

Permit

Environmental Protection Act 1994

Environmental authority EPPG04323316

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

Environmental authority number: EPPG04323316

Environmental authority takes effect on 20 April 2021

Environmental authority holder(s)

Name(s)	Registered address
KGLNG E&P Pty Ltd	Level 11 28 The Esplanade PERTH WA 6000
PAPL (Upstream) Pty Limited	c/- Addisons Commercial Lawyers Level 12, 60 Carrington Street SYDNEY NSW 2000
Total E&P Australia II	BGC Centre, Level 13 28 The Esplanade PERTH WA 6000
SANTOS CSG PTY LTD	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000 Australia
Total E&P Australia	BGC Centre Level 13, 28 The Esplanade PERTH WA 6000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled Petroleum Activity Petroleum Pipeline Licence - PPL	PPL2020
Non-Scheduled Petroleum Activity Petroleum Pipeline Licence - PPL	PPL2021
Non-Scheduled Petroleum Activity Petroleum Pipeline Licence - PPL	PPL2061
Schedule 3 06: A petroleum activity carried out on a site containing a high hazard dam or a significant hazard dam	PPL2020

ABN 46 640 294 485



Environmental authority

Environmentally relevant activity/activities	Location(s)
Schedule 3 06: A petroleum activity carried out on a site containing a high hazard dam or a significant hazard dam	PPL2021

Additional information for applicantsEnvironmentally 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.

Environmental authority

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

Date issued: 20 April 2021

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Schedule A – Authorised activities

- (A1) This environmental authority authorises the carrying out of the following resource activity(ies):
- (a) the petroleum activities listed in *Schedule A, Table 1 – Scale and Intensity for the Activities* to the extent they are carried out in accordance with the activity's corresponding scale and intensity; and
 - (b) incidental activities.

Schedule A, Table 1 – Scale and Intensity for the Activities

Tenures	Petroleum Activity	Scale and Intensity
PPL2020	Gas pipeline	34.1 km
	66kV high voltage powerline	
PPL2021	Water pipeline	
PPL2020	Gas pipeline	4.2 km
PPL2061	Water pipeline	1.2 km
PPL2020	Compressor station	15 ha
PPL2021	Regulated dam	3.96 ha

- (A2) 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
- (A3) Only low impact petroleum activities can be undertaken within Category A Environmentally Sensitive Areas (ESAs), or Category B ESAs or Category C ESAs other than state forests or timber reserves, or within the ESAs' primary protection zone.
- (A4) Notwithstanding condition (A3), the activities listed in *Schedule A, Table 2 – Authorised Disturbances for the PPL2020, PPL2021 and powerline construction corridor* and *Schedule A, Table 3 – Authorised Disturbances for Temporary Work Areas* are authorised.

Schedule A, Table 2 – Authorised Disturbances for the PPL2020, PPL2021 and powerline construction corridor

ESA/PPZs	Approximate Location (GDA94)		Regional Ecosystem (RE)	Area of disturbance (hectares)
	Longitude	Latitude		
Category C ESA	149.0380	-26.4682	Of Concern RE 11.3.25	4.64
	149.1277	-26.5230		
	149.1523	-26.5250	Of concern RE 11.3.2	
	149.2470	-26.5055		
	149.2036	-26.5290	Of concern RE 11.9.7	

ESA/PPZs	Approximate Location (GDA94)		Regional Ecosystem (RE)	Area of disturbance (hectares)
	Longitude	Latitude		
PPZ of Category C ESA	149.0380	-26.4682	Of Concern RE 11.3.25	28.45
	149.1277	-26.5230		
	149.1523	-26.5250	Of concern RE 11.3.2	
	149.2470	-26.5055		
	149.262573	-26.486637		
	149.2036	-26.5290	Of concern RE 11.9.7	
	149.2559	-26.4909		
Category B ESA	149.0442	-26.4856	Endangered RE 11.9.5	4.38
	149.1142	-26.5203		
	149.2261	-26.5220		
	149.2386	-26.5133		
	149.263	-26.4866		
	149.1277	-26.5230	Endangered RE 11.3.17	
PPZ of Category B ESA	149.0442	-26.4856	Endangered RE 11.9.5	50.80
	149.0735	-26.5098		
	149.0729	-26.5154		
	149.0805	-26.5154		
	149.0936	-26.5177		
	149.1063	-26.5193		
	149.1142	-26.5203		
	149.2261	-26.5220		
	149.2386	-26.5133		
	149.263	-26.4866		
	149.272042	-26.479165		
	149.1277	-26.5230	Endangered RE 11.3.17	
	149.2559	-26.4909	Endangered RE 11.9.10	

Schedule A, Table 3 - Authorised Disturbances for Temporary Work Areas

PPZs	Location of disturbance (GDA94)		Regional Ecosystem (RE)	Area of disturbance (ha)
	Longitude	Latitude		
PPZ of Category B ESA	149.094	-26.518	Endangered RE 11.9.5	1.84
	149.114	-26.520		
	149.113	-26.520		
	149.226	-26.522		
PPZ of Category C ESA	149.247	-26.507	Of concern RE 11.3.2	0.56
	149.248	-26.505		

- (A5) Non-linear infrastructure is permitted within the secondary protection zone of ESAs provided the location is justified given other constraints and cannot be avoided and it can be demonstrated that there will be no negative impacts on the ESA.
- (A6) Records demonstrating compliance with condition (A3) must be kept.

Schedule B – Protecting environmental values

- (B1) Petroleum activities that cause significant disturbance to land must not be carried out until financial assurance has been given to the administering authority as security for compliance with the environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the *Environmental Protection Act 1994*.
- (B2) Petroleum activities must not cause environmental nuisance from dust, odour, light, smoke or noise at a sensitive place, other than where an alternative arrangement is in place.
- (B3) Contaminants must not be directly or indirectly released to land or air except for those releases authorised by the conditions of this EA.
- (B4) Petroleum activities must:
- (a) firstly, avoid, then minimise, then mitigate any negative impacts on areas of vegetation or other areas of ecological value
 - (b) minimise disturbance to land that may otherwise result in land degradation
 - (c) minimise isolation, fragmentation or dissection of tracts of vegetation that would lead to a reduction in the current level of ecosystem functioning or ecological connectivity
 - (d) minimise clearing of mature or hollow bearing trees.
- (B5) Where significant disturbance to land is to occur, records demonstrating compliance with condition (B4) must be kept.
- (B6) Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014* unless the impact is specified in *Schedule B, Table 1 – Significant residual impacts to prescribed environmental matters*.

Schedule B, Table 1 – Significant residual impacts to prescribed environmental matters

Figure 2 inset reference	Prescribed environmental matter	Location (GDA94)		Total Maximum extent of impact (ha)
		Longitude	Latitude	
Regulated Vegetation				
1	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 – RE 11.10.9	149.037	-26.468	1.21*
2	Of concern regional ecosystem (not within an urban area) - RE 11.3.2	149.127	-26.522	1.58*
2	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 – Of Concern 11.3.2	149.127	-26.522	1.38*
	Regional ecosystems (not within an urban area) within the defined			

2	distance from the defining banks of a relevant watercourse on the vegetation management watercourse map – Least concern RE 11.3.25	149.127	-26.522	
3	Of concern regional ecosystem (not within an urban area) – RE 11.3.2	149.151	-26.524	0.69*
3	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 – Of Concern 11.3.2	149.151	-26.524	0.32*
3	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 – Least concern RE 11.3.25	149.151	-26.524	
4	Of concern regional ecosystem (not within an urban area) – RE 11.3.2	149.21	-26.528	0.39*
4	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 – Of Concern 11.3.2	149.21	-26.528	0.27*
4	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 – Least concern RE 11.3.25	149.21	-26.528	
5	Endangered regional ecosystem – RE 11.9.5	149.226	-26.521	0.15*
5	Of concern regional ecosystem (not within an urban area) – RE 11.9.10	149.226	-26.521	
6	Of concern regional ecosystem (not within an urban area) – RE 11.3.2	149.247	-26.505	0.35*
6	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 – Of Concern 11.3.2	149.247	-26.505	0.53*
	Regional ecosystems (not within an urban area) within the defined			

6	distance from the defining banks of a relevant watercourse on the vegetation management watercourse map – Least concern RE 11.3.25	149.247	-26.505	
Protected Wildlife Habitat				
NA	Habitat for an animal that is vulnerable wildlife – <i>Delma torquata</i> (Collared Delma)	Location of impacts for of concern RE 11.3.2 as specified in <i>Schedule A, Table 2 – Authorised Disturbances for the PPL2020, PPL2021 and powerline construction corridor</i>		2.12*
NA	Habitat for an animal that is vulnerable wildlife - <i>Egernia rugose</i> (Yakka Skink)	Location of impacts for of concern RE 11.3.2 as specified in <i>Schedule A, Table 2 – Authorised Disturbances for the PPL2020, PPL2021 and powerline construction corridor</i>		2.12*
NA	Habitat for an animal that is vulnerable wildlife - <i>Furina dunmali</i> (Dunmall's snake)	Location of impacts for of concern RE 11.3.2 and of concern RE 11.3.25 as specified in <i>Schedule A, Table 2 – Authorised Disturbances for the PPL2020, PPL2021 and powerline construction corridor</i>		4.09*
NA	Habitat for an animal that is vulnerable wildlife - <i>Nyctophilus corbeni</i> (Eastern long-eared bat)	Location of impacts for of concern RE 11.3.2 and of concern RE 11.3.25 as specified in <i>Schedule A, Table 2 – Authorised Disturbances for the PPL2020, PPL2021 and powerline construction corridor</i>		4.09*

* Offsets under the *Environmental Offsets Act 2014* are not required. The maximum extent of impact will be offset under the *Environment Protection and Biodiversity Conservation Act 1999* Approval 2008/4059.

- (B7) Records demonstrating that each impact to a prescribed environmental matter not listed in *Schedule B, Table 1 – Significant residual impacts to prescribed environmental matters* did not, or is not likely to, result in a significant residual impact to that matter must be:
- (a) completed by an appropriately qualified person; and
 - (b) kept for the life of the environmental authority.

Schedule C – General conditions

Documentation

- (C1) All plans, procedures and reports must:
- (a) be certified by a suitably qualified person
 - (b) be kept on record for a minimum of 5 years.
- (C2) All plans and procedures required to be developed must be implemented.

Plant and equipment

- (C3) All plant and equipment reasonably necessary to ensure compliance with the conditions must be installed.
- (C4) All plant and equipment must be maintained and operated in their proper and effective condition.
- (C5) All measures reasonably necessary to ensure compliance with the conditions must be implemented.

Contingency and emergency response

- (C6) Petroleum activities involving significant disturbance to land or which have the potential to cause environmental harm can only commence after the development of written contingency procedures which address the risks of non-compliance with the conditions of this EA.
- (C7) 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 the conditions of this EA 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 valid complaint.
 - (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 the conditions of this EA..

Soil management

- (C8) 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) preferentially divert stormwater around significantly disturbed land, or 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 run off; and

- (e) minimise negative impacts to land or properties adjacent to the activities.

Chemical storage

- (C9) 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

- (C10) 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.
- (C11) For waste fluids that can be stored in a container that is other than a low hazard dam, the container must either be an above ground container or a structure which contains the wetting front.
- (C12) Waste, including waste fluids, must be transported off-site for lawful re-use, remediation, recycling or disposal unless the waste is specifically authorised by the conditions of this EA to be disposed of or used on-site.
- (C13) Green waste may be used on-site for rehabilitation and/or sediment and erosion control purposes.

Treated sewage effluent

- (C14) Treated sewage effluent or greywater can be released to land provided it:
- (a) meets or exceeds secondary treated class B standards 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

- (C15) 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

- (D1) Pipeline planning must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines* (2009) and/or AS 2885.1:2012.

Planning for land disturbance

- (D2) Notwithstanding condition (D1), the PPL2020, PPL2021 and the 66kV powerline construction corridor must:
- (a) be minimised in width to the greatest practicable extent
 - (b) maximise co-location
 - (c) not exceed a total of 53m in width
 - (d) not include turn around and work areas associated with pipeline and/or powerline construction that exceed 50m in width
 - (e) be preferentially located alongside existing linear infrastructure.

Confirming biodiversity values

- (D3) 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.
- (D4) A suitably qualified person must develop and certify a methodology so that condition (D3) can be complied with and which is appropriate to confirm on-the-ground biodiversity values.
- (D5) Where mapped biodiversity values differ from those confirmed under conditions (D3) and (D4), petroleum activities may proceed in accordance with the conditions of the environmental authority based on the confirmed on-the-ground biodiversity value.

Schedule E – Construction conditions

- (E1) Pipeline construction must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines* (2009) and/or AS 2885.1:2012.

Activities in watercourses, wetlands, lakes and springs

- (E2) 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 wetland, lake or spring; or
 - (b) 100 metres of the outer bank of any other watercourse.
- (E3) 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.
- (E4) Petroleum activities must not result in water turbidity increases of more than 10% in high ecological value waters outside contained construction or maintenance areas.
- (E5) 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 *Activities in a watercourse, lake or spring associated with a resource activity or mining operations*.
- (E6) 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 *Activities in a watercourse, lake or spring associated with a resource activity or mining operations*.

Fauna management

- (E7) Measures to prevent fauna entrapment must be implemented during the construction of pipelines in pipe sections and pipeline trenches and operation of dams.

Waste

- (E8) Trench water or water from low point drains, may be released to land provided that it:
- (a) can be demonstrated to meet the acceptable standards for release to land; and
 - (b) is released in a way that does not cause visible scouring or erosion.
- (E9) The release of hydrostatic testing water to land must be carried out in a manner such that:
- (a) vegetation is not damaged;
 - (b) soil quality is not adversely impacted;
 - (c) there is no surface ponding or runoff to waters;

- (d) there is no aerosols or odours;
- (e) deep drainage below the root zone of any vegetation is minimised; and
- (f) the quality of shallow aquifers is not adversely affected.

(E10) If hydrostatic testing water quality does not or cannot be treated to meet the requirements of condition (E9), it must be managed in accordance with the conditions of this EA.

Blasting

(E11) A Blast Management Plan must be developed for each blasting activity in accordance with Australian Standard 2187.

(E12) 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.

(E13) 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

(E14) The hazard category of any dam or levee to be used in carrying out petroleum activities must be assessed in accordance with the Queensland Government *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

(E15) Low hazard dams must be:

- (a) constructed, operated and maintained in accordance with accepted engineering standards 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.

(E16) All low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity as specified in the initial hazard assessment.

(E17) When no longer required all low hazard dams must be decommissioned to no longer accept inflow from the petroleum activities and be either:

- (a) rehabilitated; 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

(E18) Pipeline trenches must be backfilled and topsoils reinstated within 3 months after pipe laying.

(E19) Reinstatement and revegetation of the pipeline right of way must commence within 6 months after completion of petroleum activities for the purpose of pipeline construction.

(E20) Backfilled, reinstated and revegetated 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

- (F1) 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) and/or AS 2885.3:2012.
- (F2) Written procedures must be developed to ensure operations and maintenance of the pipeline complies with the conditions of the environmental authority.
- (F3) Flush water may be released to land provided that it meets the requirements of condition (E8).

Final acceptance criteria for rehabilitation

- (F4) 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 cultivated by the landholder:
 - i. groundcover, that is not a declared pest species is established and self-sustaining
 - ii. vegetation of similar species richness and species diversity to pre-selected analogue sites 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.
- (F5) Monitoring of performance indicators must be carried out on rehabilitation activities until final acceptance criteria in condition (F4) have been met for the rehabilitated area.

Schedule G – Monitoring and reporting conditions

Monitoring

- (G1) All monitoring must be undertaken by a suitably qualified person.
- (G2) If requested by the administering authority in relation to investigating a valid complaint, monitoring must be undertaken within 10 business days.
- (G3) All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests, except as otherwise authorised in writing by the administering authority.
- (G4) Notwithstanding condition (G3), where there are no NATA accredited laboratories available to test for a specific analyte or substance, then duplicate samples must be sent to separate laboratories for independent testing or evaluation.

Sampling

- (G5) The methods of surface water sampling must comply with that set out in the Queensland Government's *Monitoring and Sampling Manual 2009 – Environmental Protection (Water) Policy 2009*.
- (G6) The methods of groundwater sampling must comply with the Australian Government's *Groundwater Sampling and Analysis – A Field Guide* (2009:27 GeoCat #6890.1).
- (G7) Noise must be measured in accordance with the prescribed standards in the *Environmental Protection Regulation 2008*.
- (G8) The method of measurement of ambient air quality or point source contaminant releases to air must comply with the *Queensland Air Quality Sampling Manual* and/or Australian Standard 4323.1:1995 *Stationary source emissions method 1: Selection of sampling positions*, whichever is appropriate for the relevant measurement.

Notification

- (G9) In addition to the requirements under section 320A of the *Environmental Protection Act 1994*, the administering authority must be notified in writing within 5 business days of any event which has resulted in the contingency procedures required by the conditions of this EA being activated.

Reporting

- (G10) The annual return must include an Update Report detailing activities during the annual return period, 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.

Schedule H – Regulated Structures

Assessment of Hazard Category

- (H1) The **hazard category** of any **structure** must be assessed by a **suitably qualified and experienced person** in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time.
- (H2) The **hazard assessment** required under condition (H1) must occur in any of the following situations:
- (a) prior to the design and **construction** of the structure, if it is not an **existing structure**;
 - (b) prior to any change in its purpose or its stored contents; or
 - (c) for a structure assessed and certified as a high or significant hazard structure, at least biennially after its **construction**;
- (H3) A hazard assessment report and **certification** must be prepared by a **suitably qualified and experienced person** for any **structure** assessed

Note: The hazard assessment report may include a hazard assessment for more than one structure.

- (H4) Where an existing structure is for the first time assessed as significant or high, the structure must meet the conditions required for regulated structures under this environmental authority within 12 months of that assessment.

Construction of Low Hazard Dam to Contain Wetting Front

- (H5) Where a **dam** is assessed as low hazard, it must be
- (a) constructed, operated and maintained in accordance with **accepted engineering standards** 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.
- (H6) In the event of early signs of loss of structural or hydrological integrity of a **low hazard dam**:
- (a) immediate action to prevent or minimise any actual or potential environmental harm must be taken; and
 - (b) any findings and actions taken must be reported in writing to the administering authority within 20 business days of that event.

Monitoring of Low Hazard Dams

- (H7) The condition of all low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a **suitably qualified and experienced person**. The methods of monitoring and frequency of monitoring shall be as assessed by the person who conducts the hazard assessment based on the particular circumstances of each dam.

Design and Construction of a Regulated Structure

- (H8) **Construction** of any dam determined to be a **regulated structure** is prohibited until:
- (a) a **hazard category** assessment report and **certification** has been submitted to the administering authority;
 - (b) a **design plan** for the regulated structure has been prepared by a **suitably qualified and experienced person**; and
 - (c) certification from a suitable qualified and experienced person for the design and design plan and the

associated operating procedures in compliance with the relevant conditions of this environmental authority has been received.

- (H9) The **design plan** must contain the information prescribed in the *Guideline – Structures which are dams or levees constructed as part of environmentally relevant activities*.
- (H10) All regulated structures must be designed by, and constructed under the supervision of a **suitably qualified and experienced person** in accordance with the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time.
- (H11) All regulated structures must be constructed in accordance with a **design plan** that has been certified by a **suitably qualified and experienced person** in accordance with the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time.
- (H12) Certification by a **suitably qualified and experienced person** who supervises the construction must be submitted to the administering authority on the completion of construction of the **regulated structure**, and state that:
- (c) the 'as constructed' drawings and specifications meet the original intent of the **design plan** for that **regulated structure**; and
 - (d) **construction** of the regulated structure is in accordance with the design plan.
- (H13) All **regulated structures** must be designed and constructed to prevent:
- (a) floodwaters from entering the **regulated structure** from a **watercourse** or drainage line to the **annual exceedance probability** specified for determining **spillway** capacity in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time; and
 - (b) wall failure due to erosion by floodwaters arising from the watercourse or drainage line to the annual exceedance probability specified for determining spillway capacity in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time; and
 - (c) overtopping as a result of a flood event of the annual exceedance probability specified for determining spillway capacity in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time.

Operation of a Regulated Structure

- (H14) Operation of a **regulated structure** is prohibited unless:
- (a) one paper copy and one electronic copy of the **design plan** and **certification**, and a set of 'as constructed' drawings and specifications has been submitted to the administering authority, together with certification that the structure:
 - (i) has been constructed in accordance with the design plan;
 - (ii) is capable of delivering the performance stated in the design plan; and
 - (iii) is compliant with the relevant conditions of this environmental authority;
 - (b) the conditions of this environmental authority relating to the construction of the structure have been met; and
 - (c) for regulated dams, the details required under this environmental authority have been entered into a Register of Regulated Dams.

Regulated Dam Register

- (H15) A register of regulated dams must be established in accordance with the administering authority's *Regulated Dam Register* template, as amended from time to time.
- (H16) The information contained in the register of regulated dams must always be current and complete on any given day.

Mandatory Reporting Level

- (H17) The **mandatory reporting level** must be marked on a **regulated structure** in such a way that it is clearly visible.
- (H18) On becoming aware that the mandatory reporting level has been reached, action must be taken to prevent or, if unable to prevent, to minimise, any actual or potential environmental harm.

Design Storage Allowance

- (H19) On 1 November of each year, storage must be available in each **regulated structure** to meet the **design storage allowance** estimated for the dam in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time.
- (H20) On becoming aware that the **regulated structure** will not have the available storage to meet the **design storage allowance** on 1 November of any year, action must be taken to prevent or, if unable to prevent, to minimise, any actual or potential environmental harm.

Monitoring

- (H21) The condition of all containment structures must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a **suitably qualified and experienced person**. The methods of monitoring and frequency of monitoring shall be as assessed by the person who conducts the hazard assessment based on the particular circumstances of each dam.
- (H22) Each **regulated structure** must be monitored for the water quality characteristics and at the monitoring location and frequency specified in *Schedule H, Table 1 – Regulated Structure Contaminant Monitoring* as follows:

Schedule H, Table 1 – Regulated Structure Contaminant Monitoring

Quality Characteristic (units)	Monitoring Location	Frequency of Monitoring
pH (pH unit)	At a depth of 0.3m to 1.0m and be taken as far as practicable from the edge of the regulated structure	No earlier than August and no later than October inclusive, every year.
Electrical Conductivity (µS/m)		
Turbidity (NTU)		
Temperature		
Dissolved Oxygen (mg/L)		
Sodium adsorption ratio (SAR)		
Aluminium (mg/L)		
Arsenic (mg/L)		
Barium (mg/L)		
Boron (mg/L)		
Cadmium (mg/L)		
Chromium (CrVI) (mg/L)		
Copper (mg/L)		
Iron (mg/L)		
Fluoride (mg/L)		
Lead (mg/L)		
Manganese (mg/L)		
Mercury (mg/L)		
Nickel (mg/L)		
Selenium (mg/L)		
Silver (mg/L)		
Strontium (mg/L)		
Tin (mg/L)		
Zinc (mg/L)		
Total phosphorus (mg/L)		
Total Nitrogen (mg/L)		

Quality Characteristic (units)	Monitoring Location	Frequency of Monitoring
Total petroleum hydrocarbons (µg/L)		
BTEX (µg/L)		
Polycyclic aromatic hydrocarbons (µg/L)		
Gross alpha + gross beta or radionuclides by gamma spectroscopy (Bq/L)		

Annual Inspection and Report

(H23) Each **regulated structure** must:

- (a) be inspected annually by a **suitably qualified and experienced person**; and
- (b) be assessed for the condition and adequacy of each **regulated structure** for dam safety and against the necessary structural, geotechnical and **hydraulic performance** criteria in each annual inspection.

(H24) A **suitably qualified and experienced person** must:

- (a) prepare an annual inspection report containing details of the assessment and including recommended actions to ensure the integrity of the structure; and
- (b) certify the annual inspection report in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, as amended from time to time.

(H25) The recommendations contained within the annual inspection report must be considered and actions taken to ensure that the **regulated structure** will safely perform its intended function.

(H26) Within 20 business days of receipt of the annual inspection report, the administering authority must be notified in writing, of the recommendations of the inspection report and the actions to be or that are being taken to ensure the integrity of each **regulated structure**.

Schedule I — Rehabilitation

Rehabilitation Planning

- (I1) A Rehabilitation Plan must be developed by a **suitably qualified person** and must include the:
- (a) **rehabilitation** goals; and
 - (b) procedures to be undertaken for rehabilitation that will:
 - (i) achieve the requirements of conditions (I2 to I6), inclusive; and
 - (ii) provide for appropriate monitoring and maintenance.

Transitional Rehabilitation

- (I2) **Significantly disturbed areas** that are no longer required for the on-going petroleum activities, must be rehabilitated within 12 months (unless an exceptional circumstance in the area to be rehabilitated (e.g. a flood event) prevents this timeframe being met) and be maintained to meet the following acceptance criteria:
- (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**, is **growing**; or
 - (ii) an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained.

Final Rehabilitation Acceptance Criteria

- (I3) All **significantly disturbed** areas caused by petroleum activities which are not **being or intended to be utilised by the landholder or overlapping tenure holder**, must be rehabilitated to meet the following final acceptance criteria measured either against the highest ecological value **adjacent land use** or the **pre-disturbed land use**:
- (a) greater than or equal to 70 per cent 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) where the **adjacent land use** contains, or the pre-clearing land use contained, one or more **regional ecosystem(s)**, then:
 - (i) at least one regional ecosystem(s) from the same broad vegetation group, as demonstrated by the **predominant species** in the **ecologically dominant layer**, must be present; and
 - (ii) the regional ecosystem present in (I3)(d)(i) must possess an equivalent or higher conservation value (biodiversity status) than the regional ecosystem(s) in either the adjacent land or pre-disturbed land.

Continuing Conditions

- (I4) Conditions (I2) and (I3) continue to apply after this environmental authority has ended or ceased to have effect.

Remaining Dams

- (I5) Where there is a dam, (including a low consequence dam) that is **being or intended to be used by the landholder or overlapping tenure holder**, the dam must be decommissioned to no longer accept inflow from the petroleum activity(ies) and the contained water must be of a quality suitable for the intended on-going uses(s) by the landholder or overlapping tenure holder.

SCHEDULE J — AIR

- (J1) Unless venting is authorised under the *Petroleum and Gas (Production and Safety) Act 2004* or the *Petroleum Act 1923*, waste gas must be flared in a manner that:
- (a) an automatic ignition system is used, and
 - (b) a flame is visible at all times while the waste gas is being flared, and
 - (c) there is 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**.

SCHEDULE K — GROUNDWATER

Seepage Monitoring Program

- (K1) A Seepage Monitoring Program must be developed to detect any seepage to groundwater as a result of storing contaminants in a regulated structure(s) (e.g. surface dams, monocells).
- (K2) The Seepage Monitoring Program, must include, but not necessarily be limited to:
- (a) procedures to detect any seepage to groundwater and surrounding soils from **regulated structure(s)** and its possible effect on groundwater and soils;
 - (b) identification of seepage monitoring bores and their locations including:
 - (i) baseline / hydraulically up-gradient seepage monitoring bores (i.e. bores where groundwater quality will not have been affected by petroleum activities;
 - (ii) seepage monitoring bores that are within aquifers potentially affected by the regulated structure(s) authorised under this environmental authority;
 - (iii) a geodetic survey of all seepage monitoring bores; a geodetic survey showing groundwater potentiometric surface;
 - (c) the Seepage Monitoring Program has been designed consistent with relevant Guidelines and Standards such that the Program design has:
 - (i) a sufficient number seepage monitoring points and / or wells to obtain representative groundwater samples from the uppermost aquifer up-gradient and down-gradient of the potential influence;
 - (ii) if a salt monocell is authorised under this environmental authority, a sufficient number of seepage monitoring bores located not more than 150 m from the monocell or the boundary of the monocell facility, whichever is the closer;
 - (iii) sufficient regularity and spatial and temporal replication to make statistically valid conclusions about the presence or absence of contaminants;
 - (iv) procedures to determine the quality of groundwater down gradient of any potential sources of contaminants including groundwater passing the relevant seepage monitoring bore(s);
 - (v) procedures to allow an assessment of whether there has been any statistically significant adverse change in groundwater quality at locations hydraulically down gradient of the containment activity(ies).
 - (d) procedures to determine groundwater flow direction, groundwater flow rate and hydraulic conductivity beneath the relevant regulated structure(s);
 - (e) sampling of all baseline or hydraulically up-gradient monitoring bores for the minimum groundwater parameters levels listed below prior to the commencement of any new containment activities;
 - (f) identification of the trigger parameter(s) associated with the potential contaminants of concern identified in (e);
 - (g) a sampling program of all seepage monitoring bores:
 - (i) to measure and record standing groundwater levels in metres accurate to 0.01 metres to be plotted as function of time (hydrograph) to identify seasonal patterns;
 - (ii) annual monitoring of seepage monitoring bores for the respective trigger parameter(s) identified in (f) whilst activities are being carried out;
 - (iii) annual monitoring of seepage monitoring bores for the respective trigger parameter(s) identified in (f) for a minimum of three (3) years after the containment activity(ies) ceases;
 - (h) a Seepage Trigger Action Response Procedure which must include but not be limited to the following:
 - (i) trigger levels for the relevant trigger parameter(s) identified in (f);
 - (ii) trigger and action response measures at which investigations will be undertaken;
 - (iii) action levels for the relevant possible contaminants of concern at which the holder of this environmental authority will undertake additional investigation into the potential for environmental harm, including the validation and verification of the source, cause and extent of contamination;
 - (i) identification of monitoring equipment to be used; and
 - (j) a rationale containing details on the Programs purpose, conceptualisation and verification of the procedures, determinations, analysis and assumptions undertaken.
- (K3) Seepage monitoring bores identified in (K2) must be monitored annually for the trigger parameter(s) specified in *Schedule K, Table 1 – Seepage Monitoring Trigger Parameters*.

Schedule K, Table 1 – Seepage Monitoring Trigger Parameters

Parameter	Units	Untreated Coal Seam Water	Permeate	Brine
Static Water Level	m	monitor	monitor	monitor
pH	pH unit	monitor	monitor	monitor
EC	µS/cm	monitor	monitor	monitor
Major Anions (sulphate, chloride)	mg/L	monitor	-	-
Major Cations (calcium, magnesium, sodium and potassium)	mg/L	monitor	-	-

Monitoring Bores

- (K4) The following information concerning each newly constructed groundwater monitoring bore must be submitted to the administering authority with each annual return:
- (a) bore ID and location presented on a plan;
 - (b) design of the monitoring bores installed;
 - (c) specific construction information including but not limited to geographical coordinate (including the geophysical coordinate system utilised) depth of bore, depth and length of casing, depth and length of screening, presence of any measuring probe;
 - (d) identification of any aquifers intercepted by the monitoring bores;
 - (e) standing groundwater level and water quality parameters including physical parameter and results of laboratory analysis for the possible contaminants of concern; and
 - (f) a lithological log and preferably a stratigraphic interpretation to identify the important features.

Schedule L - Definitions

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.

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 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 Australian National Committee on Large Dams (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 *Environmental Protection Act 1994*.

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.

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.

biodiversity values for the purposes of this environmental authority, means environmentally sensitive areas, prescribed environmental matters and wetlands.

business day has the meaning in section 36 of the *Acts Interpretation Act 1954*.

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 *Nature Conservation Act 1992*
- koala habitat areas as defined under the Nature Conservation (Koala) Conservation Plan 2006
- state forests or timber reserves as defined under the *Forestry Act 1959*
- regional parks (previously known as resource reserves) under the *Nature Conservation Act 1992*
- an area validated as 'essential habitat' from ground-truthing surveys in accordance with the *Vegetation Management Act 1999* for a species of wildlife listed as endangered or vulnerable under the *Nature Conservation Act 1992*
- 'of concern regional ecosystems' that are remnant vegetation and identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions.

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 *Vegetation Management Act 2000*.

cultivated means used for cropping or gardening.

coastal waters has the meaning in section 440ZH of the *Environmental Protection Act 1994* 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.

control measures has the meaning in section 47 of the Environmental Protection Regulation 2008 and means a device, equipment, structure, or management strategy used to prevent or control the release of a contaminant or waste to the environment.

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.

declared pest species has the meaning in the Land Protection (Pest and Stock Route Management) Regulation 2003 and is a live animal or plant declared to be a declared pest under section 36 (Declaring Pests by Regulation) or section 37(2) (Declaring Pest under Emergency Pest Notice) of that Act and includes reproductive material of the animal or plant.

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.

documents has the meaning in section 36 of the *Acts Interpretation Act 1954*.

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.

environmental harm has the meaning in section 14 of the *Environmental Protection Act 1994*.

environmental value(s) has the meaning in section 9 of the *Environmental Protection Act 1994*.

environmental nuisance has the meaning in section 15 of the *Environmental Protection Act 1994*.

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 *Environmental Protection Act 1994*.

Existing structure means a structure that prior to **9 February 2018** meets any or both of the following, a structure:
(a) with a design that is in accordance with the Version 5.00 of the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures and that is considerably in progress;
(b) that is under considerable construction or that is constructed.

financial assurance for an environmental authority, means financial assurance given for the authority under Chapter 5, part 12, division 2 of the *Environmental Protection Act 1994*.

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.

incidental activity for this environmental authority means an activity that is not a specified relevant activity and is necessary to carry out the activities listed in Condition (A1)(a).

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 Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, 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 section 36 of the Acts *Interpretation Act 1954*.

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 *Water Act 2000*.

performance indicator(s) means a quantitative measure against which success can be assessed and audited in a consistent, objective and repeatable manner.

prescribed environmental matters has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significance listed in schedule 2 of the Environmental Offsets Regulation 2014.

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 Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government, as amended from time to time.

regulated structure means any dam or levee in the significant or high hazard category as assessed using the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*, published by the Department of Environment and Heritage Protection, 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 APIA Code of Environmental Practice: Onshore Pipelines (2009).

release, releases, released has the meaning in Schedule 4 of the *Environmental Protection Act 1994*.

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 and associated linear infrastructure.

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 significant disturbance to land or areas means disturbance to land as defined in Schedule 12, section 4 of the Environmental Protection Regulation 2008.

significant residual impact has the meaning in section 8 of the *Environmental Offsets Act 2014*.

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 *Water Act 2000*.

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.

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 *Waste Reduction and Recycling Act 2011*.

waste and resource management principles has the meaning provided in section 4(2)(b) of the *Waste Reduction and Recycling Act 2011*.

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 *Environmental Protection Act 1994*.

Figure 1 - PPL2020 and PPL2021 Environmentally Sensitive Area and Primary Protection Zone Disturbance

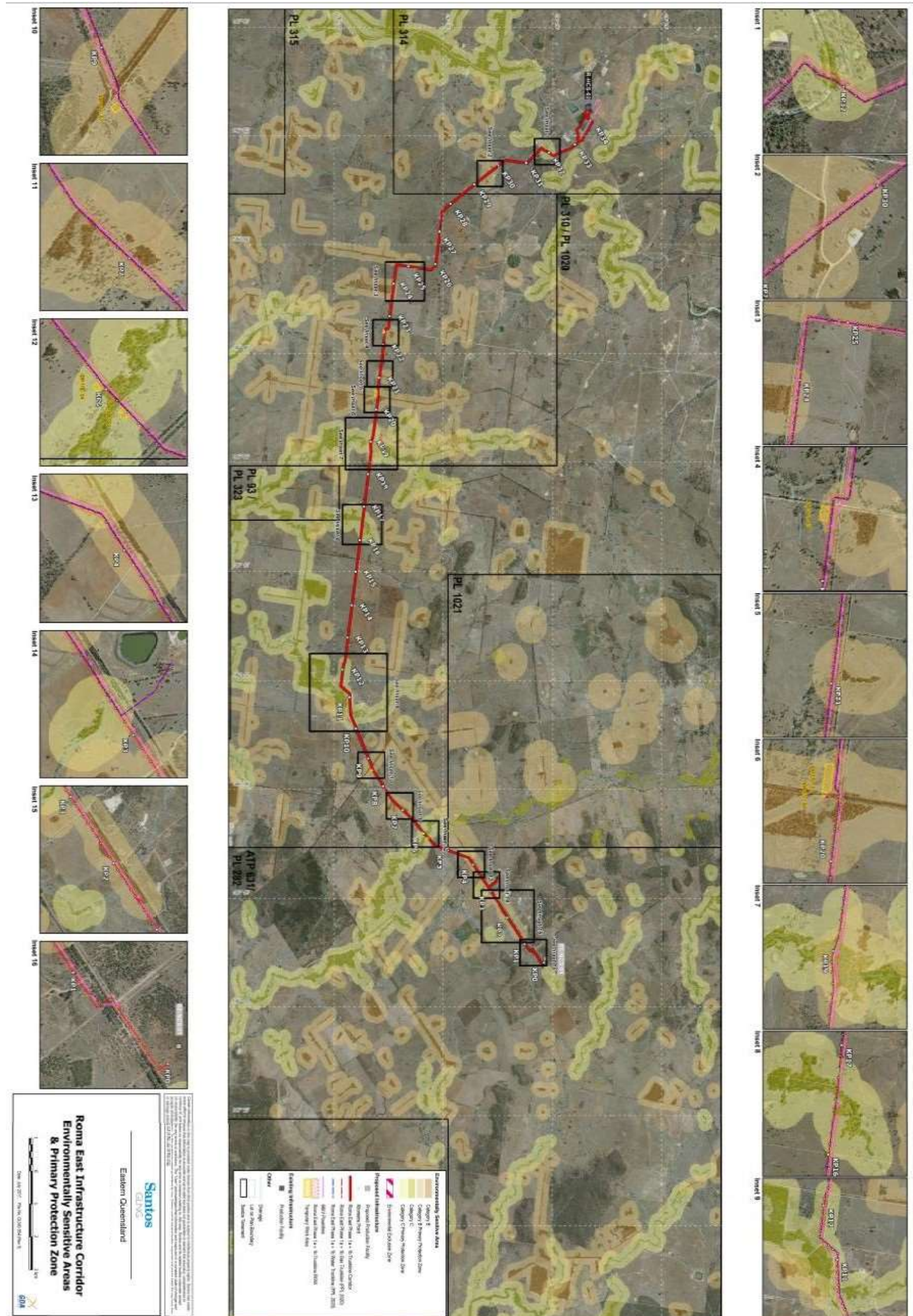
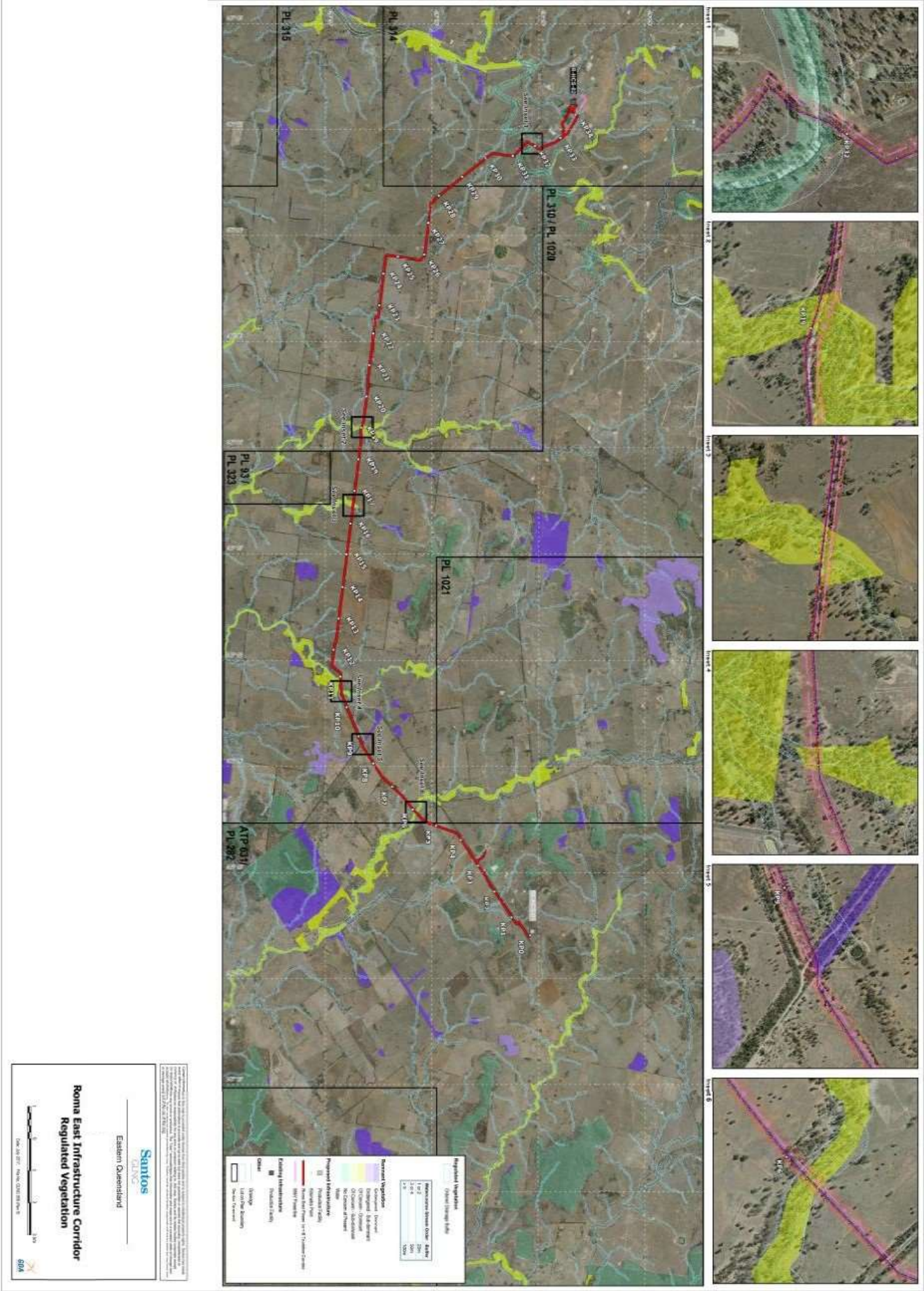


Figure 2 - PPL2020 and PPL2021 Prescribed Environmental Matter Disturbance



END OF AUTHORITY