Recommended draft environmental authority conditions for EIS assessment report

Taroborah Coal Project

Schedule A – General

Scope of approval

A1 This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.

A2 This environmental authority authorises the extraction of no more than 5.75 million tonnes of run-of-mine (ROM) coal per annum.

A3 In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with **Attachment 1 – Authorised disturbance footprint.**

Monitoring

A4 Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five years.

Financial assurance

A5 The activity must not be carried out until the environmental authority holder has given financial assurance to the administering authority as security for compliance with this environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the Act.

A6 The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the authority is amended.

Risk management

A7 The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, by <<Insert date 3 months from date of issue>>.

Notification of emergencies, incidents and exceptions

A8 The holder of this environmental authority must notify the administering authority by written notification within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

A9 Within 10 business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

a) results and interpretation of any samples taken and analysed;

b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and

c) proposed actions to prevent a recurrence of the emergency or incident.

Complaints

A10 The holder of this environmental authority must record all environmental complaints received about the mining activities including:

a) name, address and contact number for of the complainant;

b) time and date of complaint;

c) reasons for the complaint;

d) investigations undertaken;

e) conclusions formed;

f) actions taken to resolve the complaint;

g) any abatement measures implemented; and

h) person responsible for resolving the complaint.

A11 The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

Third-party reporting

A12 The holder of this environmental authority must:

a) within one year of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority;

b) obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above; and

c) provide each report to the administering authority within 90 days of its completion.

A13 Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must:

a) comply with the amended or changed standard, policy or guideline within two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation;

b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Schedule B – Air

Dust and particulate matter monitoring

B1 The holder of this environmental authority shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:

a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of Australian Standard *AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method*.

b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either:

i) *Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM_{10} high volume sampler with size-selective inlet – Gravimetric method*, or

ii) *Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM_{10} low volume sampler—Gravimetric method*.

c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM (sub)$_{2.5}$ (/sub) low volume sampler—Gravimetric method*.

d) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method*.

B2 The holder of this environmental authority must monitor air quality for the activity, which must include, but not be limited to:

a) continuous monitoring of PM_{10} at one location and dust deposition at five locations (representative of the worst affected receptors) during the operation of the activity;

b) high-volume air sampling of TSP, 1-day-in 6 sampling regime, collected over 24 hours (midnight to midnight);

c) meteorological monitoring (including at least temperature, wind speed and direction) at a single location representative of the approved place;

d) the monitoring locations must comply with the *Australian Standard AS/NZS 3580.1.1:2007 "Methods for siting and analysis of ambient air. Part 1.1: Guide to siting air monitoring equipment"*;

e) regular reporting of the measured dust deposition rates and PM_{10} concentrations to a publicly available web site;

f) investigation of all measured exceedances to determine the influence of emissions from the mining site; and

g) should an alternative sampling method (other than as discussed in Condition B1 is required; the Proponent may seek approval from administering authority to exclude this requirement. In seeking such exclusion, the reasons for the exclusion shall be provided and be fully justified.

B3 To ensure that the air quality monitoring program remains effective and well-targeted through the life of the project, the monitoring locations must be reviewed periodically. The periodic review should consider:

a) the frequency and cause of any exceedances of air quality objectives measured by the monitoring program over period of at least 2 years;

b) dust complaints;

c) future progression of the mining activities;

d) locations of sensitive receptors relative to the mining activities; and

e) mining operating modes.

B4 Prior to the commencement of the environmental relevant activity, the holder of this environmental authority must develop and implement a Dust Management Plan to outline measures to minimise and manage any impacts from the operation of the project on local air quality. The management plan shall include, but not necessarily be limited to:

a) dust control measures including watering of haul roads and application of water to raw and product coal stockpiles and transfer points and waste rock emplacement areas;

b) ambient Air Quality Monitoring Program to specify how the ambient dust impacts of the project will be monitored;

c) reactive and/or proactive dust management measures, which potentially could involve curtailment of activities in adverse weather; and

d) the regular review of the air quality management plan and analysis of complaints and air quality monitoring data to refine knowledge of actual site-specific emissions and to improve the effectiveness of dust emission controls.

Schedule C – Waste management

C1 Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.

Tailings disposal

C2 Tailings must be managed in accordance with procedures contained within the current plan of operations. These procedures must include provisions for:

a) containment of tailings;

b) the management of seepage and leachates both during operation and the foreseeable future;

c) the control of fugitive emissions to air;

d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings;

e) maintaining records of the relative locations of any other waste stored within the tailings;

f) rehabilitation strategy; and

g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.

Waste rock disposal

C3 A waste rock and spoil disposal plan should be developed and include, where relevant, at least:

a) effective characterisation of the waste rock and spoil to predict under the proposed placement and disposal strategy the quality of run-off and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances;

b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil and the salinity, acid and alkali producing potential and metal concentrations of waste rock;

c) a materials balance and disposal plan demonstrating how potentially acid forming waste rock will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage;

d) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid-forming and acid-forming waste rock;

e) how often the performance of the plan will be assessed;

f) the indicators or other criteria on which the performance of the plan will be assessed;

g) a rehabilitation strategy; and

h) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of the placed materials, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.

Schedule D – Noise

Noise limits

D1 The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table D1 – Noise limits** to be exceeded at a sensitive place or commercial place.

Table D1 – Noise limits

Sensitive Place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and Public Holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**9am to 6pm**	**6pm to 10pm**	**10pm to 9am**
LAeq, adj, 15 mins	45	40	30	45	40	30
LA1, adj, 15 mins	55	50	45	50	45	40
Commercial Place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and Public Holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**7am to 6pm**	**6pm to 10pm**	**10pm to 7am**
LAeq, adj, 15 mins	50	45	40	45	40	35

D2 The holder of this environmental authority must ensure that noise generated by mining activities does not cause the low frequency noise to exceed 55 dB(Lin) when measured outdoor at a sensitive place or commercial place.

Note: low frequency noise is defined by the maximum linear sound pressure level measured over an hour period in one third octave band centered in the frequency range 10Hz to 200Hz.

D3 The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the instantaneous maximum noise during night time to exceed 50 dB(A) LAmax measured outdoor at a sensitive place or commercial place.

Airblast overpressure nuisance

D4 The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in **Table D2 – Blasting noise limits** to be exceeded at a sensitive place or commercial place.

Table D2 – Blasting noise limits

Blasting noise limits	Sensitive or commercial blasting noise limits place limits	
	7am to 6pm	6pm to 7am
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No blasting to occur
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	No blasting to occur

Monitoring and reporting

D5 Noise monitoring and recording must include the following descriptor characteristics and matters:

a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins);

b) background noise LA90;

c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels;

d) atmospheric conditions including temperature, relative humidity and wind speed and directions;

e) effects due to any extraneous factors such as traffic noise;

f) location, date and time of monitoring; and

g) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

D6 The holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with **Table D2 – Blasting noise limits** for:

a) 100% of all blasts undertaken at the nearest sensitive place or commercial place; and

b) all blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.

D7 When requested by the administering authority, noise monitoring and recording must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 10 business days to the administering authority following.

D8 The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's *Noise Measurement Manual* or the most recent version of *AS1055 Acoustics – description and measurement of environmental noise*.

Schedule E – Groundwater

Contaminant release

E1 The holder of this environmental authority must not release contaminants to groundwater.

Monitoring and reporting

E2 All determinations of groundwater quality and biological monitoring must be performed by an appropriately qualified person.

E3 Groundwater quality and levels must be monitored at the locations and frequencies defined in **Table – E1 Groundwater monitoring locations and frequency** and **Attachment 2 – Groundwater Monitoring Locations** for quality characteristics identified in **Table E2 – Groundwater quality triggers and limits**.

Table E1 – Groundwater monitoring locations and frequency

Monitoring point[1]	Location		Surface RL	Monitoring frequency[4]
	Easting (GDA94 – Zone 54)	Easting (GDA94 – Zone 54)	(m)[3]	
Reference bores[2]				
MB01B	592504	7399983	213.8	Monthly
MB02C	594017	7397580	236.8	Monthly
MB02S	594017	7397580	236.8	Monthly
MB03S	599667	7399771	230.5	Monthly
MB04_C	593513	7399534	234.9	Monthly
MB04S	593493	7399537	235.0	Monthly
MB06_B	592471	7394530	221.1	Monthly
MB07_B	592065	7393041	223.1	Monthly
MB08B	594668	7390096	242.6	Monthly
MB09T	593575	7401714	201.6	Monthly
MB10T	600020	7402656	193.4	Monthly
TAR040C	6000263	7396108	230.5	Monthly
Compliance bores				
TAR016C	594956	7395372	228.2	Monthly
TAR053	595642	7395113	213.6	Monthly
TAR176C	595549	7400349	204.0	Monthly
TAR177C	594586	7400197	221.1	Monthly
TAR189C	595543	7398818	236.8	Monthly
MB05_C	598860	7398819	237.7	Monthly
TAR249C	596635	7397000	236.2	Monthly

1. *Monitoring is not required where a bore has been removed as a direct result of the mining activity.*
2. *RL must be measured to the nearest 5cm from the top of the bore casing.*
3. *Reference sites must:*

(a) have a similar flow regime;

(b) be from the same bio-geographic and climatic region;

(c) have similar geology, soil types and topography; and

(d) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

4. After 24 months of monitoring, the environmental authority holder may seek (via an environmental authority amendment application) to reduce the monitoring frequency to quarterly.

Table E2 – Groundwater quality triggers and limits[1]

Parameter	Contaminant triggers	Contaminant limit
TBA	TBA	TBA
TBA	TBA	TBA
TBA	TBA	TBA
TBA	TBA	TBA
TBA	TBA	TBA

*1. The environmental authority holder is required to submit the proposed groundwater quality triggers and limits after 24 months of monitoring (i.e. 24 monitoring events) is obtained in accordance within conditions **E2** and **E3**.*

E4 Groundwater levels when measured at the monitoring locations specified in **Table E1 – Groundwater monitoring locations and frequency** must not exceed the groundwater level trigger change thresholds specified in **Table E3 – Groundwater level monitoring** below.

Table E3 – Groundwater level monitoring

Monitoring location	Level trigger threshold[1]	Monitoring frequency
Reference bores		
MB01B	TBA	Daily
MB02C	TBA	Daily
MB02S	TBA	Daily
MB03S	TBA	Daily
MB04_C	TBA	Daily
MB04S	TBA	Daily
MB06_B	TBA	Daily
MB07_B	TBA	Daily
MB08B	TBA	Daily
MB09T	TBA	Daily
MB10T	TBA	Daily
TAR040C	TBA	Daily
Compliance bores		
TAR016C	TBA	Daily
TAR053	TBA	Daily

TAR176C	TBA	Daily
TAR177C	TBA	Daily
TAR189C	TBA	Daily
MB05_C	TBA	Daily
TAR249C	TBA	Daily

1. *The environmental authority holder is required to submit the proposed groundwater level trigger thresholds after 24 months of monitoring (i.e. 24 monitoring events) is obtained in accordance within conditions **E2** and **E3***

Exceedance investigation

E5 If quality characteristics of groundwater from compliance bores identified in **Table E1 – Groundwater monitoring locations and frequency** exceed any of the trigger levels stated in **Table E2 – Groundwater quality triggers and limits** or exceed any of the groundwater level trigger threshold stated in **Table E3 – Groundwater level monitoring**, the holder of this environmental authority must compare the compliance monitoring bore results to the reference bore results and complete an investigation in accordance with the ANZECC and ARMCANZ 2000.

E6 Results of monitoring of groundwater from compliance bores identified in **Table E1 – Groundwater monitoring locations and frequency**, must not exceed any of the limits defined in **Table E2 – Groundwater quality triggers and limits**.

Bore construction and maintenance and decommissioning

E7 The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

Groundwater model

E8 Within six (6) months of issue of this environmental authority, the environmental authority holder must submit to the administering authority a peer review of the groundwater model. The peer review should consider the following:

a) the geological conceptualisation;
b) appropriateness of the model boundary conditions;
c) appropriateness of the model interaction with surface creek systems; and
d) appropriateness of the sensitivity analysis and hydraulic parameters.

E9 Within three (3) years from the date of commencing mine dewatering, and every three (3) years thereafter, the environmental authority holder must submit to the administering authority a review and recalibration of the groundwater. The methodology should include the following:

a) hydraulic conductivity values based on additional field measurements in the target coal seams;
b) transient calibration of the groundwater model, using additional seasonal groundwater data; and
c) any additional data input requirements, to account for the effects of fracturing as mining progresses.

Schedule F – Water (Fitzroy model conditions)

Contaminant release

F1 Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.

F2 Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in **Table F1 – Mine affected water release points, sources and receiving waters** and depicted in **Attachment 3 – Mine affected water release points** attached to this environmental authority.

F3 The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with condition **F28** is permitted.

Table F1 – Mine affected water release points, sources and receiving waters

Release point (RP)	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Mine affected water source and location	Monitoring point	Receiving waters description
RP1	TBA*	TBA*	CPP Water Recycle Dam	Pipe or drain	Taroborah Creek
RP2	TBA*	TBA*	Mine Wastewater Dam	Pipe or drain	Taroborah Creek
RP3	TBA*	TBA*	Sediment Dam 03	Pipe or drain	Taroborah Creek
RP4	TBA*	TBA*	Sediment Dam 04	Pipe or drain	Taroborah Creek
RP5	TBA*	TBA*	Mine Wastewater Dam	Intake pipe to pumping system	Selma Irrigation System – main channel adjacent to Capricorn Highway underpass

**The environmental authority holder is required to submit the location (latitude and longitude) of the proposed release limits to the administering authority prior to mining operations commencing.*

F4 The release of mine affected water to waters in accordance with **condition F2** must not exceed the release limits stated in **Table F2 – Mine affected water release limits** when measured at the monitoring points specified in **Table F1 – Mine affected water release points, sources and receiving waters** for each quality characteristic.

Table F2 – Mine affected water release limits

Quality characteristic	Release limits	Monitoring frequency	Comment
Electrical conductivity (µS/cm)	Release limits specified in **Table F4 – Mine affected water release during flow events** for variable flow	Daily during release (the first sample must be taken within two hours of commencement of release)	
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within two hours of commencement of release)	
Turbidity (NTU)	TBA	Daily during release* (first sample within two hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.

TBA: The environmental authority holder is required to submit the proposed release limits to the administering authority within 24 months of the issue date of the environmental authority, or prior to mining operations commencing; whichever is earlier.

F5 The release of mine affected water to waters from the release points must be monitored at the locations specified in **Table F1 – Mine affected water release points, sources and receiving waters** for each quality characteristic and at the frequency specified in **Table F2 – Mine affected water release limits** and **Table F3 – Release contaminant trigger investigation levels, potential contaminants**.

Note: The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition F5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.

Table F3 – Release contaminant trigger investigation levels, potential contaminants

Quality characteristic	Trigger levels (µg/L)	Comment on trigger level	Monitoring frequency
Aluminium	55	*For aquatic ecosystem protection, based on SMD guideline*	
Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	4	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	

Quality characteristic	Trigger levels (μg/L)	Comment on trigger level	Monitoring frequency
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	Commencement of release and thereafter weekly during release
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum Hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*	
Sodium	180		
Suspended Solids	TBA – Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment*		
Sulfate (SO_4^{2-}) (mg/L)	TBA – Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment*	*Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC*	

Table F3 – Release contaminant trigger investigation levels, potential contaminants *notes:*

1. *All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.*
2. *The quality characteristics required to be monitored as per* ***Table F3 – Release contaminant trigger investigation levels, potential contaminants*** *can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring*

*frequency is appropriate or that certain quality characteristics can be removed from **Table F3 – Release contaminant trigger investigation levels, potential contaminants** by amendment.*

3. *SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).*

4. *LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.*

5. TBA – *the environmental authority holder is required to submit the proposed trigger values to the administering authority within 24 months of the issue date of the environmental, or prior to mining operations commencing; whichever is earlier.*

F6 If quality characteristics of the release exceed any of the trigger levels specified in **Table F3 – Release contaminant trigger investigation levels, potential contaminants** during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in **Table F3 – Release contaminant trigger investigation levels, potential contaminants** and:

a) where the trigger values are not exceeded then no action is to be taken; or

b) where the downstream results exceed the trigger values specified **Table F3 – Release contaminant trigger investigation levels, potential contaminants** for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and:

i) if the result is less than the background monitoring site data, then no action is to be taken, or

ii) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 90 days of receiving the result, outlining:

1) details of the investigations carried out

2) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with **F6 b) ii)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

F7 If an exceedance in accordance with condition **F6 b) ii)** is identified, the holder of the environmental authority must notify the administering authority in writing within **24 hours** of receiving the result.

Mine affected water release events

F8 The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in **Table F3 – Release contaminant trigger investigation levels, potential contaminants**.

F9 Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition F2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in **Table F4 – Mine affected water release during flow events** for the release point(s) specified in **Table F1 – Mine affected water release points, sources and receiving waters**.

F10 The release of mine affected water to waters in accordance with condition **F2** must not exceed the Maximum Release Rate (for all combined release point flows) for each receiving water flow criterion for discharge specified in **Table F4 – Mine affected water release during flow events** when measured at the monitoring points specified in **Table F1 – Mine affected water release points, sources and receiving waters**.

Table F4 – Mine affected water release during flow events

Receiving waters / stream	Release point (RP)	Gauging station	Gauging station latitude (decimal degree, GDA94)	Gauging station longitude (decimal degree, GDA94)	Receiving water flow recording frequency	Receiving water flow criteria for discharge	Maximum release rate (for all combined RP flows)	Salinity release limits (maximum)
Taroborah Creek	RP1 RP2 RP3 RP4	Taroborah Creek upstream (TBA*)	TBA*	TBA*	Continuous (minimum daily)	Low / No Flow: 28 days after natural flow events that exceed 0.15m^3/s at Nogoa River	0.05m^3/s	Electrical conductivity: 488µS/cm Sulfate: 300mg/L
						Medium Flow: ≥0.15 m^3/s in the Nogoa River	0.08m^3/s	Electrical conductivity: 1,500µS/cm Sulfate: <600mg/L
							0.02m^3/s	Electrical conductivity: 3,500µS/cm Sulfate: <600mg/L
Selma Irrigation System – main channel adjacent to Capricorn Highway underpass	RP5	TBA*	TBA*	TBA*	TBA*	TBA*	TBA*	TBA*

**The environmental authority holder is required to submit the proposed release limits to the administering authority within 24 months of the issue date of the environmental, or prior to mining operations commencing; whichever is earlier.*

F11 The daily quantity of mine affected water released from each release point must be measured and recorded.

F12 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.

Notification of release event

F13 The environmental authority holder must notify the administering authority as soon as practicable and no later than **24 hours** after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;

b) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (that is, contaminant limits, natural flow, discharge volume);

c) release point/s;

d) release rate;

e) release salinity; and

f) receiving water/s including the natural flow rate.

Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email.

F14 The environmental authority holder must notify the administering authority as soon as practicable and nominally no later than **24 hours** after cessation of a release event of the cessation of a release notified under condition **F13** and within **28 days** provide the following information in writing:

a) release cessation date/time;

b) natural flow rate in receiving water;

c) volume of water released;

d) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contaminant limits, natural flow, discharge volume);

e) all in-situ water quality monitoring results; and

f) any other matters pertinent to the water release event.

*Note: Successive or intermittent releases occurring within **24 hours** of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions **F13** and **F14**, provided the relevant details of the release are included within the notification provided in accordance with conditions **F13** and **F14**.*

Notification of release event exeedance

F15 If the release limits defined in **Table F2 – Mine affected water release limits** are exceeded, the holder of the environmental authority must notify the administering authority within **24 hours** of receiving the results.

F16 The environmental authority holder must, within **28 days** of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority detailing:

a) the reason for the release;

b) the location of the release;

c) the total volume of the release and which (if any) part of this volume was non-compliant;

d) the total duration of the release and which (if any) part of this period was non-compliant;

e) all water quality monitoring results (including all laboratory analyses);

f) identification of any environmental harm as a result of the non-compliance;

g) all calculations; and

h) any other matters pertinent to the water release event.

Receiving environment monitoring and contaminant trigger levels

F17 The quality of the receiving waters must be monitored at the locations specified in **Table F6 – Receiving water upstream background sites and downstream monitoring points** and **Attachment 4 – Receiving water monitoring points** for each quality characteristic and at the monitoring frequency stated in **Table F5 – Receiving waters contaminant trigger levels**.

Table F5 – Receiving waters contaminant trigger levels[1]

Quality Characteristic	Trigger Level	Monitoring Frequency
pH (pH units)	6.5 – 9.0	Daily during the release
Electrical Conductivity (µS/cm)	1,000	
Suspended solids (mg/L)	1,500	
Sulfate (SO_4^{2-}) (mg/L)	250 (Protection of drinking water environmental value)	
Sodium (mg/L)	180	

1. TBA – *the environmental authority holder is required to submit the proposed trigger levels to the administering authority within 24 months of the issue date of the environmental, or prior to mining operations commencing; whichever is earlier.*

Table F6 – Receiving water upstream background sites and downstream monitoring points

Monitoring points	Receiving waters location description	Latitude (GDA94)	Longitude (GDA94)
Upstream background monitoring points			
MP1	Taroborah Creek, approximately 2.6km upstream of RP1	592460	7394520
MP2	Tributary south of Taroborah Creek, approximately 3.7km upstream of RP1 and RP2	593875	7392625
MP3	Retreat Creek	594555	7402037
Downstream monitoring points			
MP4	Taroborah Creek	595695	7394650
MP5	Retreat Creek	597840	7402650
MP6	Retreat Creek	600070	7402480
MP7	Taroborah Creek	5986585	7391555

F18 If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table F5 – Receiving waters contaminant trigger levels** during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:

a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or

b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:

i) details of the investigations carried out; and

ii) actions taken to prevent environmental harm.

*Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with **F19 b)** of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*

F19 All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.

Receiving environment monitoring program (REMP)

F20 The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of Retreat Creek and Taroborah Creek and connected or surrounding waterways within 10km* downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

*Note: *may be updated / revised based on the REMP Design Document submitted as per condition F21 and the release point coordinates as per* **Table F1 – Mine affected water release points, sources and receiving waters.**

F21 A REMP Design Document that addresses the requirements of the REMP must be prepared and be submitted to the administrating authority by <insert date that is 3 months after the issue of the environmental authority>.

Note: The REMP Design Document must also be made available to the administering authority at any time upon request.

F22 A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administrating authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.

Water reuse

F23 Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).

Annual water monitoring reporting

F24 The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format:

a) the date on which the sample was taken;

b) the time at which the sample was taken;

c) the monitoring point at which the sample was taken;

d) the measured or estimated daily quantity of mine affected water released from all release points;

e) the release flow rate at the time of sampling for each release point;

f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and

g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

Temporary interference with waterways

F25 Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources and Mines (or its successor) *Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities*.

Water management plan

F26 A Water Management Plan must be developed by an appropriately qualified person and implemented.

Stormwater and water sediment controls

F27 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

F28 Stormwater, other than mine affected water, is permitted to be released to waters from:

a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition **F27**; and

b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition **F26**, for the purpose of ensuring water does not become mine affected water.

Schedule G – Sewage treatment

G1 The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in **Table G1 – Contaminant release limits to land.**

Table G1 – Contaminant release limits to land

Contaminant	Unit	Release limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD)1	mg/L	20	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	15	Maximum	Monthly
E-coli	Organisms/100ml	1000	Maximum	Monthly
pH	pH units	6.0 – 9.0.	Range	Monthly

G2 The application of treated effluent to land must be carried out in a manner such that:

a) vegetation is not damaged;

b) there is no surface ponding of effluent; and

c) there is no run-off of effluent.

G3 If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is present and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.

G4 All sewage effluent released to land must be monitored at the frequency and for the parameters specified in **Table G1 – Contaminant release limits to land**.

G5 The daily volume of effluent release to land must be measured and records kept of the volumes of effluent released.

G6 When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.

G7 Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the *Environmental Protection Act 1994* whilst using the treated sewage effluent.

Schedule H – Land and rehabilitation

H1 Land disturbed by mining must be rehabilitated in accordance with **Attachment 5 – Rehabilitation requirements**.

H2 Rehabilitation must commence progressively in accordance with the plan of operations.

Contaminated Land

H3 Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.

H4 Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the *Environmental Protection Act 1994*, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under condition **H1**.

Subsidence Management Plan

H5 A subsidence management plan must be developed and implemented by the holder of this environmental authority prior to the commencement of activities that result in subsidence of a watercourse that provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

H6 The subsidence management plan must be developed to the satisfaction of the administering authority in accordance with the departmental guideline *Watercourse Subsidence – Central Queensland Mining Industry* or any subsequent versions and must include at least the following components:

1) the condition of the existing watercourse (including a baseline assessment);

2) the proposed impacts of subsidence on the watercourse and floodplain including but not limited to:

   a) physical condition of surface drainages:

i) erosion;

ii) areas susceptible to higher levels of erosion such as watercourse confluences;

iii) incision processes;

iv) stream widening;

v) tension cracking;

vi) lowering of bed and banks;

vii) creation of in stream waterholes;

viii) changes to local drainage patterns; and

b) overland flow:

i) capture of overland flow by subsided long-wall panels;

ii) increased overbank flows due to lowering of high bank of watercourses;

iii) the portion of local and large scale catchment likely to be captured by subsided long-wall panels and the associated impacts on downstream users; and

c) water quality:

i) surface water;

ii) groundwater;

iii) overland flow water detained in subsided long-wall panels; and

d) land condition:

i) current land condition to be impacted by subsidence; and

e) infrastructure:

i) detail of existing infrastructure (pipelines, railway, power lines and haul roads) should be identified where there is a potential impact from effects of land subsidence; and

3) proposed options for mitigating any impacts associated with subsidence and how these mitigation methods will be implemented;

4) a risk assessment;

5) a monitoring, evaluation and maintenance program;

6) cumulative impacts on watercourse or catchments; and

7) impacts on groundwater.

H7 The holder of this environmental authority must not commence subsidence of a longwall panel unless:

a) the holder has submitted a subsidence management plan to the administering authority, together with certification by a suitably qualified and experienced person that the plan is compliant in all respects with this environmental authority; and

b) at least **28 days** has passed since the submission of the subsidence management plan.

Annual Inspection (Subsidence)

H8 The holder of this environmental authority must arrange for each subsided longwall panel to be inspected within the bed and banks of the watercourse annually by a suitably qualified and experienced person, in accordance with conditions **H9 to H12**.

H9 The annual inspection must be conducted prior to **1 November** each year.

H10 At each annual inspection, the condition of each subsided longwall panel must be assessed, including the structural, geotechnical and hydraulic adequacy of the subsided longwall panel and the adequacy of the works with respect to the subsidence management plan.

H11 For each inspection, a report certified by a suitably qualified and experienced person, including any recommendations must be provided to the administering authority within 28 days of the inspection.

H12 The report must detail any remedial works that have been undertaken and the outcomes of these works.

Remedial Works (Subsidence)

H14 The holder of the Environmental Authority, if directed by the administering authority, shall carry out any remedial works that are deemed necessary to minimise impacts on the physical integrity of the watercourse from subsidence.

Biodiversity offsets

H15 The authority holder must deliver an environmental offset for the activity's impacts on prescribed environmental matters, with the total extent of impact on prescribed environmental matters to not exceed:

a) Regional Ecosystem – 11.9.1 – 2.76ha in extent*

b) Regional Ecosystem 11.8.11 – 149.43ha in extent*

c) watercourse vegetation – 4.3ha in extent.

Note – * a) and b) are values that require offsets under the EPBC and therefore will also be condition by the Commonwealth.

H16 Before the authority holder starts any part of the prescribed activity mentioned in **condition F31**, the holder must:

a) elect, by notice in the approved form given to the administering agency, to deliver the offset condition by:

i) a proponent-driven offset; or
ii) a financial settlement offset; or
iii) a combination of a proponent-drives offset and a financial settlement offset; and

b) agree with the administering agency about the delivery of the offset condition though both parties endorsing an 'agreed delivery arrangement'.

H17 To the extent that the notice of election under condition **H16** involves a proponent-driven offset, the notice must be accompanied by an offset delivery plan that meets the requirements of s18 of the *Environmental Offsets Act 2014*.

H18 To the extent that the 'agreed delivery arrangement':

a) requires the authority holder to deliver a proponent-driven offset, the authority holder must comply with the agreed delivery arrangement, including the agreed offset delivery plan; and

b) required the authority holder to deliver a financial settlement offset, the authority holder must pay the amount:

i) required by, and in the way stated in, the agreed delivery arrangement to the department; and

ii) before the authority holder starts any part of the prescribed activity to which the offset condition relates.

H19 Within six (6) months of issue of the environmental authority, the authority holder must:

a) use the Australian Groundwater Dependent Ecosystem Toolbox evaluation framework to identify the ecological water requirements of potential groundwater dependent ecosystems (GDEs) located within the predicted zone of groundwater depressurisation (as identified in the Taroborah Coal

Project EIS dated November 2014). The survey area should include land on the project site (including regional ecosystems, RE11.3.25 and RE11.3.3a), and off-site within or adjacent to publicly accessible land, and any other land where access can be obtained;

b) complete a baseline assessment of the condition (using the BioCondition methodology[1]) and extent (in hectares) of all potentially impacted GDEs identified in the surveys required above;

c) assess the likely causes and extent of potential impacts on the identified GDEs, and propose mitigation measures, and offsets for any predicted residual impacts;

d) establish groundwater monitoring bores in the location of all potentially impacted GDEs and monitor groundwater depth and quality in accordance with the groundwater monitoring methodology in Schedule E of this authority.

H20 During groundwater dewatering associated with open-cut and underground mining, the authority holder must monitor the health of all potentially impacted GDEs for such changes as vegetation dieback, or a significant change in species diversity. The monitoring program should include trigger values for monitored parameters that would prompt corrective action to be taken to avoid and minimise impacts, or offset residual impacts.

H21 Offset actions that could be undertaken for residual impacts should be included in a revised biodiversity offset strategy.

Schedule J – Regulated Structures

Assessment of consequence category

J1 The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (EM635) at the following times:

a) prior to the design and construction of the structure, if it is not an existing structure; or

b) if it is an existing structure, prior to the adoption of this schedule; or

c) prior to any change in its purpose or the nature of its stored contents.

J2 A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.

J3 Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

Design and construction[2] of a regulated structure

J4 Conditions **J5** to **J9** inclusive do not apply to existing structures.

J5 All regulated structures must be designed by, and constructed[3] under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

J6 Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.

[1] BioCondition: a condition assessment framework for terrestrial biodiversity in Queensland: assessment manual. T.J. Eyre [et al.] Ver 2.2 (2015) (or later versions).

[2] Construction of a dam includes modification of an existing dam — refer to the definitions.

[3] Certification of design and construction may be undertaken by different persons.

J7 Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*, and must be recorded in the Regulated Structures register.

J8 Regulated structures must:

a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635);*

b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of:

i) floodwaters from entering the regulated dam from any watercourse or drainage line; and

ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.

c) for regulated dams that are dams associated with a failure to contain – seepage: have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.

J9 Certification by the 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:

a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and

b) construction of the regulated structure is in accordance with the design plan.

J10 Operation of a regulated structure**,** except for an existing structure, is prohibited unless:

a) the holder has submitted to the administering authority:

i) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition **J7**;

ii) a set of 'as constructed' drawings and specifications;

iii) certification of those 'as constructed drawings and specifications' in accordance with condition **J9**;

iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan;

v) the requirements of this authority relating to the construction of the regulated structure have been met;

vi) the holder has entered the details required under this authority, into a Register of Regulated Structures; and

vii) there is a current operational plan for the regulated structures.

J11 Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.

Mandatory reporting level

J12 Conditions **J13 to J16** inclusive only apply to regulated structures which have not been certified as low consequence category for 'failure to contain – overtopping'.

J13 The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.

J14 The holder must, as soon as practical and within **forty-eight (48) hours** of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.

J15 The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.

J16 The holder must record any changes to the MRL in the Register of Regulated Structures.

Design storage allowance

J17 The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken **prior to 1 July** of each year.

J18 By **1 November** of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet **the Design Storage Allowance (DSA) volume for the dam** (or network of linked containment systems).

J19 The holder must, as soon as possible and within **forty-eight (48) hours** of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, notify the administering authority.

J20 The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on **1 November** of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

Annual inspection report

J21 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

J22 At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure**.**

J23 The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

J24 The holder must:

a) Within **20 business days** of receipt of the annual inspection report, provide to the administering authority:

   i) The recommendations section of the annual inspection report; and

   ii) If applicable, any actions being taken in response to those recommendations; and

b) If, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within **10 business days** of receipt of the request.

Transfer arrangements

J25 The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.

Decommissioning and rehabilitation

J26 Dams must not be abandoned but be either:

a) decommissioned and rehabilitated to achieve compliance with condition **J27**; or

b) be left in-situ for a beneficial use(s) provided that:

i) it no longer contains contaminants that will migrate into the environment;

ii) it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and

iii) the administering authority, the holder of the environmental authority and the landholder agree in writing that the dam will be used by the landholder following the cessation of the environmentally relevant activity(ies).

J27 After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria:

a) the landform is safe for humans and fauna;

b) the landform is stable with no subsidence or erosion gullies for at least **three (3) years**;

c) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated;

d) not allowing for acid mine drainage;

e) there is no ongoing contamination to waters (including groundwater);

f) 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);

g) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class; and

h) for land that is not being cultivated by the landholder:

i) groundcover, that is not a declared pest species is established and self-sustaining; and

ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining.

Register of Regulated Structures

J28 A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.

J29 The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.

J30 The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition **J10 and J11** has been achieved.

J31 The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.

J32 All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.

J33 The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

Definitions

Key terms and/or phrases used in this document are defined in this section. Applicants should note that where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

'acid rock drainage' means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture.

'administering authority' is the agency that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

'airblast overpressure' means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dBL).

'annual exceedance probability' or **'AEP'** the probability that at least one event in excess of a particular magnitude will occur in any given year.

'annual inspection report' means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

a) against recommendations contained in previous annual inspections reports;

b) against recognised dam safety deficiency indicators;

c) for changes in circumstances potentially leading to a change in consequence category;

d) for conformance with the conditions of this authority;

e) for conformance with the 'as constructed' drawings;

f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the **dam** (or network of linked containment systems); and

g) for evidence of conformance with the current operational plan.

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

'assessed or assessment' by a suitably qualified and experienced person in relation to a consequence assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment:

a) exactly what has been assessed and the precise nature of that determination;

b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;

c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and

d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

'associated works' in relation to a dam, means:

a) operations of any kind and all things constructed, erected or installed for that dam; and

b) any land used for those operations.

'background', with reference to the water schedule means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

'blasting' means the use of explosive materials to fracture:

a) rock, coal and other minerals for later recovery, or

b) structural components or other items to facilitate removal from a site or for reuse.

'certified', with respect to watercourse diversions, means assessed and approved by a suitably qualified and experienced person. In relation to 'as constructed' drawings and specifications, the certification must be by the suitably qualified person who supervised the construction of the watercourse diversion, or re-establishment of the watercourse.

'certification' means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

'certifying', '**certify' or 'certified'** have a corresponding meaning as 'certification'.

'chemical' means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the Agricultural and *Veterinary Chemicals Code Act 1994* (Commonwealth); or

b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council; or

c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*; or

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or

e) any substance used as, or intended for use as:

   i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or

   ii) a surface active agent, including, for example, soap or related detergent; or

   iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or

   iv) a fertiliser for agricultural, horticultural or garden use; or

   v) a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or

   vi) manufacture of plastic or synthetic rubber.

'commercial place' means a workplace used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees' accommodation or public roads.

'consequence' in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.

'consequence 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 the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

'construction' or **'constructed'** in relation to a regulated structure includes building a new regulated structure and lifting or otherwise modifying an existing regulated structure, but does not include investigations and testing necessary for the purpose of preparing a design plan.

'construction' or 'constructed', in relation to watercourse diversions, is the process of building, or modifying an existing diversion, but does not include investigations and testing necessary for the purpose of preparing a design plan.

'contaminant' – a contaminant can be:

a) a gas, liquid or solid; or

b) an odour; or

c) an organism (whether alive or dead), including a virus; or

d) energy, including noise, heat, radioactivity and electromagnetic radiation; or

e) a combination of contaminants.

'dam' means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

'dam crest volume' means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).

'design plan' is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

'design storage allowance' or **'DSA'** means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability** (AEP) specified in that Manual.

'designer' for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.

'disturbance' of land includes:

a) compacting, removing, covering, exposing or stockpiling of earth;

b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;

c) carrying out mining within a watercourse, waterway, wetland or lake;

d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;

e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased; or

f) releasing of contaminants into the soil, or underlying geological strata.

However, the following areas are not included when calculating areas of 'disturbance':

a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

b) areas previously disturbed which have achieved the rehabilitation outcomes;

c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);

d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner; or

e) disturbance that pre-existed the grant of the tenure.

'EC' means electrical conductivity.

'effluent' treated waste water released from sewage treatment plants.

'emergency action plan' means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually update contact.

'equilibrium' means a state where 'balance' is achieved despite changing variables.

'existing structure' means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

'flowable substance' means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

'functional design' is a document that contains 'conceptual' information about the design, operation and revegetation criteria of a watercourse diversion that addresses the outcomes stated in the conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

a) geomorphic and vegetation assessment of the existing watercourse;

b) hydrologic conditions of the existing watercourse;

c) the proposed watercourse diversion route; and

d) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion.

'functionality': the purpose that something is designed or expected to fulfil.

'holder', for a mining tenement, means a holder of the tenement under the *Mineral Resources Act 1989*, and the holder of the associated environmental authority under the *Environmental Protection Act 1994.*

'hydraulic performance' means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

'infrastructure' means water storage dams, levees,, roads and tracks, buildings and other structures built for the purpose of the mining activity.

'land' in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

'land use' means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

'leachate' means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

'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.

'licensed place' means the mining activities carried out at the mining tenements detailed on page 1 of this environmental authority.

'low consequence dam' means any dam that is not a high or significant consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.**'mandatory reporting level'** or **'MRL'** means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

'manual' means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

'measures' includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping, and containment systems.

'mine affected water':

a) means the following types of water:

   i) pit water, tailings dam water, processing plant water;

   ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 if it had not formed part of the mining activity;

   iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff,

provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;

iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;

v) groundwater from the mine's dewatering activities; or

vi) a mix of mine affected water (under any of paragraphs i)-v) and other water;

b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:

i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or

ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:

a. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;

b. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff, or

iii) both.

'minimise' is to reduce to the smallest possible amount or degree.

'modification' or **'modifying'** (see definition of 'construction')

'NATA' means National Association of Testing Authorities, Australia.

'natural flow' means the flow of water through waters caused by nature.

'non-polluting' means having no adverse impacts upon the receiving environment.

'operational plan includes:

a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);

b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

'peak particle velocity (ppv)' means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mm/s).

'permanent watercourse diversion' is a man-made structure that incorporates the geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained according to an engineering standard that ultimately achieves a self-sustaining watercourse able to function without features or characteristics that rely on ongoing maintenance or that impose a financial or other burden on the proponent, government or the community.

'pre-existing watercourse' is the section of watercourse from which the flow of water will be diverted as a result of the construction and operation of a watercourse diversion.

'prescribed activity' has the same meaning as defined in the *Environmental Offsets Act 2014.*

'prescribed environmental matter' has the same meaning as defined in the *Environmental Offsets Act 2014.*

'protected area' means – a protected area under the *Nature Conservation Act 1992*, or

a) a marine park under the *Marine Parks Act 1992*, or

b) a World Heritage Area.

'receiving environment' in relation to an activity that causes or may cause environmental harm, means the part

of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

a) a watercourse;

b) groundwater; or

c) an area of land that is not specified as “surface rights areas” in Appendix 1 – Authorised disturbance areas of this environmental authority.

‘receiving waters’ means the waters into which this environmental authority authorises releases of mine affected water.

‘Register of Regulated Structures’ includes**:**

a) date of entry in the register;

b) name of the dam, its purpose and intended/actual contents;

c) the consequence category of the dam as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures* (EM635);

d) dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;

e) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;

f) for the regulated dam, other than in relation to any levees –

i) The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;

ii) Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area

iii) Dam crest volume (megalitres);

iv) Spillway crest level (metres AHD).

v) Maximum operating level (metres AHD);

vi) Storage rating table of stored volume versus level (metres AHD);

vii) Design storage allowance (megalitres) and associated level of the dam (metres AHD);

viii) Mandatory reporting level (metres AHD);

g) the design plan title and reference relevant to the dam;

h) the date construction was certified as compliant with the design plan;

i) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;

j) details of the composition and construction of any liner;

k) the system for the detection of any leakage through the floor and sides of the dam;

l) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;

m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;

n) dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

‘regulated dam’ means any dam in the significant or high consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

’regulated structure’ includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

'rehabilitation' the process of reshaping and revegetating land to restore it to a stable landform.

'release event' means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.

'representative' means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

'revegetation' is the re-establishment of vegetation[4] of a species and density of cover similar to surrounding undisturbed areas or the landform that existed before mining activities on soil surfaces associated with the construction or rehabilitation of a watercourse diversion.

'RL' means reduced level, relative to mean sea level as distinct from depths to water.

'saline drainage' The movement of waters, contaminated with salts, as a result of the mining activity.

'self-sustaining' means not requiring on-going intervention and maintenance to maintain functional riverine processes and characteristics

'sensitive place' means:

a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or

b) a motel, hotel or hostel; or

c) an educational institution; or

d) a medical centre or hospital; or

e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or

f) a public park or gardens.

Note: The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library and educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under Nature Conservation Act 1992 *as a critical habitat or an area of major interest, marine park under* Marine Parks Act 2004*, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.*

A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp might be located on neighbouring land owned or leased by the same company as one of the holders of the environmental authority for the mining project, or a related company. Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company.

For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

'spillway' means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges form the dam, normally under flood conditions or in anticipation of flood conditions.

'structure' means dam or levee.

'suitably qualified and experienced person' in relation to **regulated structures** means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:

[4] Not including a species declared under the Land Protection (Pest and Stock Route Management) Regulation 2003 as a category class 1 pest, category class 2 pest or category class 3 pest.

a) for regulated dams: an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.

b) for regulated levees: an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

"suitably qualified and experienced person" in relation to **watercourse subsidence** means one who holds relevant professional qualifications to the satisfaction of the administering authority; AND the administering authority is satisfied that person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

a) knowledge of engineering principles related to the structures, hydrology, hydraulics and environmental impact of watercourse subsidence; and

b) a total of five years of suitable experience and demonstrated expertise in the following categories:

i) hydrology with particular reference to flooding, estimation of extreme storms or water management;

ii) hydraulics with particular reference to sediment transport and deposition and erosion control; and

iii) hydrogeology with particular reference to seepage, groundwater.

'system design plan' means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

'temporary watercourse diversion' is a man-made structure that may incorporate geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained to an engineering standard that ensures the diversion does not compromise the equilibrium and performance of the diversion and adjoining watercourses. A temporary diversion is replaced by a permanent diversion, or the re-establishment of the pre-existing watercourse, within the timeframe specified in the design plan.

'the Act' means the *Environmental Protection Act 1994*.

'µS/cm' means micro siemens per centimetre.

'void' means any constructed, open excavation in the ground.

'water' is defined under Schedule 4 of the *Water Act 2000.*

'water year' means the 12-month period from 1 July to 30 June.

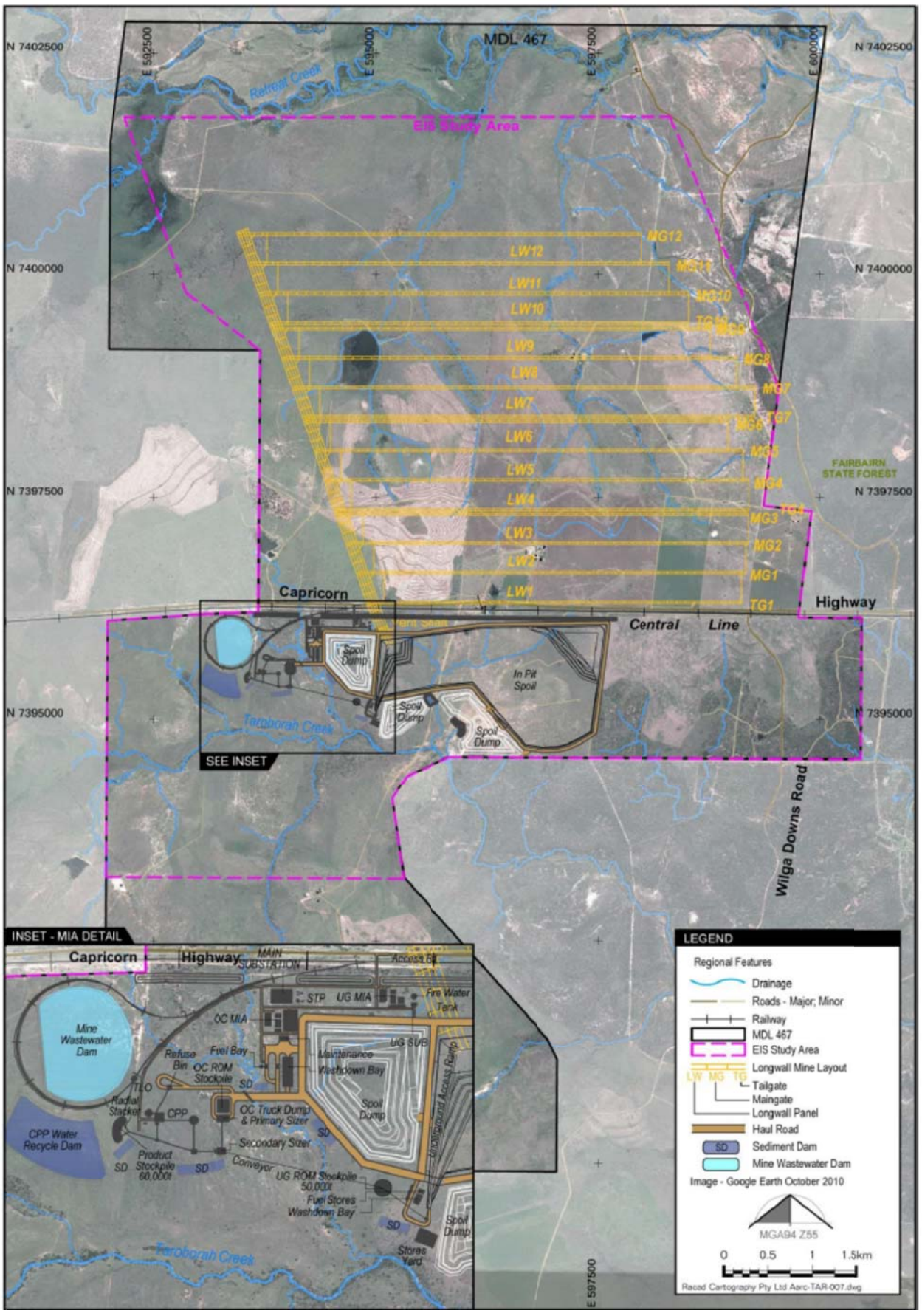
'watercourse' has the same meaning given in the *Water Act 2000*.

'water quality' means the chemical, physical and biological condition of water.

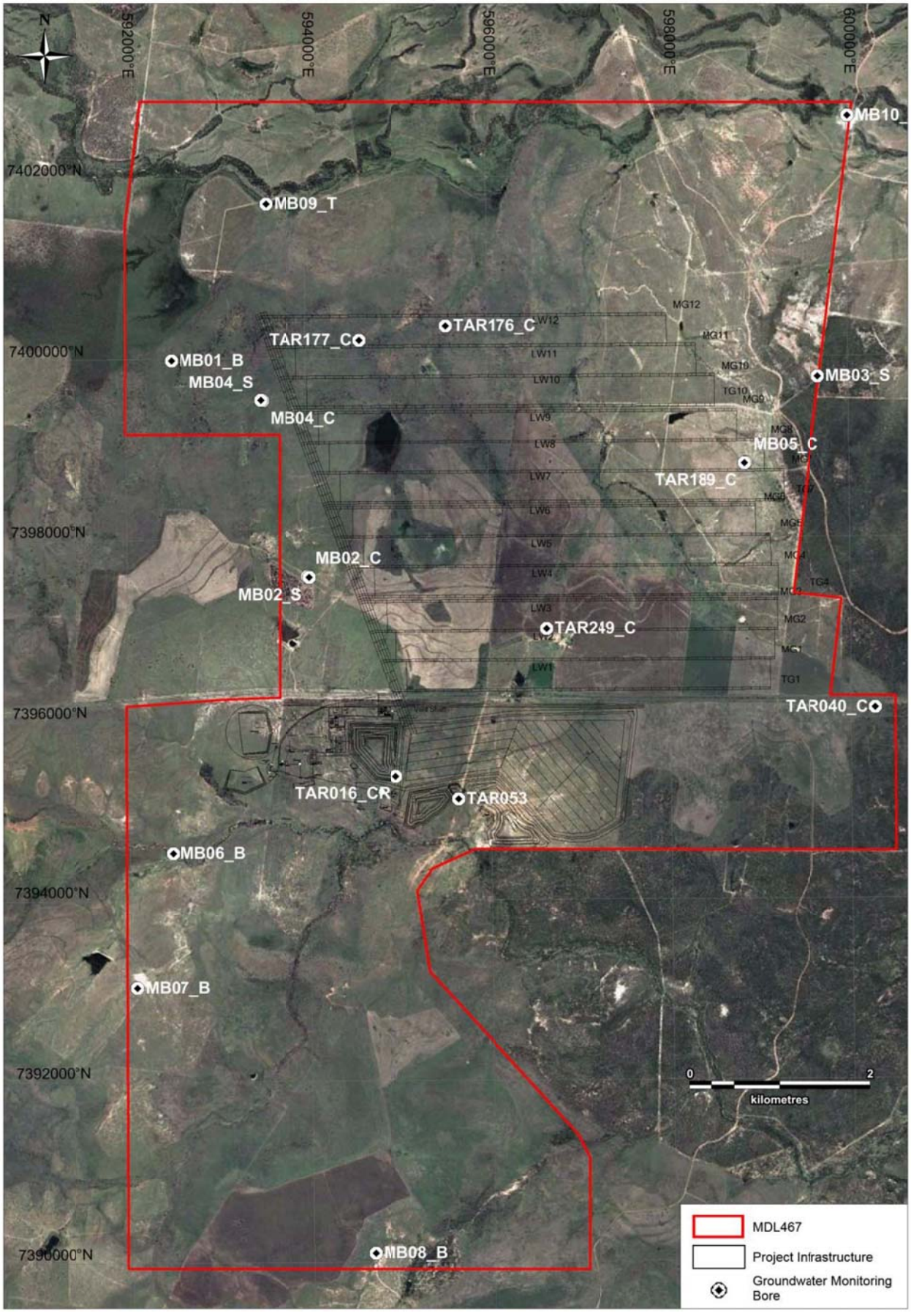
'waters' includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), storm water channel, storm water drain, and groundwater and any part thereof.

'wet season' means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

Attachment 1 – Authorised disturbance footprint



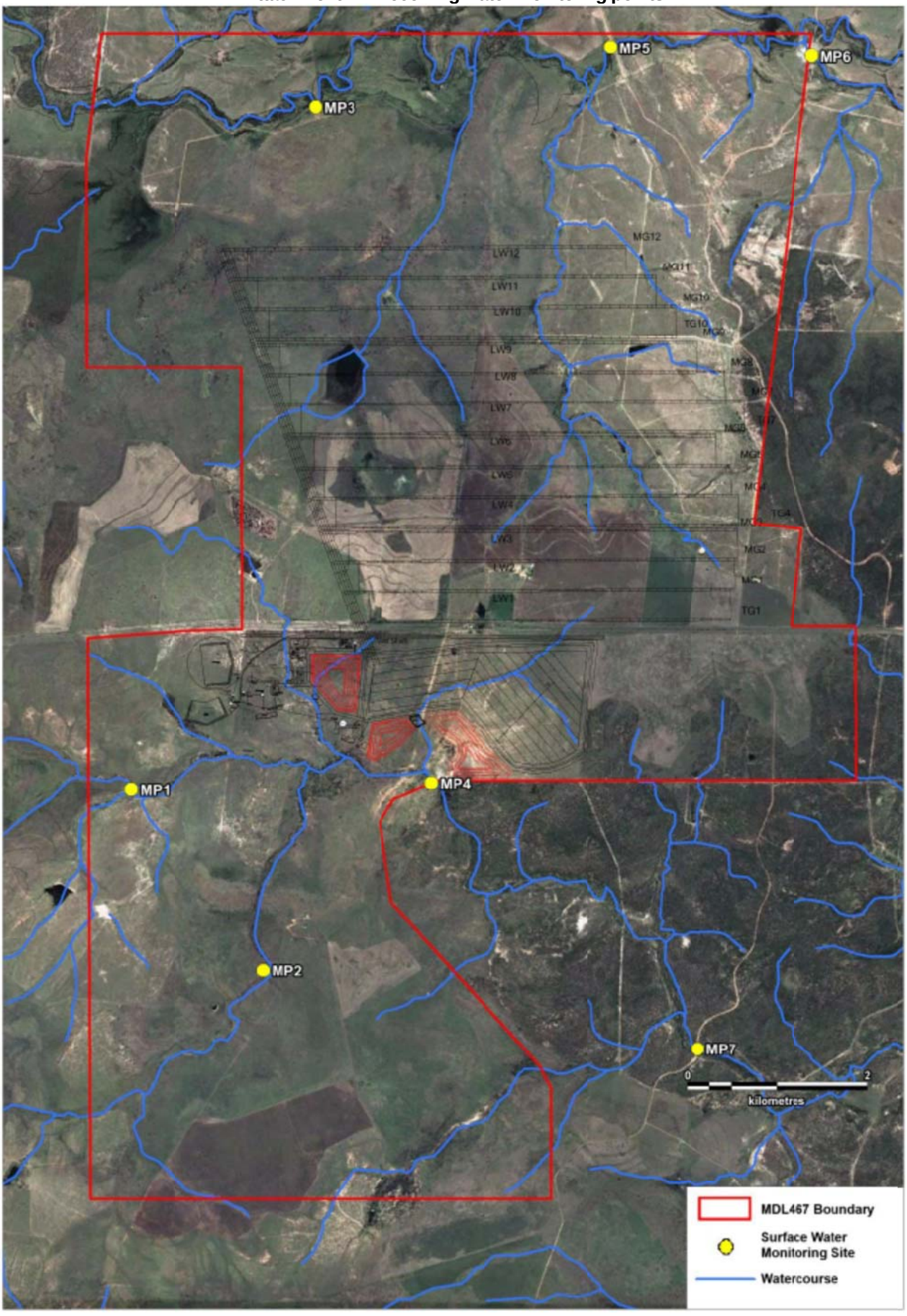
Attachment 2 – Groundwater Monitoring Locations



Attachment 3 – Mine affected water release points

Note: The environmental authority holder is required to submit this figure to the administering authority within 24 months of the issue date of the environmental, or prior to mining operations commencing; whichever is earlier.

Attachment 4 – Receiving water monitoring points



Attachment 5 – Rehabilitation requirements

Mine domain	Mine feature name	Rehabilitation goal	Rehabilitation objectives	Indicators	Completion criteria
TBA	TBA	TBA	TBA	TBA	TBA