

CHAPTER

24

INLAND
RAIL 

Abbreviations and Glossary

INLAND RAIL—BORDER TO GOWRIE ENVIRONMENTAL IMPACT STATEMENT

**ARTC**

The Australian Government is delivering
Inland Rail through the Australian
Rail Track Corporation (ARTC), in
partnership with the private sector.

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24. Abbreviations and Glossary

24.1 Abbreviations

Abbreviation	Definition
°C	Degrees Celsius
µg	microgram
µg/L	micrograms per litre
µg/m ³	micrograms per cubic metre
µm	micrometres
µS/cm	microsiemens per centimetre
2-D	two dimensional
3-D	three dimensional
AADT	Annual Average Daily Traffic
AAToS	Average Annual Time of Submergence
ABS	Australian Bureau of Statistics
ACA	Aquatic Conservation Assessments
ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i> (Qld)
ADG Code	Australian Code for the Transport of Dangerous Goods by Road & Rail
ADWF	average dry flow weather
AEP	annual exceedance probability
AHD	Australian height datum
AIAM	Adverse Impacts Assessment Methodology
AL Act	<i>Acquisition of Land Act 1967</i> (Qld)
ALA	Atlas of Living Australia
ALCAM	Australian Level Crossing Assessment Model
ALS	Australian Laboratory Services
AMA	Australian Medical Association
AMP	Accommodation Management Plan
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZECC/ARMCANZ Guideline 2018	Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand water quality guidelines
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
AOI	areas of interest
AQIA	Air Quality Impact Assessment
AQMS	air quality monitoring station
AquaBAMM	Aquatic Biodiversity Assessment Mapping Method
ARD	acid rock drainage
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand

Abbreviation	Definition
ARR	Australian Rainfall and Runoff
ARTC	Australian Rail Track Corporation
AS	Australian Standard
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999
ASS	acid sulfate soils
ASTM	American Society for Testing and Materials
ATMS	Advanced Train Management Systems
ATP	authority to prospect
ATSIHP Act	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> (Cth)
ATW	Aluminothermic Welding
B	Billion
BCC	Brisbane City Council
BGL	below ground level
BoM	Bureau of Meteorology
BNTAC	Bigambul Native Title Aboriginal Corporation
BPAs	Biodiversity Planning Assessments
C&D	construction and demolition
C&I	commercial and industrial
CaCO ₃	calcium carbonate
CBR	California Bearing Ratio
CCC	Community Consultative Committee
CDMP	Coal Dust Management Plan
CE	Critically Endangered
CEMP	Construction Environmental Management Plan
Ch	Chainage
CHMP	Cultural Heritage Management Plan
CLR	Contaminated Land Register
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ -e	carbon dioxide equivalent
CoP Vol 1	Road Traffic Noise Management: Code of Practice—Volume 1 (Department of Transport and Main Roads, 2013)
CoP Vol 2	Road Traffic Noise Management: Code of Practice—Volume 2 (Department of Transport and Main Roads, 2013)
CPTED	crime prevention through environmental design
CRG	Community Reference Group
CSG	coal seam gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation

Abbreviation	Definition
Cth	Commonwealth
DAF	Department of Agriculture and Fisheries
DAFF	Department of Agriculture, Fisheries and Forestry
DATSIP	Department of Aboriginal and Torres Strait Islander Partnerships
DAWE	Department of Agriculture, Water and Environment
dB	Decibel
dB (linear)	decibels in linear scale
dB(A)	A-weighted decibel
dB(Z)	Z-weighted decibel
DCDB	Digital Cadastre Database
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDMRB	Darling Downs–Moreton Rabbit Board
DDT	dichlorodiphenyltrichloroethane
DEHP	Department of Environment and Heritage Protection (former)
DEM	digital elevation model
DERM	Department of Environment and Resource Management (former)
DES	Department of Environment and Science
DESBT	Department of Employment Small Business and Training
DESE	Department of Education, Skills and Employment
DET	Department of Education and Training
DHPW	Department of Housing and Public Works
DILGP	Department of Infrastructure, Local Government and Planning
DIRD	Department of Infrastructure and Regional Development (former)
DLGRMA	Department of Local Government, Racing and Multicultural Affairs
DNRME	Department of Natural Resources, Mines and Energy
DNRM	Department of Natural Resources and Mines (former)
DoEE	Department of the Environment and Energy (former)
DO	dissolved oxygen
DP&E	New South Wales Department of Planning and Environment
dS/m	deciSiemens per metre
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning (former)
DSDTI	Department of State Development, Tourism and Innovation
DSEWPac	Department of Sustainability, Environment, Water, Population and Communities (former)
DSITI	Department of Science, Information Technology and Innovation
DSITIA	Department of Science, Information Technology, Innovation and the Arts (former)

Abbreviation	Definition
DTMR	Department of Transport and Main Roads
E	endangered
EA	environmental authority
EC	electrical conductivity
EDQ	Economic Development Queensland
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMR	Environment Management Register
EMS	Environmental Management System
ENSO	El Niño-Southern Oscillation
EO Act	<i>Environmental Offsets Act 2014</i> (Qld)
EOW	end of waste
EP	equivalent person
EP Act	<i>Environmental Protection Act 1994</i> (Qld)
EP Regulation	Environmental Protection Regulation 2019 (Qld)
EPA Victoria	Environment Protection Authority Victoria
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPG	Emergency Procedure Guide
EPP (Air)	Environmental Protection (Air) Policy 2019 (Qld)
EPP (Noise)	Environmental Protection (Noise) Policy 2019 (Qld)
EPP (Water and Wetland Biodiversity)	Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (Qld)
ERA	environmentally relevant activity
ESD	ecologically sustainable development
EVNT	Endangered, Vulnerable and Near Threatened
EVs	environmental values
FBW	flash-butt welding
FFA	Flood Frequency Analysis
FFJV	Future Freight Joint Venture
FFL	finished floor level
FIDOL	FIDOL odour assessment factors: frequency, intensity, duration, offensiveness, location
Fisheries Act	<i>Fisheries Act 1994</i> (Qld)
FTE	full-time equivalent workers
g/kWhr	grams per kilowatt hour
g/m/s	grams per metre per second
g/s	grams per second
GAB	Great Artesian Basin
GDE	groundwater dependant ecosystems

Abbreviation	Definition
GDP	Gross Domestic Product
GHG	greenhouse gas
GIS	Geographical Information Systems
GISERA	Gas Industry Social and Environmental Research Alliance
GMMP	Groundwater Management and Monitoring Program
GRC	Goondiwindi Regional Council
GTEPG	Group Text Emergency Procedure Guides
GTIA	Guidelines to Traffic Impact Assessment
ha	hectare
HES	high ecological significance
HEV	high ecological value
Hp/tonne	horsepower per tonne
HV	heavy vehicles
HVR	High Value Regrowth
HWMP	Healthy Waters Management Plans
Hz	hertz
IAA	Important Agricultural Area
IAQM	United Kingdom Institute of Air Quality Management
IAS	Initial Advice Statement
ICOMOS	International Council on Monuments and Sites
ID	insufficient data
IEO	Index of Education and Occupation
ILUA	Indigenous Land Use Agreement
IRSAD	Index for Relative Socio-economic Advantage and Disadvantage
IS	Infrastructure Sustainability
ISCA	Infrastructure Sustainability Council of Australia
ISO	International Standards Organisation
kg	kilogram
kg/ha	kilograms per hectare
kg/m	kilograms per metre
kL	kilolitre
km	kilometres
km/h	kilometres per hour
km ²	square kilometres
KRA	Key Resource Area
kt	kilotonne
kV	kilovolt
kW	kilowatt

Abbreviation	Definition
L	litre
L/m ³	litres per cubic metre
L/s	litres per second
L _{A10(1 hour)}	The A-weighted sound pressure level which is exceeded for 10% of the measurement period (1 hour)
L _{A10(12 hour)}	The arithmetic average of the LA10(1 hour) for each of the 12 one-hour periods between 6:00 am and 6:00 pm
L _{A10(18 hour)}	The arithmetic average of the LA10(1 hour) from 6:00 am to 12:00 am
L _{A90}	Background noise level
L _{Aeq}	A-weighted equivalent noise level measure in decibels
L _{Aeq(1 hour)}	A-weighted equivalent noise level measured in decibels over a period of 1 hour
L _{Aeq(15 hour)}	A-weighted equivalent noise level measured in decibels over a period of 15 hours
L _{Aeq(9 hour)}	A-weighted equivalent noise level measured in decibels over a period of 9 hours
L _{Aeq(period)}	A-weighted equivalent noise level measured in decibels over an unspecified period of time
L _{Aeq,adj,15mins}	A-weighted equivalent noise level measured in decibels over a period of 15 minutes and adjusted for tonality
L _{Amax}	The maximum A-weighted noise level
Land Act	<i>Land Act 1994</i> (Qld)
L _{ASmax}	The maximum A-weighted noise level of a passby event, measured using the Slow response setting.
LC	least concern
LCA	landscape character area
LCT	landscape character type
L/EP/d	litres per person per day
LGA	local government area
LGIP	Local Government Infrastructure Plan
LIDAR	light detection and ranging
LIPP	Local Industry Participation Plan
LNG	liquefied natural gas
LOS	level of service
LULUCF	land use, land use change and forestry
LVIA	Landscape Visual Impact Assessment
LWR	long welded rail
LX	level crossing
m	metres
M	million
m/day	metres per day

Abbreviation	Definition
m/s	metres per second
m/s ^{1.75}	The root mean quad of acceleration, which is measured in metres per second
m ²	square metres
m ² /day	square metres per day
m ³	cubic metre
mAHD	Metres above Australian Height Datum
mbgl	metres below ground level
MCA	multi-criteria analysis
MDL	mineral development lease
MEI	Multivariate ENSO Index
meq/100 g	milliequivalents per 100 grams
mg/L	milligrams per litre
mg/m ² /day	milligrams per square metre per day
MJ/m ²	megajoules per square metre
ML	megalitre
MLES	matter of local environmental significance
mm	millimetres
mm/s	millimetres per second
MNES	matters of national environmental significance
MRV	Main Range Volcanics
MSES	matter of State environmental significance
MtCO ₂ e	million tonnes of carbon dioxide equivalent
Mtpa	million tonnes per annum
MUSIC	Model for Urban Stormwater Improvement Conceptualisation
MW	megawatt
N/A	not applicable
NATA	National Association of Testing Authorities
NC Act	<i>Nature Conservation Act 1992</i> (Qld)
NCT	National Transport Commission
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
ng/m ³	nanograms per cubic metre
NHMRC	National Health and Medical Research Council
NHVR	National Heavy Vehicle Regulator
NIEIR	National Institute of Economic and Industry Research
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen

Abbreviation	Definition
NPI	National Pollutant Inventory
NRM	Natural Resource Management
NRMMC	Natural Resource Management Ministerial Council
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
NT	near threatened
NT Act	<i>Native Title Act 1993</i> (Cth)
NTU	nephelometric turbidity units
NZS	New Zealand Standard
O3	ozone
Offsets Policy	Environmental Offsets Policy
Offsets Regulation	Environmental Offsets Regulation 2014 (Qld)
OLM	Ozone Limiting Method
OLS	Obstacle Limitation Surface
ONI	Oceanic Niño Index
ONRSR	Office of the National Rail Safety Regulator
Operational EMP	Operation Environmental Management Plan
ORP	oxygen reduction potential
Outline EMP	Outline Environmental Management Plan
P	phosphorus
PAA	priority agricultural area
PAH	polycyclic aromatic hydrocarbons
PAL	Priority Agricultural Land
PASS	potential acid sulphate soils
PCA	potential commercial area
PCNP	Principal Cycle Network Plans
PEA	potential expression areas
pH	The absolute value of the decimal logarithm of the hydrogen-ion concentration (activity), used as an indicator of acidity (pH less than 7) or alkalinity (pH greater than 7) or neutrality (pH 7)
PHN	Primary Health Network
PLA	Priority Living Areas
Planning Act	<i>Planning Act 2016</i> (Qld)
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	particulate matter less than 2.5 microns
PMF	probable maximum flood
ppm	parts per million
PPV	peak particle velocity

Abbreviation	Definition
PSC	pre-stressed concrete
QA/QC	quality assurance and quality control
QAS	Queensland Ambulance Service
QBA	Queensland Beekeepers Association
QFES	Queensland Fire and Emergency Services
QH Act	<i>Queensland Heritage Act 1992</i> (Qld)
QHC	Queensland Heritage Council
QLCSS	Queensland Level Crossing Safety Strategy 2012–2021
QLD	Queensland
QLUMP	Queensland Land Use Mapping Program
QPS	Queensland Police Service
QPWS	Queensland Parks and Wildlife Service
QR	Queensland Rail
QRT	Quantile Regression Technique
QTRIP	Queensland Transport and Roads Investment Program
QWQG	Queensland Water Quality Guidelines
Rail Safety National Law	<i>Rail Safety National Law (Queensland) Act 2017</i> (Qld)
RailBAM	rail bearing acoustic monitoring
RailSQAD	rail squeal acoustic detector
RATSIB	Representative Aboriginal and Torres Strait Islander Body
RBL	rating background level
RCBC	reinforced concrete box culvert
RCP	reinforced concrete pipe
RE	regional ecosystems
REC	regional economic cluster
REIQ	Real Estate Institute of Queensland
RFFE	Regional Flood Frequency Estimation
RL	reduced level
RMAR	rail maintenance access road
RMS	Roads and Maritime Services
RNTBC	registered native title bodies corporate
RPI Act	<i>Regional Planning Interests Act 2014</i> (Qld)
RSNL	Rail Safety National Law
RSRP	Rail Safety Regulators Panel
RTA	Roads and Traffic Authority
RUMP	Road Use Management Plan
SARs	standard axle repetitions
SAVS	System for Assessing Vulnerability of Species

Abbreviation	Definition
SCL	strategic cropping land
SDAP	State Development Assessment Provisions
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i> (Qld)
SEIFA	Socio-Economic Index for Areas
SEM	single event maximum
SEQ	South East Queensland
SEQRP	South East Queensland Regional Plan
SES	State Emergency Services
SFAIRP	so far as is reasonably practicable
ShapingSEQ	South East Queensland Regional Plan 2017
SIA	social impact assessment
SIA Guideline	social impact assessment guideline (The Coordinator-General, March 2018)
SIMP	social impact management plan
SLC	special least concern
SO ₂	sulfur dioxide
SOI	Southern Oscillation Index
SPP	State Planning Policy
SSC	State Suburb Code
STEM	science, technology, engineering and maths
SWL	standing water level
t	tonne
TAL	tonne axle load
TAPM	The Air Pollution Model
TCPs	Traffic Control Plans
TDS	total dissolved solids
TECs	Threatened Ecological Communities
TfNSW	Transport for NSW
THC	total hydrocarbons
TI Act	<i>Transport Infrastructure Act 1994</i> (Qld)
TJ	terajoules
TKN	kjeldahl nitrogen
TN	total nitrogen
ToR	Terms of Reference
ToS	Time of Submergence
TP	total phosphorus
TRC	Toowoomba Regional Council
TRS	Travelling Stock Reserves
TSBE	Toowoomba and Surat Basin Enterprise

Abbreviation	Definition
TSP	total suspended particulates
TSS	total suspended solids
UXO	unexploded ordnance
V	vulnerable
VDV	vibration dose value
VM Act	<i>Vegetation Management Act 1999</i> (Qld)
VOCs	volatile organic compounds
WAL	Water Access Licence
Water Act	<i>Water Act 2000</i> (Qld)
WCM	Walloon Coal Measures
WHO	World Health Organization
WHS Act	<i>Work Health and Safety Act 2011</i> (Qld)
WQOs	water quality objectives
WRR Act	<i>Waste Reduction and Recycling Act 2011</i> (Qld)

24.2 Glossary

Term	Definition
Aboriginal site	A place where physical remains or modification of the natural environment indicate past and 'traditional' activities by Aboriginal people. Site types include artefact scatters, isolated artefacts, burials, shell middens, scarred trees, quarries and contact sites. Includes sites listed on a Commonwealth heritage register or state cultural heritage database or state cultural heritage register. Also known as Aboriginal objects.
Absorptive capability	Absorptive capability relates to the ability of the landscape character zones to absorb the proposal within the existing landscape setting.
Access track	Cleared and graded track constructed where existing tracks are not available.
Acid sulfate soils	Soil that contains oxidised iron sulphides (actual acid sulfate soils) and/or soil that contains iron sulphides or other sulfidic material that has not been exposed to air and oxidised (potential acid sulfate soils). The term acid sulfate soil generally includes both actual and potential acid sulfate soils. Actual and potential acid sulfate soils are often found in the same soil profile, with actual acid sulfate soils generally overlying potential acid sulfate soil horizons.
Acoustics	The science of sound and sound waves.
Active	A term applied to groundwater bores that are able to continue to provide a reasonable yield of water in terms of quality and quantity for the bores authorised purpose or use.
Active control (level crossings)	Where the movement of vehicular or pedestrian traffic across a railway crossing is controlled using devices, such as flashing signals, gates or barriers (or a combination of these), with the device/s activated prior to, and during, the passage of a train through the crossing.
Aerobic	Conditions that can exist only in the presence of free oxygen.
Affected person	An affected person under the <i>Environmental Protection Act 1994</i> (Qld) includes those who have a registered interest in the land or that which adjoins it and the relevant local government.
A-horizon	See <i>topsoil</i> .
Airshed	Volume of air generally confined to a distinct geographic region.
Alignment	The line or lines that describe a linear-infrastructure route; it defines how linear infrastructure (such as a road, railroad or pipeline) will be located in relation to the features encountered along the route.
Alkaline	Having the properties of any of various bases; the hydroxides of the alkali metals and of ammonium, which neutralise acids to form salts.
Alluvial	Sediments deposited following a decrease in velocity of flowing water.
Alluvium	General term for unconsolidated deposits of inorganic materials (clay, silt, sand, gravel, and boulders) deposited following a decrease in velocity of flowing water.
Alluvium aquifer	An aquifer formed within alluvium. See <i>Alluvium</i> .
Ambient air quality	The state of quality of air as it exists in the environment.
Ambient background noise	The ambient noise present in the environment at a particular location in the absence of the noise source of interest.
Ambient noise	The total noise in the environment, often composed of sound from many sources.
Anaerobic	Process taking place in the absence of oxygen.
Annual daily traffic	The average traffic volume expected over a 24-hour period in a given year.

Term	Definition
Annual exceedance probability (AEP)	The chance of a flood of a nominated size occurring in a particular year. The chance of the flood occurring is expressed as a percentage and, for large floods, is the reciprocal of the average recurrence interval (ARI), e.g. the 1% AEP flood event is equivalent to the 100-year ARI flood event.
Anthropogenic	Associated with or relating to human influence (or impact) on the environment.
Aquaculture	Cultivation of the food resources of the sea or inland waters.
Aquatic ecosystems	The physical and chemical environment that contains a community of organisms (plants, animals, and microbes), and ecological processes within rivers and their riparian zones and reservoirs, lakes, wetlands and their fringing vegetation.
Aquifer	Rock or sediment in a formation, group of formations or part of a formation that is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.
Aquifer testing	The process where an aquifer is subjected to pumping to assess the hydraulic parameters of the aquifer.
Aquitard	Saturated geological unit with a relatively low permeability that can store large volumes of water but does not readily transmit or yield significant quantities of water to bores or springs.
Arable	Capable of producing crops or grazing land.
Arboreal	Living in or among trees.
Archaeology	The systematic study of a culture by excavation and description of its remains.
Area of disturbance	The area where existing features of the environment are physically displaced, leading to potential impacts.
Average recurrence interval (ARI)	A term used to assess rainfall data, which describes the average or expected time periods between exceedances of a given rainfall total accumulated over a given duration. The periods between exceedances are generally random.
Artesian aquifer	A confined aquifer whose water is pressurised, i.e. if tapped by a bore, would flow naturally to the surface.
Artesian bore	A term commonly used to describe a bore that taps into an artesian aquifer.
Australian Height Datum (AHD)	A level datum that generally approximates mean sea level. The datum is treated as uniform throughout Australia.
Authorised person	A person holding office as an authorised person under an appointment under the <i>Environmental Protection Act 1994</i> (Qld) by the chief executive of a local government.
Average dry weather flow	This is the combined average daily sanitary flow into a sewer from domestic, commercial and industrial sources.
A-weighted	A term used in noise assessments, which describes the frequency filter that approximates the subjective response of human hearing. A-weighted sound pressure levels are designated as dB(A).
Background creep	The gradual increase in background noise levels in an area as a result of successive developments generating simultaneous noise levels at a particular location.
Background noise	The existing noise level in the area excluding the impacts from the Project.
Ballast	Crushed rock, stone, etc. used to provide a foundation for a railway track. Ballast usually provides the bed on which railway sleepers are laid, transmits the load from train movements, and restrains the track from movement.
Basalt	The dark, fine-grained igneous rock of a lava flow, which is composed primarily of plagioclase and pyroxene. It sometimes displays a columnar structure.

Term	Definition
Baseflow	The component of a watercourse that is derived from groundwater discharge to the river or stream.
Baseline	A basic standard or level, usually regarded as a reference point for comparison.
Basis of Assessment	Any formal direction from a responsible State or Commonwealth Agency under a relevant Act instructing the assessment approach for a Primary Approval Document. This includes Terms of Reference (ToR).
Basis of Design	The Basis of Design establishes the key design criteria, design standards and performance specifications for the Inland Rail Program. The Basis of Design has been developed by ARTC to provide a consistent set of design requirements and parameters to be applied across the Inland Rail Program.
B-double truck	A truck and trailer combination consisting of a prime mover coupled to two trailers.
Bed and banks	For a watercourse or wetland, this means land over which the water normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed or banks that is from time to time covered by floodwater.
Best practice environmental management	Management of an activity to achieve ongoing minimisation of the activity's environmental harm through cost-effective measures, assessed against the measures currently used nationally and internationally for the activity.
B-horizon	An intermediate layer of soil beneath the A-horizon containing organic matter and clay.
Biocondition	The degree to which the attributes of a patch of vegetation differ from the attributes of the same vegetation in its reference (undisturbed) state.
Biodiversity	The number and variety of organisms found within a specified geographic region or within a given ecosystem.
Biodiversity offsets	Biodiversity offsets are measures that benefit biodiversity by compensating for the adverse impacts elsewhere of an action, such as clearing for development. Biodiversity offsets work by protecting and managing biodiversity values in one area in exchange for impacts on biodiversity values in another. In Queensland, the term used is 'environmental offsets'.
Biodiversity status	Biodiversity status is used for a range of planning and management applications, including biodiversity planning assessments and determining environmentally sensitive areas that are used for the regulation of the extractive industry through provisions in the <i>Environmental Protection Act 1994</i> (Qld). Biodiversity status is ascertained through assessing the condition of an ecosystems remnant vegetation. An ecosystems biodiversity status is listed according to classes, as defined in the <i>Vegetation Management Act 1999</i> (Qld) (VM Act). The classes, which are defined elsewhere in this glossary, are defined within VM Act conservation status.
Bioregion	Landscape pattern that reflects changes in geology and climate, as well as major changes in floral and faunal assemblages at a broad scale.
Biosecurity	Security measures against the transmission of disease to the plants or animals of a particular region.
Bore	Artificially constructed or improved groundwater cavity used for the purpose of accessing or recharging water from an aquifer. Interchangeable with borehole, piezometer.
Borrow pit	Quarry pit created to provide soil, sand, gravel or rocks that can be used as fill or construction material at another location.

Term	Definition
Brigalow Belt	The bioregion that spans inland and eastern Queensland from Townsville in the north to northern NSW, covering an area of 36,400,000 ha. The bioregion, as its name implies, is characterised by brigalows. The bioregion also supports a range of ecosystems, including eucalypt forest and woodlands, grassland, dry rainforest, cypress pine and riparian communities.
Buffer	An area of land separating adjacent land uses that is managed for the purpose of mitigating impacts of one use on another. A buffer area consists of a separation distance and one or more buffer elements.
Bulk freight	Bulk freight generally involves large quantities of homogenous product, typically liquid or loose crushed solid material (such as cement, grains and ores), transported en masse without packaging.
Bund (or bunding)	Wall of a secondary containment system, usually in the form of an embankment, used to prevent sediment and liquids from entering the environment.
Butte	Flat-topped hill surrounded by a steep escarpment from the bottom of which a slope descends to the plain. The term is sometimes used for an elevation higher than a hill but not high enough for a mountain.
Cadastral	Relating to the official register of property, with details of boundaries and ownership.
Cainozoic	Relating to the geological era of rocks of most recent age (65.5 million years ago to present).
CALPUFF	An advanced, integrated Lagrangian puff modelling system for the simulation of atmospheric pollution dispersion.
Cant	The height difference, at a common location, between the running surface of both rails. Also known as 'superelevation' or 'cross level'. On curves in main line track it is usual to incline the track such that the outer rail in the curve is higher than the inside rail.
Carbon dioxide equivalent (CO ₂ -e)	Greenhouse gas emissions unit used to provide a common unit of measure between the various greenhouse gases due to their differing global warming potential.
Carbon monoxide	Toxic, colourless and odourless gas produced by burning fuels.
Catchment	The area of land that collects and transfers rainwater into a waterway.
Chemical evolution	Changes and trends in the chemistry of groundwater as it moves through different aquifers and rock types over geologic time.
Clay	Deposit of particles with a diameter less than 0.002 millimetre (mm), typically containing variable amounts of water within the mineral structure and exhibit high plasticity.
Clearing	For vegetation—means removing, cutting down, ringbarking, pushing over, poisoning or destroying in any way, including by burning, flooding or draining, but it does not include destroying standing vegetation by stock, or lopping a tree.
Climate	The average weather experienced at a site or region over a period of many years, ranging from months to many thousands of years. The relevant measured quantities are most often surface variables such as temperature, rainfall and wind.
Climate change	Any change in long-term climatic conditions over time, whether due to natural variability or as a result of human activity.
Climate change adaptation	Actions in response to actual or projected climate change and impacts that lead to a reduction in risks or realisation of benefits.

Term	Definition
Climate change projection	A projection of the response of the climate system to scenarios of greenhouse gas emissions or atmospheric concentrations of greenhouse gases. Often based on simulations by computer based mathematical models, depending on assumptions and response of the climate system to changes in these variables and can therefore be distinguished from climate predictions.
Colluvium	General term applied to any loose, heterogeneous and incoherent sediment such as soil material and/or rock fragments transported by gravity and deposited or built up at the bottom of a low-grade slope.
Computable general equilibrium model	A whole-of-economy model that captures the interactions between different sectors of the economy through a series of simultaneous equations. Computable general equilibrium (CGE) models can be used to estimate how an economy might respond to changes in government policy, technology, investments or other external factors relative to a baseline.
Confined aquifer	An aquifer bounded above and below by impervious (confining) layers.
Confining layer	Layer of low permeability material underlying or overlying an aquifer, which restricts the vertical movement of water.
Conglomerate	Consolidated gravel consisting of rounded and waterworn pebbles embedded in a finer cementing material.
Conservation significant species	See <i>Threatened species</i> .
Consolidated aquifer	Water-bearing rock aquifer such as sandstone, coal, limestone and granite.
Constraints mapping	The processes used to assess the environmental framework for development, whereby areas of environmental sensitivity are graphically depicted to determine areas where development may be constrained.
Constructing authority	The <i>Acquisition of Land Act 1967</i> (Qld) enables 'constructing authorities' to acquire land for public purposes. Constructing authorities (also called acquiring or resuming authorities) include government agencies, local governments and some State-owned corporations.
Construction laydown	An area used as the base for construction activities, usually for the storage of plant, equipment and materials and/or construction site offices and worker facilities.
Contamination	The introduction of a pollutant into the environment.
Contour plot	Graphical technique for representing a three-dimensional surface by plotting contours, in a two-dimensional format.
Controlled action	A proposed action designated under the controlling provisions of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) that is likely to have a significant impact on a matter of national environmental significance, the environment of Commonwealth land (even if taken outside Commonwealth land).
Controlling provision	Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth): 'an action that a person proposes to take is a controlled action if the taking of the action by the person without approval under Part 9 for the purposes of a provision of Part 3 would be (or would, but for section 25AA or 28AB, be) prohibited by the provision. The provision is a controlling provision for the action'.
Cover material	Soil, alluvium, weathered basalt or other suitable plant-growth medium, typically non-crusting and of low salinity, placed on reshaped spoil surfaces.
Cretaceous	Relating to the third period within the Mesozoic era beginning approximately 145.6 million years ago and ending approximately 65 million years ago.

Term	Definition
Critical habitat	The whole or any part or parts of an area or areas of land comprising the habitat of an endangered species, an endangered population or an endangered ecological community that is critical to the survival of the species, population or ecological community. Critical habitat is listed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).
Critically endangered	See: <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) (EPBC Act) conservation status.
Crossing loop	A location on a railway where trains travelling in opposite directions can pass each other. A crossing loop is double-ended and connected to the main track at both ends. Crossing loops are also sometimes referred to as passing loops.
Cuesta	Physical feature that has a steep cliff or escarpment on one side and a gentle dip or back slope on the other.
Cultural heritage	Indigenous and non-Indigenous items and areas (commonly referred to as places) that are a significant indicator of historical and cultural events and practices.
Cultural significance	The meaning or value ascribed to the cultural landscape. It normally stems from a combination of association and integrity.
Culvert	A structure that allows water to flow under a road, railway, track, or similar obstruction.
Cumulative impact	The combined impact to one or more environmental values delivered by multiple projects being undertaken simultaneously within the same sphere of physical influence.
Dam	An engineered land-based structure that is designed to contain, divert or control liquid. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.
Dangerous goods	Dangerous goods are substances or articles that pose a risk to people, property or the environment, due to their chemical or physical properties. They are usually classified with reference to their immediate risk.
Decibel (dB)	A unit of sound level measurement.
Decibel (dB)A weighted (A)	The method of frequency weighting the electrical signal from a noise measuring instrument to simulate the way the human ear responds to a range of acoustic frequencies. The symbols for the noise parameters often include the letter 'A' (e.g. LAeq) to indicate that frequency weighting has been included in the measurement.
Demography	The range of different groups existing in a particular populace, as distinguished by factors such as age, ethnicity, and social background.
Depressurisation	The lowering of the groundwater elevation over an area.
Desalinate	To remove dissolved salts from saline water so that it becomes suitable for beneficial uses (e.g. drinking water or for agricultural irrigation) or release to the environment.
Dewatering	Draining, permanently or temporarily, partially or fully, a wet area of land or an aquifer.
Direct economic impact	A measure of the total value added in a defined geographical region directly attributable to a given event, organisation or industry.
Direct impacts	Impacts that result from a direct interaction between project activities and the receptor (e.g. land clearing, resulting in vegetation and habitat loss).
Directional drilling	Technique of non-vertical or horizontal drilling.

Term	Definition
Discharge area	That part of the land surface where groundwater discharge produces a net movement of water out of the groundwater.
Dissolved oxygen (DO)	The amount of oxygen dissolved in water.
Dissolved solids	Minerals and organic matter dissolved in water; a measure of salinity.
Disturbance	A physical displacement of existing features that leads to impacts.
Diversion channel	A constructed waterway used to redirect drainage lines and watercourses around infrastructure areas.
Drawdown	The decline in the groundwater level in a bore from the standing water level when influenced by pumping.
Drilling rig	A machine that creates holes (usually called wells or bores) in the ground.
Dual gauge	Track with three rails to allow for trains of two separate gauges to use the same line.
Dump truck	Construction vehicle used for moving loose materials.
Easement	Legal term used to describe land over which a third party has rights to locate infrastructure and undertake certain activities.
Ecological	Relating to the relationships between organisms and their environment.
Ecological community	An assemblage of species occupying a particular area.
Ecological sustainability	The capacity of a development to continue operating perpetually and avoid adverse effects on ecology.
Ecologically sustainable development	Development that uses, conserves and enhances the resources of the community so that ecological processes on which life depends are maintained, and the total quality of life, now and in the future, can be increased.
Ecology	Scientific study of abundance, distribution and interactions between organisms and their natural environment.
Ecosystem	An organic community of plants, animals and bacteria and the physical and chemical environment they inhabit.
Emission	A substance discharged into the air.
Emission factor	Calculation factor expressing greenhouse gas emissions per unit of activity.
Endangered	See: <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) conservation status; <i>Nature Conservation Act 1992</i> (Qld) conservation status; <i>Vegetation Management Act 1999</i> (Qld) conservation status.
Endemic	Native to a country or a locality, although also found elsewhere.

Term	Definition
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) (EPBC Act) conservation status	<p>Under the EPBC Act, listed threatened species and ecological communities are assigned a conservation status of extinct in the wild, critically endangered, endangered or vulnerable. Definitions of these terms under the EPBC Act are as follows:</p> <p>Extinct in the wild It is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range, or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</p> <p>Critically endangered It is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.</p> <p>Endangered While the species or community is not critically endangered, it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.</p> <p>Vulnerable It is not critically endangered or endangered and it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.</p>
Environmental authority (EA)	A licence to operate, issued in accordance with <i>the Environmental Protection Act 1994</i> (Qld), that imposes conditions on authorised activities to reduce or avoid potential environmental impacts. Used by Queensland Department of Environment and Science to assess and administer regulatory environmental compliance of a project.
Environmental flow	Water flow regimes required to sustain freshwater and estuarine ecosystems, e.g. to deliver nutrients and sediment downstream.
Environmental Impact Statement (EIS)	A document prepared to identify, describe and assess the potential impacts of a proposed action on the environment, and document ways to mitigate such impacts; it should provide sufficient detail to inform a decision on the proposal.
Environmental management plan (EMP)	Document that provides operational detail of how environmental management measures identified in the Environmental Impact Statement will be implemented.
Environmental nuisance	An unreasonable interference or likely interference with an environmental value caused by noise, dust, odour or light; caused by an unhealthy, offensive or unsightly condition or in another way prescribed by regulation.
Environmental offsetting	If a project has a significant residual impact in one area, environmental offsetting facilitates an environmental gain in another area.
Environmental values	Desirable characteristics, properties and behaviours or an aspect of the environment.
Environmentally relevant activity (ERA)	An activity with potential to release contaminants into the environment defined in Schedule 2 of the <i>Environmental Protection Regulation 2008</i> (Qld).
Environmentally sensitive area (ESA)	Location, however large or small, that has environmental values recognised in the <i>Environmental Protection Act 1994</i> (Qld) that contribute to maintaining biological diversity and integrity; has intrinsic or attributed scientific, historical or cultural heritage value; or is important in providing amenity, harmony or sense of community.
EPBC threshold criteria	The rules or principles used to measure the significance of a plant, animal or ecosystem against the requirements of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).

Term	Definition
Ephemeral	Relates to the amount of time that surface water persists in a watercourse or wetland. Ephemeral watercourses flow only during significant rainfall events and for a short-time following rainfall events.
Equivalent person	An equivalent person under Volume 1, Section 2 of the <i>Guidelines for Planning and Design of Sewerage Schemes, October 1991</i> , published by the Water Resources Commission, Department of Primary Industries, Fisheries and Forestry.
Erosion	Wearing away of rock or soil caused by physical or chemical processes.
Erosion stability	The ability of an area to resist the natural forces of soil erosion.
Essential habitat	<p>For species of wildlife listed as endangered, vulnerable, rare, or near threatened under the <i>Nature Conservation Act 1992</i> (Qld), an area of vegetation shown on the regional ecosystem map or remnant map as remnant vegetation:</p> <ol style="list-style-type: none"> That has at least three essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database In which the protected wildlife, at any stage of its life cycle, is located. <p>Essential habitat areas are identified on a map certified by the Chief Executive of the Queensland Department of Environment and Science for the purposes of the <i>Vegetation Management Act 1999</i> (Qld).</p>
Estuarine	Formed in an estuary.
Excavator	Heavy construction equipment consisting of a boom, dipper, bucket and cab on a rotating platform known as the 'house'.
Existing rail corridor	The corridor within which existing rail infrastructure, subject to works as part of Inland Rail, are located. The existing rail corridor is defined by ARTC to mean everywhere within 15 metres of the outermost rails; or within the boundary fence where boundary fences are provided and are closer than 15 metres; or, if the property boundary is less than 15 metres, the property boundary; or a permanent structure such as a fence, wall or level crossing separating the operating rail corridor from other land.
Extinct in the wild	See: <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) conservation status; <i>Nature Conservation Act 1992</i> (Qld) conservation status.
Extreme event	Weather conditions that are rare for a particular place and/or time such as an intense storm or heat wave.
Fault	Zone of displacement in rock formations resulting from forces of tension or compression in the Earth's crust.
Fauna	The animals of a given region or period, taken collectively.
Feral	Animal existing in a wild or untamed state, having escaped from domestication.
Fill	Any kind of material in solid form (whether or not naturally occurring) capable of being deposited at a place but does not include material that forms a part of, or is associated with, a structure constructed in a watercourse, wetland or spring, including a bridge, road, causeway, pipeline, rock revetment, drain outlet works, erosion prevention structure or fence.
Flash butt welding	Flash welding is a type of resistance welding that does not use any filler metals. The pieces of metal to be welded are set apart at a predetermined distance based on material thickness, material composition, and desired properties of the finished weld.
Floodplain	Flat or nearly flat land adjacent to a stream or river that stretches from the banks of its channel to the base of the enclosing valley walls and experiences flooding during periods of high flow.

Term	Definition
Flora	The plants of a given region or period, taken collectively.
Fluvial geomorphology	The study of river-related landforms and the processes that shape them.
Footprint	See <i>Project footprint</i> .
Foreseeable future	The period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150-year foreseeable future with an acceptably low probability of failure before that time.
Forest reserve	Tenure of an interim nature for a maximum of five years and managed by the Department of Environment and Science with associated conditions under the <i>Nature Conservation Act 1992</i> (Qld).
Forestry entitlement area	Land in a deed of grant or freeholding lease where the commercial timber and the land on which it stands is reserved by the State of Queensland.
Formation	The earthworks/material on which the ballast, sleepers and tracks are laid.
Fossil fuel	Hydrocarbon deposit, such as petroleum, coal, or natural gas, derived from alteration of living matter of a previous geologic time, and used for fuel.
Fracture	Any break in a rock including cracks, joints and faults.
Fractured aquifer	An aquifer that owes its water-bearing properties to fracturing caused by folding and faulting.
Fragmentation	Discontinuities in an organism's preferred habitat.
Franna crane	A type of mobile crane designed to travel on public roads.
Freehold	Land held by the State in Fee Simple (freehold title) which includes titles surrendered to the State of Queensland (or Crown) in terms of Section 358 of the <i>Land Act 1994</i> (Qld).
Freight	Goods transported by truck, train, ship, or aircraft.
Freight task	The amount of freight transport, usually measured in tonnes or tonne-kilometres.
Fresh water	Water that contains less than 1,000 milligrams per litre dissolved solids.
Fugitive dust	Dust derived from a mixture of non-point or not easily defined sources. Examples include, dust from vehicular traffic on unpaved roads, materials transport and handling and disturbed (unvegetated) soils and surfaces.
Full-time equivalent (FTE)	A ratio of the total number of paid hours during a fixed time period by the number of hours worked in that period: $FTE = \frac{\text{Total paid hours worked in given period}}{\text{Normal working hours in given period}}$
Gauge	The spacing of the rails on a railway track and is measured between the inner faces of the load-bearing rails.
Geochemistry	The chemical characteristics of a soil or rock material.
Geographical information system (GIS)	Computer system that can capture, store, analyse, and present in various ways data that locates places on the Earth's surface.
Geomorphic process	Chemical, physical or biological operation at the Earth's surface that shapes the landscape and its deposits.
Geomorphology	Study of the physical features of the surface of the Earth and their relation to underlying geological structures.

Term	Definition
Gilgai	Gilgais are common where there are Grey Vertosol soils. The land surface is irregular with alternating mounds (puffs) and depressions (hollows). Gilgai microrelief is formed due to clay horizons shrinking and swelling with alternate drying and wetting cycles. This forces 'blocks' of subsoil material gradually upwards to form mounds.
Gley(ing)	Gleying is indicative of permanent or periodic intense reduction due to wetness and is characterised by greying, bluish or greenish color, generally of low chroma.
Global climate models	Computer-generated simulations developed to predict future weather and climate trends. This includes taking into account changes in greenhouse gas concentrations in the atmosphere. Also referred to as 'general circulation models' or 'climate models'.
Global warming potential	Measure of how much a given mass of greenhouse gas is estimated to contribute to global warming. It is a relative scale that compares the gas in question to that of the same mass of carbon dioxide (CO ₂) with global warming potential of 1.
Good quality agricultural land (GQAL)	This is a 2-class system in land evaluation in which land is considered either GQAL or not.
Grader	A construction machine with a long blade used to create a flat surface during the grading process.
Greenfield	Of or relating to land that has not previously been developed or polluted.
Greenhouse gas	Any of the atmospheric gases that contribute to the greenhouse effect by absorbing infrared radiation produced by solar warming of the Earth's surface; including carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O) and water vapour (H ₂ O).
Greenhouse Gas Protocol	Corporate accounting and reporting standards for greenhouse gas emissions developed by the World Resources Institute and the World Business Council for Sustainable Development.
Gross domestic/state/regional product (GDP/GSP/GRP)	The market value of officially recognised final goods and services produced within a country/state/region in a given period. Final goods and services are defined as those which are not used to produce other goods or services.
Groundwater	Water found in the subsurface in the saturated zone below the water table or piezometric surface, i.e. the water table marks the upper surface of groundwater systems.
Groundwater flow	The movement of water through openings and pore spaces in rocks below the water table, i.e. in the saturated zone.
Groundwater resource	Groundwater available for beneficial use, including human usage, aquatic ecosystems and the greater environment.
Groundwater vulnerability	The tendency or likelihood for contamination to reach a specified position in the groundwater system after introduction at some location above the uppermost aquifer.
Habitat	The area or natural environment in which an organism or population normally lives. A habitat is made up of physical factors such as soil, moisture, range of temperature, and availability of light, as well as biotic factors such as the availability of food resources and the presence of predators.
Hazardous material	Substance that, if improperly treated, stored, disposed of, or otherwise managed, is likely to cause serious or material environmental harm because of (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity, or flammability, or (b) its physical, chemical, or infectious characteristics.
Heavy vehicle	Any vehicle with three or more axles or with dual tyres on the rear axle.

Term	Definition
Heritage listed	An item, building or place included on statutory heritage lists maintained by local, state and/or the Australian Government.
Heritage place	Any place that may be of cultural heritage significance, or any place with potential to contain archaeological artefacts that are an important source of information about Queensland's history.
Heritage values	An object, site, area, or landscape that holds aesthetic, historic, scientific, social or spiritual value for past, present or future generations.
Heterogeneous regional ecosystem polygon	An area (polygon) comprising a mixture of regional ecosystem types. Allows mapping of areas of vegetation that would normally be too small to map, to be shown at the scale which regional ecosystems are normally mapped.
High bank	The defining terrace or bank or, if no bank is present, the point on the active floodplain, which confines the average annual peak flows in a watercourse.
High value regrowth	<p>Regulated regrowth vegetation includes vegetation that falls into one of the following categories:</p> <ul style="list-style-type: none"> ▶ Identified on a regrowth vegetation map as high value regrowth vegetation ▶ Located within 50 m of a watercourse, which is identified on the regrowth vegetation map as a regrowth watercourse ▶ Contained in a Category C area on a property map of assessable vegetation. <p>High-value regrowth vegetation is mature native vegetation that has not been cleared since 31 December 1989.</p>
Highly erodible soils	Very unstable soils that are generally described as sodosols with hard-setting, fine sandy loam to silty clay loam surfaces (solodics, solodised solonetz and solonetz), soils with a dispersible layer located less than 25 cm deep or soils less than 25 cm deep.
Highway	High-order road of a high standard, facilitating connectivity between population centres.
Holocene	Holocene is the name of a geological time epoch commencing ~10,000 years ago and extending to present. Pre-Holocene is the time proceeding this epoch.
Homogeneous regional ecosystem polygon	An area (polygon) delineated on a map of regional ecosystems comprising a single regional ecosystem.
Hydraulic conductivity	Measure of the ease with which water will pass through Earth material. Defined as the rate of flow through a cross-section of one square metre under a unit hydraulic gradient at right angles to the direction of flow (metres per day).
Hydraulic gradient	Change in hydraulic head over a certain distance.
Hydraulic head	Elevation to which water will rise in a borehole connected to a point in an aquifer.
Hydrogeology	The study of the interrelationships of geological materials and processes with water, especially groundwater.
Hydrograph	Graph that shows groundwater or surface water properties as a function of time.
Igneous rock	Rock formed from magma that has cooled and solidified either at the Earth's surface (volcanic rock) or deep within the Earth's crust (plutonic rock).
Impact	An event that alters ecosystem, community, or population structure and alters the physical environment, directly or indirectly. An impact may have a short or long duration.

Term	Definition
Impact assessment area	The impact assessment area is defined as the wider area including and surrounding the Project, with the potential to be directly or indirectly affected by the Project, e.g. by noise and vibration, visual or traffic impacts). The actual size and extent of the impact assessment area varies according to the nature and requirements of each impact assessment technical report.
Impermeable subsoil	Layer of soil below the topsoil that slows or stops infiltration.
Indirect economic impact	The flow-on value added generated in other sectors of the economy as a result of the demand stemming from a given event, organisation or industry.
Indirect impacts	Impacts that are not a direct result of Project activities but that occur away from the original impact area, sometimes via a complex pathway.
Infiltration	The downward movement of water from the atmosphere into the ground. Not to be confused with <i>percolation</i> .
Infrastructure sustainability	Infrastructure that is designed, constructed and operated to optimise environmental, social and economic outcomes of the long term.
Initial advice statement (IAS)	Document prepared to provide preliminary information about the physical, ecological and socioeconomic environment of a project; for purposes of a 'coordinated project' declaration under the <i>State Development and Public Works Organisation Act 1971</i> (Qld).
Injurious affection	<p>In Queensland, 'injurious affection' is a long-established statutory concept relevant to compensation:</p> <ul style="list-style-type: none"> ▶ For the compulsory acquisition of part of a person's land under the <i>Acquisition of Land Act 1967</i> (Qld); and ▶ Under the <i>Sustainable Planning Act 2009</i> (Qld), for the adverse effects to a person's development rights from changes to a planning scheme or planning scheme policy. <p>Injurious affection involves damage to, or a decrease in the value of, any land retained by the original landowner. This may include, but not be limited to:</p> <ul style="list-style-type: none"> ▶ Physical damage to the retained land ▶ Limitations on the activities on, or the use of, the retained land ▶ Interferences with the amenity or character of the retained land ▶ Things that may deter purchasers from buying the retained land ▶ Things that increase the expense of using the retained land.
Inland Rail Program (Inland Rail)	The Inland Rail Program encompasses the design and construction of a new inland rail connection between Melbourne and Brisbane, via Wagga, Parkes, Moree, and Toowoomba. The route for Inland Rail is about 1,700 km in length. Inland Rail will involve a combination of upgrades of existing rail track and the provision of new track.
Intermediate input	Raw materials or semi-finished goods and services that are purchased from supply industries and then used to produce other goods and services for final consumption.
Intermodal	The movement of freight using multiple modes of transport (rail, ship, truck) without handling of the freight itself when changing modes. For a railway, this usually refers to the transport of freight in containers that may be double stacked on the wagons carrying them.
Intrusion	The solidified remnants of an igneous flow of rock into sedimentary strata.
Invertebrate	Animal without a backbone.
Jurassic	The geologic period that extends from 201.3± 0.6 to 145± 4 million years ago. The period occurred within the Mesozoic era, following the Triassic and preceding the Cretaceous periods.

Term	Definition
Kandosol	Non-texture contrast soils (with little or gradual increase in clay content with depth) that have weakly to non-structured subsoils (B horizons).
Kurosol	Soil type in which the B horizon is significantly more clayey in texture than the A horizon—the upper part of the B horizon being strongly acidic.
L _{10/LA10} (dB or dB(A))	The noise level equalled or exceeded for 10 per cent of the measurement period. The LA10 is commonly used to approximate the average maximum sound or noise level.
L _{90/LA90} (dB or dB(A))	The noise level equalled or exceeded for 90 per cent of the measurement period. The LA90 (in the absence of the noise source under investigation) is commonly used to approximate the background sound or noise level.
L _{A90(90)}	The sound pressure level exceeded for 90 per cent of the measurement period.
Lacustrine	Of or relating to a lake. Term is commonly used in reference to soils and ecosystems
L _{Aeq(1 hour)}	The busiest 1-hour 'equivalent continuous noise level'—it represents the typical LAeq noise level from all the proposal noise events during the busiest 1-hour of the assessment period.
L _{Aeq(15 hour)}	The daytime 'equivalent continuous noise level'—it represents the cumulative effects of all the proposal noise events occurring in the daytime period from 7am to 10pm.
L _{Aeq(24 hour)}	The 'equivalent continuous noise level', sometimes also described as the 'energy-averaged noise level'—it represents the cumulative effects of all the proposal noise events occurring in one day.
L _{Aeq(9 hour)}	The night-time 'equivalent continuous noise level'—it represents the cumulative effects of all the proposal noise events occurring in the night-time period from 10pm to 7am.
L _{Aeq(time)}	Typically used to describe ambient (background) noise levels.
Lake	Permanent or ephemeral natural or artificial body of water of considerable size surrounded by land.
L _{Amax}	The maximum noise level during a noise measurement period.
Land degradation	An adverse change in the characteristics of the Earth's surface that results in one or more of the following: soil erosion, rising water table, the expression of salinity, mass movement by gravity of soil or rock, stream-bank instability, or a process that results in declining water quality.
Land suitability	The capacity of land resources to sustain particular forms of land use, such as cattle grazing, cropping, and forestry.
Landowner	The owner, occupier, manager, or controller of land or water, including anyone acting on their behalf.
Landscape	All aspects of a tract of land, including landform, vegetation, buildings, villages, towns, cities and infrastructure.
Landscape character	The combined quality of built, natural and cultural aspects that make up an area and provide its unique sense of place.
Landscape character zone	Areas of landscape that have similar topographic, vegetation and land use features that create areas of similar visual character. Landscape character units are smaller areas within landscape character zones, which have uniform vegetation, topography and land use that collectively make up the landscape patterns of the various landscape character zones.

Term	Definition
Landscape feature	A component, part or feature of the landscape that is prominent or eye-catching, e.g. hills, buildings, vegetation.
Landscape quality	Largely subjective judgement based on particular characteristics that influence the way in which the environment is experienced, including special interests such as cultural associations or heritage interests, the presence and/or type of elements and condition.
Laterite/Laterized	Refers to a soil profile with horizon/s rich in iron oxides. This is usually associated with deeply weathered profiles. The process whereby laterite is formed, is referred to as laterization. Laterization developed predominantly in the early Tertiary period when Australia experienced a warm, wet climate.
Leaching profile	Vertical change in chemical concentrations down the soil profile due to leaching.
Least concern or no concern present	See: <i>Vegetation Management Act 1999</i> (Qld) conservation status.
Lentic	Non-flowing or still water.
Leq/LAeq (dB or dB(A))	The constant sound pressure level that exhibits the equivalent acoustic energy of a fluctuating noise level. Otherwise known as the 'Energy-Average' sound level.
Level crossing	A place where rail lines and a road cross at the same elevation.
Level crossing protection	The level of control provided at level crossings, which is determined on a case by case basis, and depends on the particular characteristics of a crossing. It generally falls into two categories: passive protection (uses warning signage only) or active protection (uses either signage and flashing lights only, or signage/flashing lights with boom gates).
Level of service	Defined by Austroads as a measure for ranking operating road and intersection conditions, based on factors such as speed, travel time, freedom to manoeuvre, interruptions, comfort and convenience.
Licence	Approval to operate; usually imposes conditions on authorised activities and is subject to regulations.
Licensed waste disposal facility	Facility approved under a development approval and operated by a holder of a registered certificate for environmentally relevant activity 60 under Schedule 2 of the Environmental Protection Regulation 2019 (Qld).
Life cycle analysis	An analysis of the total environmental impact of a product or item, including aspects of its existence from raw material production to ultimate disposal.
Light vehicle	Car, four-wheel drive, motorcycle or car towing a caravan.
Likely maximum development scenario	Scenario for purposes of assessing the maximum impact of the proposed development.
Limited access road	A road or part of a road declared as such under Section 54 of the <i>Transport Infrastructure Act 1994</i> (Qld).
Linear infrastructure	Including but not limited to utilities (including low- and high-pressure gas and water transmission pipelines), power lines, communication, roads and access tracks.
Lineside	Refers to structures or features that are within the rail corridor, adjacent to the railway track.
Lithology	The physical character of rocks.
Loam	Loose soil of clay and sand with organic matter, often very fertile.
Local road	Road used primarily to access properties located along the road.

Term	Definition
Low frequency noise	Noise containing major components in the low-frequency range (20 to 250 hertz) of the frequency spectrum.
Major flood risk areas	Land that is at risk of being inundated during major floods.
Matters of national environmental significance	Listed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth). Includes listed threatened species and ecological communities, migratory species protected under international agreements, Ramsar wetlands of international importance, the Commonwealth marine environment, World Heritage properties, National Heritage places, the Great Barrier Reef Marine Park, water resources, and nuclear actions.
Matters of State environmental significance	Matters of State environmental significance (MSES) are a component of the biodiversity State interest that is defined under the State Planning Policy (SPP). MSES includes certain environmental values that are protected under Queensland legislation including the: <ul style="list-style-type: none"> ▶ <i>Nature Conservation Act 1992</i> (Qld) ▶ <i>Fisheries Act 1994</i> (Qld) ▶ <i>Environmental Protection Act 1994</i> (Qld) ▶ <i>Vegetation Management Act 1999</i> (Qld). Legally secured offset areas protected by a registered covenant or similar statutory mechanism.
Median	The middle value of a discrete series.
Mesa	Flat-topped tableland with one or more steep sides.
Mesozoic	The geological era from ~250 million to ~65 million years ago. It is the era between Palaeozoic and Cainozoic.
Meteorological	Relating to meteorology or to phenomena of the atmosphere or weather.
Migratory species	Species listed as 'migratory' under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth). Refer to definitions of <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) conservation status, for meaning of 'migratory' under the Act.
Mitigation	To appropriately protect and maintain the existing environment in accordance with relevant legislation and best-management principles. Taken to have the same meaning as 'management'.
Monitoring bore	A bore used to monitor groundwater levels or quality, often containing a piezometer.
Morphology	Form and structure of organisms without consideration of function.
Mudstone	A clayey rock of nearly uniform texture throughout, with little or no lamination.
Mulcher	Heavy construction equipment used to shred vegetation.
Multi-well lease	A well lease that hosts more than one production well.
National Environment Protection Measure (NEPM)	Broad framework-setting statutory instruments defined under the <i>National Environment Protection Council Act 1994</i> (Cth); outlines agreed national goals, standards, protocols, and guidelines for protecting or managing particular aspects of the environment.
National park	Land reserved by the Department of National Parks, Recreation, Sport and Racing for a National Park, National Park (Scientific), Conservation Park or Resource Reserve.

Term	Definition
Native Title	The legal recognition of some Indigenous people's rights and interests to land and water that comes from their traditional laws and customs under the <i>Native Title Act 1993</i> (Cth); bestows different rights to the holders. In cases where the land was Crown land, it may include the right to possess and occupy an area to the exclusion of others.
Narrow gauge	Rails set at 1,067 mm spacing.
Natural resource	Resource that occurs naturally, such as sunlight, wind, soil, or water.
<i>Nature Conservation Act 1992</i> (Qld) conservation status	<p>Under the <i>Nature Conservation Act 1992</i> (Qld), protected species are assigned a conservation status of extinct in the wild, endangered, vulnerable, near threatened or least concern.</p> <p>Definitions of these terms under the Act are as follows:</p> <p>Extinct in the wild</p> <ul style="list-style-type: none"> ▶ There have been thorough searches conducted for the wildlife, and ▶ It's not been seen in the wild over a period that is appropriate for the life cycle or form of the wildlife. <p>Endangered</p> <ul style="list-style-type: none"> ▶ There have not been thorough searches conducted for the wildlife and the wildlife has not been seen in the wild over a period that is appropriate for the life cycle or form of the wildlife, or ▶ The habitat or distribution of the wildlife has been reduced to an extent that the wildlife may be in danger of extinction, or ▶ The population size of the wildlife has declined, or is likely to decline, to an extent that the wildlife may be in danger of extinction, or ▶ The survival of the wildlife in the wild is unlikely if a threatening process continues. <p>Vulnerable</p> <ul style="list-style-type: none"> ▶ Its population is decreasing because of threatening processes, or ▶ Its population has been seriously depleted and its protection is not secured, or ▶ Its population, while abundant, is at risk because of threatening processes, or ▶ Its population is low or localised or depends on limited habitat that is at risk because of threatening processes. <p>Near threatened</p> <ul style="list-style-type: none"> ▶ The population size or distribution of the wildlife is small and may become smaller, or ▶ The population size of the wildlife has declined, or is likely to decline, at a rate higher than the usual rate for population changes.
Near threatened	See: <i>Nature Conservation Act 1992</i> (Qld) conservation status.
Nitrogen dioxide	An air pollutant, high concentrations of which can contribute to acid rain, eutrophication of watercourses and formation of photochemical smog.
Non-bulk freight	Non-bulk freight is generally characterised as any containerised, packaged or other unitised freight, such as: pallets; motor vehicles and trailers; laden transported vehicles and live animals. It is generally placed or lifted onto or into transport vehicles or holds. It often involves heterogeneous goods being moved between dispersed locations. Non-bulk freight varies in density, perishability and fragility.

Term	Definition
Non-remnant vegetation	Vegetation that is not mapped as remnant vegetation by Queensland Department of Environment and Science and/or which fails to meet criteria for remnant vegetation (see remnant vegetation); includes regrowth, heavily thinned or logged vegetation and significantly disturbed vegetation that fails to meet the structural and/or floristic characteristics of remnant vegetation. Non-remnant vegetation may retain significant biodiversity values.
Notifiable activity	An activity that could potentially result in land contamination.
Noxious	Harmful to the environment or ecosystem.
Of concern	See: <i>Vegetation Management Act 1999</i> (Qld) conservation status.
Oxidation	The addition of oxygen to a compound; entails the loss of an electron.
Oxides of nitrogen	Nitric oxide and nitrogen dioxide.
Padfoot roller	Machine used for soil compaction during construction.
Particulate matter	Particles (e.g., dust, vapour) that are introduced or resuspended into the air through certain activities, such as soil cultivation or vehicles operating on open fields or dirt roadways. PM10 is particulate matter 10 micrometres or less in diameter. PM2.5 is particulate matter 2.5 micrometres or less in diameter, generally described as fine particles.
Passive control (level crossings)	Where the movement of vehicular or pedestrian traffic across a railway crossing is controlled using signs or devices that are not activated by the approach or passage of a train, relying on the road user to detect the approach or presence of a train by direct observation.
Perched groundwater systems	A locally developed, water-saturated body located above the regional water table due to the presence of an underlying layer of low permeability.
Percolation	The movement and filtering of fluids through porous materials.
Perennial	Lasting for an indefinite amount of time.
Perennial watercourse	A watercourse that has continuous flow in parts of its stream bed all year round during years of normal rainfall.
Permanent footprint	The land required to encompass permanent infrastructure components of the Project. This includes the rail corridor, access tracks, signalling infrastructure, bridge maintenance infrastructure and the like.
Permeability	The ease with which a fluid can pass through a porous medium and is defined as the volume of fluid discharged from a unit area of an aquifer under unit hydraulic gradient in unit time (metres per day).
Permian	Geological period from approximately ~300 million years ago to ~251 million years ago. The Permian period occurred between the Carboniferous period and Triassic period.
Pest	Means any species: <ul style="list-style-type: none"> ▶ Listed as Prohibited or Restricted under the <i>Biosecurity Act 2014</i> (Qld) ▶ Declared under local government laws ▶ That may become invasive in the future.
PET richness	The richness of pollution-sensitive invertebrate taxa Plecoptera (stoneflies), Ephemeroptera (mayflies) and Trichoptera (caddisflies) within an area.
Photochemical	Produced by the action of light triggering a chemical process.
Photochemical smog	Air pollution formed by chemical reactions that take place in the presence of sunlight between mono-nitrogen oxides and volatile organic compounds, which form ground-level ozone.

Term	Definition
PM10	Particulate matter 10 micrometres or less in diameter. Particles in this size range make up a large proportion of dust that can be drawn deep into the lungs. This is a classification of particles by size rather than chemical properties.
Pollution	The introduction into the environment of any substance by the action of humans, which results in significant harmful effects to man or the environment.
Possession	A period of time during which a rail line is blocked to trains to permit work to be carried out on or near the line.
Precautionary principle	Common principle of environmental management; where an activity has the potential to threaten or cause serious or irreversible damage to the environment or human health, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
Preferential flow	Movement of groundwater through a pathway of more permeable zones in the subsurface.
Project	The construction and operation of the Border to Gowrie section of Inland Rail.
Project footprint	The land required to encompass temporary and permanent components for construction and operation of the Project.
Putrescible waste	Refuse or other discarded material that is liable to become putrid or rotten through decay or decomposition.
Qualitative	Relating to or concerned with quality or qualities, rather than quantity or measured value.
Quantitative	An assessment based on quantities or quantifiable data.
Quaternary	The geological time period beginning ~2 to ~3 million years ago and extending to present. Encompasses the Pleistocene and Holocene time epochs.
Rail alignment	The exact positioning of the track, accurately defined both horizontally and vertically, along which the rail vehicles operate.
Rail corridor	The land within which the rail tracks are located from fence-line to fence-line or, if there are no fences, the gazetted land take.
Rail level	The theoretical level of the running surface of the rails.
Ramsar wetland	An area designated as a wetland of international importance under the <i>Ramsar Convention</i> (also known as the <i>Convention on Wetlands of International Importance</i> signed by Australia in 1971) because of its role in preserving biological diversity, or because it is a representative, rare or unique wetland type.
Rating background level (RBL)	The underlying level of noise present in an area once transient and short-term noise events are filtered out. Median assessment background level (ABL) for each day, evening and night period; min LA90,1hour.
Raw water	Untreated water from the environment.
Receptor	That part of the environment that may be the recipient of environmental harm. Receptors may include houses, schools, hospitals, surface waters, land, and ecosystems.
Recharge	Recharge is defined as the process by which water is added from outside to the zone of saturation of an aquifer, either directly into a formation, or indirectly, by way of another formation.
Reference design	Proposed configuration, layout and timeframes for development of the Project, established for the purpose of Border to Gowrie Environmental Impact Statement.

Term	Definition
Refugial pool	A pool of permanent water contained either within a watercourse, or on the floodplain of a watercourse, that persists when surrounding aquatic habitats become dry. Refugial pools are places where aquatic fauna can persist during dry periods (dry seasons through to droughts) and therefore enable recolonising of other aquatic habitats following rain.
Regional economic cluster	Areas of well-connected industries and businesses that are co-located to increase their productivity and capacity to compete nationally and globally. These geographic concentrations are designated through <i>ShapingSEQ</i> and result in greater economic activity and are significant economic drivers.
Regional ecosystem	A vegetation community, within a bioregion, that is consistently associated with a particular combination of geology, landform and soil. Regional ecosystems may be classified under schedules 1–3 of the <i>Vegetation Management Regulation 2012</i> (Qld) as endangered, of concern or least concern. Refer to <i>Vegetation Management Act 1999</i> (Qld) conservation status for meaning of endangered, of concern and least concern under the Act.
Registered groundwater bore	Groundwater bore that is recorded in the Queensland Department of Natural Resources, Mines and Energy (DNRME) database.
Regrowth vegetation	Defined under the <i>Vegetation Management Act 1999</i> (Qld) as any vegetation that does not reach 70 per cent of the height of an equivalent community of undisturbed vegetation, or 50 per cent of what would be undisturbed foliage cover and a mix of species represented in undisturbed communities.
Regulated waste	Refuse or other discarded material, whether treated or immobilised, listed in schedule 7 of the <i>Waste Reduction and Recycling Regulation 2011</i> (Qld).
Regulatory framework	System of regulations and the means to enforce them, usually established by a government to regulate a specific activity.
Rehabilitation	Returning the land to its pre-disturbance state or providing the foundations for the land to return to its pre-disturbance state.
Relative humidity	The amount of water vapour in the air relative to the saturation point at a given temperature.
Remediation	Removal of pollution or contamination from the environment to restore to health; requires that impact is reduced to some acceptable level.
Remnant vegetation	Includes woody and non-woody vegetation. Woody vegetation is mapped as remnant vegetation where the dominant canopy has >70% of the height and >50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy. Non-woody remnant vegetation is predominantly composed of grasses and/or other non-woody vegetation; extent is mapped according to time since cultivation and composition of the vegetation.
Reserve (tenure)	Land reserved by the Department of Environment and Science for community or public purposes.
Residual impact	The effect remaining or left over, following implementation of mitigation measures.
Revegetation	Establishment of suitable plant species to support the agreed post-Project land use and stabilise soils.
Riffle zone	An area within a stream that is characterised by shallow water, rocky sediment and fast water flows.
Rilling	Type of erosion that removes soil by water from very small but well-defined, visible channels.

Term	Definition
Riparian	Situated along or near the bank of a waterway.
Riparian land	Any land that adjoins, directly influences, or is influenced by a body of water. The body of water can be a creek or stream, a river, a lake or a wetland.
Riverine	Of or relating to a river.
Riverine area	The land confined to the flood-flow channel of a watercourse.
Road link	A section of public road, typically referring to a road, excluding intersections.
Rudosol	Soil types with rudimentary pedologic organisation apart from a minimal A horizon.
Runoff	All surface and subsurface flow from a catchment, but in practice refers to the flow in a river, i.e. excludes groundwater not discharged into a river.
Rural access road	Low-order road predominantly facilitating access to local land users.
Rural connecting road	Lower-order road facilitating connectivity between higher-order roads.
Saline	Presence of salts, in water or spoil, at concentrations greater than 3,000 milligrams of total dissolved solids per litre.
Saline water	Water that is generally considered unsuitable for human consumption or for irrigation because of its high content of dissolved solids.
Sanitation	The treatment and disposal of waste from the human body and grey water generated through household activity.
Scarp	A steep slope, ridge or escarpment of rock.
Scope 1 emissions	A term used to define greenhouse gas emissions as a direct result of an activity, or series of activities (including ancillary activities) that constitute the facility. Examples of these would be: <ul style="list-style-type: none"> ▶ Manufacturing processes, such as gas emitted while making cement ▶ Transportation of materials, products, waste and people, such as a transport company burning diesel oil in its trucks.
Scraper	A piece of heavy equipment used for earthmoving.
Sensitive receivers	Land uses that are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
Sensitivity	The sensitivity of a landscape character area or view and its capacity to absorb change. In the case of visual impact this also relates to the type of viewer and number of viewers.
Shallow groundwater	Groundwater resources not deeper than 100 metres.
Significantly disturbed land or significant disturbance to land	Means disturbance to land as defined in section 28 of the <i>Environmental Protection Regulation 2008</i> (Qld).
Siltstone	Consolidated silt; fine-grained sedimentary rock.
Sleeper	Rectangular support for the rails in railway construction.
Social impact management plan (SIMP)	Document that details how social impact management strategies will be implemented.
Sodic	Of or relating to soils that have a high level of sodium.
Sodicity	The amount of sodium present.
Soil horizon	One of the series of distinct layers found in a vertical cross-section of any well-developed soil, grouped primarily into O, A, B, and C horizons.
Soil profile	Vertical section through all the constituent horizons, or relatively uniform layers, of a soil.

Term	Definition
Solonised	Solonised brown soils have large amounts of calcium and magnesium carbonate in the profile. Soil properties show a gradual change down the profile. The most evident is the increase in carbonates with depth. Texture also becomes finer with depth and the pH changes from a neutral/slightly alkaline surface horizon to an alkaline subsoil. The soluble salt content of the subsoil also increases significantly. Dark manganiferous nodules can also occur in the subsoil.
Sound	Vibration of the air, usually within the frequency range perceptible to normal human hearing but is (strictly) vibration of air at any frequency.
Sound pressure level—SPL (dB or dB(A))	Sound pressure is the measure of the level or loudness of sound. Like sound power level, it is measured in logarithmic units. The symbol used for sound pressure level is SPL, and it is generally specified in decibels (dB). Zero decibels is taken as the threshold of human hearing.
Specific matter	Environmental, social or economic aspects identified in Section 11 of the ToR required to be assessed for the Project.
Spoil	Rock and material other than rock that is generated through earthworks for the Project, which is either surplus to requirements or unsuitable for immediate re-use within the Project footprint without treatment.
Stakeholder	Person or group affected by or concerned with an issue or enterprise. Also see: <i>Affected person</i> .
Standard gauge	Rails set at 1,435 mm spacing.
State forest	Land reserved by the Department of Environment and Science and Department of Natural Resources, Mines and Energy for State forest purposes.
State land	Land held by the State of Queensland as Unallocated State Land and other areas vested in the State (or Crown) but not held in Fee Simple or as a lease issued under the <i>Lands Act 1994</i> (Qld).
State wildlife corridor	An area identified as a State wildlife corridor on a map certified by the Chief Executive of Queensland Department of Environment and Science for the purposes of the <i>Vegetation Management Act 1999</i> (Qld).
State-controlled road	Road declared to be controlled by the Department of Transport and Main Roads, including all AusLink national roads in Queensland.
Statutory guideline	A document that provides direction for implementing the intent of legislation.
Sterile zone	Potentially hazardous zone to which uncontrolled entry is prohibited and that must be maintained free of combustible material; for example, the areas around the base of a flare stack.
Stock routes	Stock routes and reserves are parcels of Crown land reserved under the <i>Stock Route Management Act 2002</i> (Qld) for use by travelling stock.
Stock route network	The network of facilities established to provide for the movement of livestock on foot between grazing areas and markets. The network includes areas for stock to travel along (often within existing road corridors, adjacent to roadways) and areas for livestock to rest overnight, as well as watering facilities and holding yards.

Term	Definition
Stockpile	Large supply of essential materials, held in reserve for later use.
Strahler stream order	Classification system that gives a waterway an 'order' according to the number of tributaries associated with it.
Strata	Single bed of sedimentary rock, generally consisting of one kind of matter representing continuous deposition.
Strategic cropping area (SCA)	Lands specifically identified as suitable for cropping as an ongoing land use based on the criteria outlined within the <i>Regional Planning Interests Act 2014</i> (Qld).
Stratigraphy	Branch of geology dealing with the classification, nomenclature, correlation and interpretation of stratified rocks.
Subgrade	The soil or rock levelled off to support the foundation of a structure.
Subsoil	The B horizon within the soil profile, which lies immediately below the topsoil, or A horizon; it is not enriched or is less enriched with organic material than the topsoil and may be subject to clay or salt accumulation.
Sulfur dioxide	Toxic gas found in the emissions of volcanoes and those of burning coal or petroleum; dissolves in water to form sulphurous acid and, in the presence of oxygen, sulfuric acid.
Super T girder	A concrete bridge girder that is fully pretensioned, prestressed, and precast, and which incorporates the structural function of a box girder with permanent formwork in the deck.
Temporary footprint	The area that would be directly affected by construction works (also known as the construction footprint). It includes the location of proposal infrastructure, the area that would be directly disturbed by the movement of construction plant and machinery, and the location of the storage areas/compounds sites, etc. that would be used to construct that infrastructure.
Terms of Reference (ToR)	Written document developed by the regulatory authority (i.e. Queensland Coordinator-General) that provides the minimum expectations for the scope of an Environmental Impact Statement.
Terrestrial	Relating to, consisting of, or representing the Earth; relating to the land as distinct from the water.
The Air Pollution Model	Three-dimensional prognostic meteorological model used for air pollution modelling developed by the Commonwealth Scientific and Industrial Research Organisation.
Thimble	Attachment piece used to lift long pieces of welded rail into place.
Threatened	A collective term used with reference to ecological communities, regional ecosystems or species that are critically endangered, endangered, vulnerable or near threatened as listed under the <i>Nature Conservation Act 1992</i> (Qld), the <i>Vegetation Management Act 1999</i> (Qld) or the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth). Also see <i>Nature Conservation Act 1992</i> (Qld) conservation significance, <i>Vegetation Management Act 1999</i> (Qld) conservation significance and <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Qld) conservation significance.

Term	Definition
Threatened species	Generic term for a plant or animal species listed as critically endangered, endangered, vulnerable or rare under either State or Commonwealth threatened species legislation. The terms 'threatened' and 'conservation significant' are interchangeable in this context.
Threatening process	Processes that threaten, or have the capability to threaten, the survival or evolutionary development of species, populations, or ecological communities. According to the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), a process can be listed as a key threatening process if it can: <ul style="list-style-type: none"> ▶ Cause a native species or ecological community to become eligible for inclusion in a threatened list (other than the conservation dependent category) ▶ Cause an already listed threatened species or threatened ecological community to become more endangered ▶ Adversely affect two or more listed threatened species or threatened ecological communities.
Tonne-kilometre	Abbreviated as tkm, it is a unit of measure of freight transport which represents the transport of one tonne of goods (including packaging and tare weights of intermodal transport units) by a given transport mode (road, rail, air, sea, inland waterways, pipeline etc.) over a distance of one kilometre.
Topsoil	The layer of earth in which plants grow.
Track	The structure consisting of the rails, fasteners, sleepers and ballast, which sits on the <i>formation</i> .
Track formation	Refer to the definition of <i>formation</i> .
Trackout	The transport of dust and dirt from the construction/demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.
Triassic	The geological time period extending from ~250 to ~200 million years ago. It is the earliest period of the Mesozoic era and occurred between the Permian and Jurassic periods.
Tributaries	A tributary is a stream or river which flows into another river (a parent river) or body of water but which does not flow directly into the sea.
Trigger level	The point at which some form of action is begun, such as exceedance of guidelines.
Turbid	Opaque or muddy liquid with particles of extraneous matter.
Turnout	A junction point where a rail vehicle can leave a given track for a branching or parallel track.
Unconfined aquifer	An aquifer with no confining layer between the water table and the ground surface where the water table is free to fluctuate.
Unconsolidated aquifer	Strata such as sand that has not been turned into rock.
Value added	The difference between the sale price and the production cost of a good or service.

Term	Definition
Vegetation Management Act 1999 (Qld) conservation status	<p>Under the <i>Vegetation Management Act 1999</i> (Qld), regional ecosystems are assigned a conservation status of endangered, of concern and least concern/no concern present.</p> <p>Definitions of these terms under the Act are as follows:</p> <p>Endangered</p> <p>A regional ecosystem is listed as 'endangered' under the VM Act if:</p> <ul style="list-style-type: none"> ▶ Remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion, or ▶ Between 10–30 per cent of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares. <p>For biodiversity planning purposes a regional ecosystem is listed with a Biodiversity Status of 'endangered' if:</p> <ul style="list-style-type: none"> ▶ Less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss, or ▶ Between 10–30 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares, or ▶ It is a rare regional ecosystem subject to a threatening process. <p>Of concern</p> <p>A regional ecosystem is listed as 'of concern' under the VM Act if:</p> <ul style="list-style-type: none"> ▶ Remnant vegetation is 10–30 per cent of its pre-clearing extent across the bioregion, or ▶ More than 30 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares. <p>In addition to the criteria listed for an 'of concern' regional ecosystems under the <i>Vegetation Management Act 1999</i> (Qld), for biodiversity planning purposes a regional ecosystem is listed with a Biodiversity Status 'Of concern' if:</p> <ul style="list-style-type: none"> ▶ Between 10–30 per cent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss. <p>Least concern/no concern present</p> <p>A regional ecosystem is listed as 'least concern' under the VM Act if:</p> <ul style="list-style-type: none"> ▶ Remnant vegetation is over 30 per cent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares. <p>For biodiversity planning purposes a regional ecosystem is listed with a biodiversity status of 'no concern at present' if:</p> <ul style="list-style-type: none"> ▶ The degradation criteria listed above for 'endangered' or 'of concern' regional ecosystems are not met.
Vehicle kilometres travelled	Measure of traffic demand, calculated as the length of a section of road in kilometres multiplied by the annual average daily traffic on it. The yearly vehicle kilometres travelled is the daily vehicle kilometres travelled multiplied by the number of days in that year.
Vertosol	Soil type that is clayey and cracks when dry; its alternate shrinking and swelling produces gilgais.
View	The visual experience from the viewer's perspective.
Viewshed	Area frequently bounded by a ridge of land that defines the extent that is visible within the human field of view from a fixed vantage point. Synonymous with 'visual envelope' and typically represents the limit of the zone of theoretical visibility.
Visual amenity	The value of a particular area or view in terms of what is seen.

Term	Definition
Visual catchment	Extent of potential visibility to or from a specific area, feature or proposal.
Visual character unit	Areas of landscape that have similar topographic, vegetation and land-use features that create areas of similar visual character.
Visual effect	A measure of the visual interaction between the Project and the landscape setting within which it is located.
Visual impact	The impacts on the views from residences, workplaces and public places. This can be positive (i.e. benefit or an improvement) or negative (i.e. adverse or a detraction).
Visual sensitivity	Degree to which a change to the landscape will be perceived in an adverse way.
Volatile organic compound (VOC)	Any organic compound that participates in atmospheric photochemical reactions.
Vulnerability	The extent to which a system, asset or organisation can cope with the negative impacts of climate change, variability and extremes. It is a function of risk and adaptive capacity.
Vulnerable	Designated as vulnerable under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) and/or <i>Nature Conservation Act 1999</i> (Qld). Refer to <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) conservation status and <i>Nature Conservation Act 1992</i> (Qld) conservation status for meaning of 'vulnerable' under these Acts.
Waste	Waste is defined in Section 13 of the <i>Environmental Protection Act 1994</i> (Qld) as anything, other than an end of waste resource, that is: <ul style="list-style-type: none"> a) left over, or an unwanted by-product, from an industrial, commercial, domestic or other activity; or b) surplus to the industrial, commercial, domestic or other activity generating the waste.
Waste management hierarchy	The waste management hierarchy is a set of priorities for the efficient use of resources, which underpins the objectives of the <i>Waste Reduction and Recycling Act 2011</i> (Qld). The waste management hierarchy progresses from avoidance (most preferred), to re-use/recycling, to disposal (least preferred).
Water resource	Water, or the rights or other claims to water, which the water report entity either holds, or for which the water report entity has management responsibilities, and from which an individual or organisation that is a water report entity, or a group of stakeholders of a physical water report entity, derives future benefits (as defined in <i>Exposure Draft of Australian Water Accounting Standard 1 (2010)—Water Accounting Standards Board</i>).
Water table	The surface in an unconfined aquifer or confining bed at which the pore water pressure is atmospheric; it can be measured by installing shallow wells extending a few feet into the zone of saturation and then measuring the water level in those wells.
Watercourse	A river, creek, or other stream, including a stream in the form of an anabranch or a tributary, in which water flows permanently or intermittently, regardless of the frequency of flow events: <ul style="list-style-type: none"> ▶ In a natural channel, whether artificially modified or not, or ▶ In an artificial channel that has changed the course of the stream. It also includes weirs, lakes and dams.
Waterlogging	The saturation of soil by soil water.
Watershed	Drainage basin.

Term	Definition
Weeds	<p>Plant species that invade native ecosystems and can adversely affect the survival of Indigenous flora and fauna, often competing with indigenous plants for resources such as nutrients, moisture and light. They can prevent natural regeneration, reduce wildlife habitat, alter water flows, increase soil erosion, introduce poisons into the soil or poison animals, change fire behaviour and may introduce foreign genes into local plant populations.</p> <p>Weed species are not necessarily exotic non-Indigenous species but can also be non-endemic natives that are naturalised to areas outside of their natural distribution.</p>
Wetland	<p>Numerous definitions of wetland exist. Under the <i>Queensland Wetland Strategy</i>, wetland is defined as, 'areas of permanent or periodic/intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 m'.</p> <p>Three types of freshwater wetland (excluding aquifers) are recognised:</p> <ul style="list-style-type: none"> ▶ Riverine wetlands, which are analogous to 'watercourses' used in this report ▶ Palustrine wetlands, which are vegetated swamps. Many springs are also considered to be similar to palustrine wetlands ▶ Lacustrine wetlands, which are areas of relatively deep, non-flowing water. Lakes, farm dams and large billabongs on floodplains are examples of lacustrine wetlands. <p>As 'watercourse' is used to refer to 'riverine wetlands', use of the term 'wetland' more specifically refers to palustrine and lacustrine wetlands.</p>
Wildlife corridor	<p>Habitat linked to other habitats (often remnant patches) to allow natural migration or movement of wildlife.</p>
Z-Weighted	<p>'Flat' or 'un-weighted' sound pressure levels designated as dB(Z).</p>