a) to (Variation 7) (d)) is occurring the use must cease immediately and the affected area must be remediated without delay.
Variation 9	All areas within 200m of a watercourse must be precluded from use of CSG water.
Treated sewage effluent	
PPSCC 16 (S)	Treated sewage effluent or <u>greywater</u> can be released to land provided it: (a) meets or exceeds <u>secondary treated class B standards</u> for a treatment system with a daily peak design capacity of between 150 EP and 1500 EP; or (b) meets or exceeds secondary treated class C standards for a treatment system with a daily peak design capacity of less than 150 EP; and (c) is released within fenced and signed contaminant release area(s) and does not result in pooling or run-off or aerosols or spray drift or vegetation die-off.
Financial assurance	
PPSCC 17 (S)	Prior to any changes in petroleum activities which would result in an increase to the maximum disturbance since the last financial assurance calculation was submitted, the holder of the environmental authority must submit, and the administering authority must have approved, an application to amend the financial assurance.
Schedule D – Pipeline planning	
Site planning	
PPSCD 1 (S)	Pipeline planning must be in accordance, to the greatest practicable extent, with the relevant section of the <i>APIA Code of Environmental Practice: Onshore Pipelines</i> (2009) and/or AS 2885.1:2012.
Planning for disturbance	

PPSCD 2 (S)	Notwithstanding condition (PPSCD 1), pipeline construction corridors must: (a) be minimised in width to the greatest practicable extent (b) not exceed 40m in width (c) not include turn around and work areas associated with pipeline construction that exceed 50m in width (d) be preferentially located alongside existing <u>linear infrastructure</u>.
Schedule E – Construction conditions	
PPSCE 1 (S)	Pipeline construction must be in accordance, to the greatest practicable extent, with the relevant section of the <i>APIA Code of Environmental Practice: Onshore Pipelines</i> (2009) and/or AS 2885.1:2012.
Activities in watercourses, wetlands, lakes and springs	
PPSCE 2 (S)	Petroleum activities that require earthworks, vegetation clearing and/or placing fill, other than that associated with the construction of linear infrastructure, are not permitted in or within: (a) 200 metres of any <u>wetland, lake or spring</u>; or (b) 100 metres of the <u>outer bank</u> of any other <u>watercourse</u>.
PPSCE 3 (S)	The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a wetland, lake, spring or watercourse must be conducted in accordance with the following order of preference. Conducting works: 1. firstly, in times where there is no water present 2. secondly, in times of no flow 3. thirdly, in times of flow, but in a way that does not impede low flow.
PPSCE 4 (S)	Petroleum activities must not result in water turbidity increases of more than 10% in <u>high ecological value waters</u> outside contained construction or maintenance areas.
PPSCE 5 (S)	The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a lake, spring or watercourse must be designed and undertaken by a suitably qualified person in accordance with the guideline <i>Activities in a watercourse, lake or spring associated with a resource activity or mining operations</i> .
PPSCE 6 (S)	The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a wetland must be designed and undertaken by a suitably qualified person taking into consideration sections 5 and 6 of the guideline <i>Activities in a watercourse, lake or spring associated with a resource activity or mining operations</i> .
Fauna management	
PPSCE 7 (S)	Measures to prevent fauna entrapment must be implemented during the construction of pipelines in pipe sections and pipeline trenches and operation of <u>dams</u> .
Waste	

PPSCE 8 (S)	Trench water, hydrostatic testing water or water from low point drains, may be released to land provided that it: (a) can be demonstrated to meet the <u>acceptable standards for release to land</u> (b) is released in a way that does not cause visible scouring or erosion.
PPSCE 9 (S)	If hydrostatic testing water quality does not or can not be treated to meet the requirements of standard condition (PPSCE 8), it must be managed in accordance with standard conditions (PPSCC 13) or (PPSCC 14).
Blasting	
PPSCE 10 (S)	A Blast Management Plan must be developed for each blasting activity in accordance with Australian Standard 2187.
PPSCE 11 (S)	Blasting operations must be designed to not exceed an airblast overpressure level of 120dB (linear peak) at any time, when measured at or extrapolated to any sensitive place.
PPSCE 12 (S)	Blasting operations must be designed to not exceed a ground-borne vibration peak particle velocity of 10mm/s at any time, when measured at or extrapolated to any sensitive place.
Structures that are dams or levees	
PPSCE 13 (S)	The <u>hazard category</u> of any dam or <u>levee</u> to be used in carrying out petroleum activities must be assessed in accordance with the Queensland Government <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> .
PPSCE 14 (S)	Low hazard dams must be: (a) constructed, operated and maintained in accordance with <u>accepted engineering standards</u> currently appropriate for the purpose for which the dam is intended to be used; and (b) designed with a floor and sides made of material that will contain the wetting front and any entrained contaminants within the bounds of the containment system during both its operational life and including any period of decommissioning and rehabilitation.
PPSCE 15 (S)	All low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity as specified in the initial hazard assessment.
PPSCE 16 (S)	When no longer required all low hazard dams must be decommissioned to no longer accept inflow from the petroleum activities and be either: (a) <u>rehabilitated</u> ; or (b) agreed to in writing by the administering authority and the landholder to remain in situ following the cessation of the petroleum activity(ies) associated with the dam, with the contained water of a quality suitable for the intended ongoing uses(s) by that landholder.
Pipeline reinstatement and revegetation	
PPSCE 17 (S)	Pipeline trenches must be backfilled and topsoils <u>reinstated</u> within 3 <u>months</u> after pipe laying.

PPSCE 18 (S)	<u>Reinstatement</u> and <u>revegetation</u> of the pipeline right of way must commence within 6 months after completion of petroleum activities for the purpose of pipeline construction.
PPSCE 19 (S)	Backfilled, reinstated and <u>revegetated</u> pipeline trenches and right of way 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 (d) vegetated with groundcover which is not a declared pest species, and which is established and self-sustaining.
Schedule F – Post-construction conditions including operations, maintenance and decommissioning	
PPSCF 1 (S)	Pipeline operation and maintenance must be in accordance, to the greatest practicable extent, with the relevant section of the <i>APIA Code of Environmental Practice: Onshore Pipelines</i> (2009) and/or AS 2885.3:2012.
PPSCF 2 (S)	Written procedures must be developed to ensure operations and maintenance of the pipeline complies with the conditions of the environmental authority.
PPSCF 3 (S)	Flush water may be released to land provided that it meets the requirements of standard condition (PPSCE 8).

Final acceptance criteria for rehabilitation	
PPSCF 4 (S)	After decommissioning, all significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet the following final acceptance criteria: (a) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated (b) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance are treated to prevent or minimise environmental harm in accordance with the Instructions for the treatment and management of acid sulfate soils (2001) (c) for land that is not being <u>cultivated</u> by the landholder: i. groundcover, that is not a declared pest species is established and self-sustaining ii. vegetation of similar <u>species richness</u> and <u>species diversity</u> to pre-selected <u>analogue sites</u> is established and self-sustaining (d) for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of petroleum activities being completed.
PPSCF 5 (S)	Monitoring of <u>performance indicators</u> must be carried out on rehabilitation activities until final acceptance criteria in standard condition (PPSCF 4) have been met for the rehabilitated area.
Schedule G – Monitoring and reporting conditions	
Monitoring	
PPSCG 1 (S)	All monitoring must be undertaken by a suitably qualified person.
PPSCG 2 (S)	If requested by the administering authority in relation to investigating a valid complaint, monitoring must be undertaken within 10 <u>business days</u> .
PPSCG 3 (S)	All laboratory analyses and tests must be undertaken by a laboratory that has <u>NATA accreditation</u> for such analyses and tests, except as otherwise authorised in writing by the administering authority.
PPSCG 4 (S)	Notwithstanding standard condition (PPSCG 3), where there are no NATA accredited laboratories available to test for a specific <u>analyte</u> or substance, then duplicate samples must be sent to separate laboratories for independent testing or evaluation.
Sampling	
PPSCG 5 (S)	The methods of surface water sampling must comply with that set out in the Queensland Government's <i>Monitoring and Sampling Manual 2009 – Environmental Protection (Water) Policy 2009</i> .
PPSCG 6 (S)	The methods of groundwater sampling must comply with the Australian Government's <i>Groundwater Sampling and Analysis – A Field Guide</i> (2009:27 GeoCat #6890.1).

PPSCG 7 (S)	Noise must be measured in accordance with the prescribed standards in the <i>Environmental Protection Regulation 2008</i> .
PPSCG 8 (S)	The method of measurement of ambient air quality or point source contaminant releases to air must comply with the <i>Queensland Air Quality Sampling Manual</i> and/or Australian Standard 4323.1:1995 <i>Stationary source emissions method 1: Selection of sampling positions</i> , whichever is appropriate for the relevant measurement.
Notification	
PPSCG 9 (S)	In addition to the requirements under section 320A of the <i>Environmental Protection Act 1994</i>, the administering authority must be notified in writing within 5 business days of any event which has resulted in the contingency procedures required by standard conditions (PPSCC 6) and (PPSCC 7) being activated. Explanatory note: Notification under standard condition (PPSCG 9) should occur using the form, Incident notification for resource activities other than mining (EM706) available from the administering authority's website.
Reporting	
PPSCG 10 (S)	The annual return must include an Update Report detailing activities during the <u>annual return period</u>, demonstrating: (a) significant disturbance during the period (b) rehabilitation undertaken (c) a list of all valid complaints relating to environmental issues made including the date, source, reason for the complaint and a description of investigations undertaken in resolving the complaint (d) the results of all monitoring undertaken.

Definitions

Explanatory note: Where a term is not defined in this document, the definition in the Environmental Protection Act 1994, its regulations and environmental protection policies, then the Acts Interpretation Act 1954 then the Macquarie Dictionary should be used in that order.

Term	Definition
acceptable standards for release to land	is defined as: (a) electrical conductivity (EC) not exceeding 3000µS/cm (b) sodium adsorption ratio (SAR) not exceeding 8 (c) and for hydrostatic testing water, water from low point drains and flush water, total heavy metals for each element listed meets the respective short term trigger value in Table 4.2.6. – Heavy metals and metalloids in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000.
accepted engineering standards	in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the <i>Australian National Committee on Large Dams</i> (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.
acid sulfate soil(s)	means a soil or soil horizon which contains sulfides or an acid soil horizon affected by oxidation of sulfides.
administering authority	has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i> .
alternative arrangement	means a written agreement about the way in which a particular nuisance impact 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.
analogue site(s)	means an area of land which contains values and characteristics representative of an area to be rehabilitated prior to disturbance. Such values must encompass land use, topographic, soil, vegetation and other ecological characteristics. Analogue sites can be the pre-disturbed site of interest where significant surveying effort has been undertaken to establish benchmark parameters.
analyte(s)	means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.
annual return period	means the most current 12-month period between 2 anniversary dates.
aquifer	means an identifiable stratigraphic formation that has the potential to produce useful flows of water.

Term	Definition
Australian Standard 2187	means Australian Standard 2187.0:1998 Explosives—Storage, transport and use, Part 0, Australian Standard 2187.1:1998 Explosives—Storage, transport and use Part 1 and Australian Standard 2187.2:2006 Explosives—Storage and use, Part 2 or any updated versions that becomes available from time to time.
Australian Standard 2885	means Australian Standard 2885.0:2008 Pipelines – Gas and Liquid Petroleum General Requirements, Australian Standard 2885.0-2008/Amdt 1-2012 Pipelines - Gas and Liquid Petroleum General Requirements, Australian Standard 2885.1:2012 Pipelines – Gas and Liquid Petroleum Design and Construction and Australian Standard 2885.3:2012 Pipelines – Gas and Liquid Petroleum Operation and Maintenance, or any updated versions that become available from time to time.
bed	of any waters, has the meaning in Schedule 12 Part 2 of the Environmental Protection Regulation 2008.
business day	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
Category A ESA	means any area listed in Schedule 12, Section 1 of the Environmental Protection Regulation 2008.
Category B ESA	means any area listed in Schedule 12, Section 2 of the Environmental Protection Regulation 2008.
Category C ESA	means any of the following areas: • nature refuges as defined in the conservation agreement for that refuge under the <i>Nature Conservation Act 1992</i> • State forests or timber reserves as defined under the <i>Forestry Act 1959</i> • Regional Parks under the <i>Nature Conservation Act 1992</i> • an area validated as 'essential habitat' or 'essential regrowth habitat' from ground-truthing surveys in accordance with the <i>Vegetation Management Act 1999</i> for a species of wildlife listed as endangered, vulnerable, rare or near threatened under the <i>Nature Conservation Act 1992</i> • 'of concern regional ecosystems' identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions

Term	Definition
certified	in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams means, a Statutory Declaration by a suitably qualified person or suitably qualified third party accompanying the written document stating: • the person's qualifications and experience relevant to the function • that the person has not knowingly included false, misleading or incomplete information in the document • that the person has not knowingly failed to reveal any relevant information or document to the administering authority • that the document addresses the relevant matters for the function and is factually correct; and • that the opinions expressed in the document are honestly and reasonably held.
clearing	has the meaning in the dictionary of the <i>Vegetation Management Act 2000</i> .
cultivated	means used for cropping or gardening.
coastal waters	has the meaning in section 440ZH of the <i>Environmental Protection Act 1994</i> and means the coastal waters of the state, and includes other waters within the limits of the state that are subject to the ebb and flow of the tide.
dam(s)	means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.
daily peak design capacity	for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2008 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.
decommissioning	in relation to pipelines means the actions undertaken in accordance with the requirements of Australian Standard 2885, as amended from time to time, to prepare the pipeline and peripheral facilities for pending suspension or abandonment.

designated precinct	has the meaning in Part 5 section 15(3) of the Regional Planning Interests Regulation 2014: - for a strategic environmental area mentioned in section 4(1)—the area identified as a designated precinct on the strategic environmental area map for the strategic environmental area; or - for a strategic environmental area is shown on a map in a regional plan—the area identified on the map as a designated precinct for the strategic environmental area.
documents	has the meaning in section 36 of the <i>Acts Interpretation Act 1954</i> .
ecological connectivity	is a measure of ecological condition and means the flow or connection of organisms and ecological processes across landscapes at multiple scales. Ecological connectivity has a positive relationship with landscape connectivity and habitat connectivity and effects vary between species. It includes connectivity by stepping stone or contiguous bioregional/local corridor networks.
ecosystem functioning	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.
eligibility criteria	for an environmentally relevant activity, has the meaning in section 112 of the <i>Environmental Protection Act 1994</i> .
environmental attribute	has the meaning in section 11(2) of the <i>Regional Planning Interests Act 2014</i> .
environmental harm	has the meaning in section 14 of the <i>Environmental Protection Act 1994</i> .
environmental value(s)	has the meaning in section 9 of the <i>Environmental Protection Act 1994</i> .
environmental nuisance	has the meaning in section 15 of the <i>Environmental Protection Act 1994</i> .
equivalent person or EP	has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage, 2005, published by the Queensland Government. It is calculated in accordance with Schedule 2, Section 63(4) of the Environmental Protection Regulation 2008 where: $EP = V/200$ where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or $EP = M/2.5$ where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.
environmentally relevant activity or ERA	has the meaning in section 18 of the <i>Environmental Protection Act 1994</i> .
financial assurance	for an environmental authority, means financial assurance given for the authority under Chapter 5, part 12, division 2 of the <i>Environmental Protection Act 1994</i> .
green waste	means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include declared pest species.
greywater	means wastewater generated from domestic activities such as laundry, dishwashing, and bathing. Greywater does not include sewage.

hazard category	means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government, as amended from time to time.
high ecological value waters	means Queensland waters that are scheduled waters under the Environmental Protection (Water) Policy 2009 as high value ecological waters.
lake	means: • a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and • the bed and banks and any other element confining or containing the water.
levee	means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.
linear infrastructure	means powerlines, pipelines, roads and access tracks.
low hazard dam	means any dam that is not classified as high or significant as assessed using the <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> , published by the Queensland Government and which contains contaminants in concentrations which exceed or will exceed, during the dam's operational life, the values or range shown in Table 3 of the manual.
low impact petroleum activities	means petroleum 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.
month	has the meaning in s36 of the <i>Acts Interpretation Act 1954</i> .
NATA accreditation	means accreditation by the National Association of Testing Authorities Australia.

non-linear infrastructure	means infrastructure that is other than a powerline, a pipeline, a road, an access track and includes only the following: • workers camps • maintenance facilities • no-release sewage treatment plants • laydown areas • structures (i.e. dams or levees) • tanks • sediment and erosion control measures • above ground containers and chemical / fuel storages • water pumps and generators • stockpiles.
outer bank	has the meaning in section 5A of the <i>Water Act 2000</i> .
performance indicator(s)	means a quantitative measure against which success can be assessed and audited in a consistent, objective and repeatable manner.
primary protection zone	means an area within 200 metres from the boundary of any Category A, B or C environmentally sensitive area.
regulated dam(s)	means any dam in the significant or high hazard category as assessed using the <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> , published by the Queensland Government, as amended from time to time.
rehabilitation or rehabilitated	means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land. For the purposes of pipeline rehabilitation, rehabilitation includes reinstatement, revegetation and restoration.
reinstated or reinstatement	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 <i>APGA Code of Environmental Practice: Onshore Pipelines Revision 4</i> (2017).
release, releases or released	has the meaning in Schedule 4 of the <i>Environmental Protection Act 1994</i> .
restoration	means the replacement of structural habitat complexity, ecosystem processes, services and function from a disturbed or degraded site to that of a pre-determined or analogue state. For the purposes of pipelines, restoration applies to final rehabilitation after pipeline decommissioning.
revegetation or revegetating or revegetate	means to actively re-establish vegetation through seeding or planting techniques in accordance with site specific management plans.
right of way	means the linear construction footprint required to install pipelines.

secondary protection zone	in relation to a Category A or Category B environmentally sensitive area means an area within 100 metres from the boundary of the primary protection zone.
secondary treated class B standards	means treated sewage effluent or greywater which meets the following standards: • total phosphorous as P, maximum 20mg/L • total nitrogen as N, maximum 30mg/L • 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5 • e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1000cfu per 100mL, maximum 10000cfu per 100mL.
secondary treated class C standards	means treated sewage effluent or greywater which meets the following standards: • total Phosphorous as P, maximum 20mg/L • total Nitrogen as N, maximum 30mg/L • 5-day Biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L • suspended solids, maximum 30mg/L • pH, range 6.0 to 8.5 • e-Coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 10000cfu per 100mL, maximum 100000cfu per 100mL.
sensitive place	means: • a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel) • a library, childcare centre, kindergarten, school, university or other educational institution • a medical centre, surgery or hospital • a protected area • a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment • a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads • for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.
significantly disturbed or significant disturbance or	means disturbance to land as defined in Schedule 12, section 4 of the Environmental Protection Regulation 2008.

significant disturbance to land or areas	
species richness	means the number of different species in a given area.
species diversity	means the diversity within an ecological community that incorporates both species richness and the evenness of species' abundances.
spring(s)	has the meaning in Schedule 4 of the <i>Water Act 2000</i>
stable	in relation to land, means landform dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.
strategic environmental area	Has the meaning in section 11(1) of the <i>Regional Planning Interests Act 2014</i> .
structure	means a dam or levee.
suitably qualified person	means a person who has qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.
top soil	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.
trench spoil	means soil from the pipeline trench.
valid complaint	means a complaint that is not considered by the administering authority or holder of the environmental authority to be frivolous, vexatious or based on mistaken belief.
waste and resource management hierarchy	has the meaning provided in section 9 of the <i>Waste Reduction and Recycling Act 2011</i> .
waste and resource management principles	has the meaning provided in section 4(2)(b) of the <i>Waste Reduction and Recycling Act 2011</i> .
waters	means all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.
watercourse	has the meaning provided in Schedule 4 of the <i>Environmental Protection Act 1994</i> .
wetland	means a wetland as defined under the Queensland Wetlands Program and are areas of permanent or periodic/intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the

	depth of which at low tide does not exceed 6 metres. To be classified as a wetland, the area must have one or more of the following attributes: • at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle; or • the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers; or • the substratum is not soil and is saturated with water, or covered by water at some time. For the purposes of petroleum activities, wetlands do not include springs and watercourses and those wetlands that are defined in the <i>Wetland Mapping and Classification Methodology</i> (2005) published by the Queensland Government as: • H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel • H2M3p Ponded pastures • H2M5 Palustrine/lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping) • H2M6 Palustrine/lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage • H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels • H3C1 Artificial stand-alone water storages not within a natural water body or channel; or • H3C2 Artificial Channel drain/canal – bore drains, swales, bores and irrigation channel overflows/ponding. <i>Explanatory note:</i> This definition has been amended from the Queensland Wetlands Program definition so that low value wetlands and man-made water bodies are excluded.
year(s)	has the meaning in s 36 of the <i>Acts Interpretation Act 1954</i> .

END OF ENVIRONMENTAL AUTHORITY