APPENDIX E

Environmental risk assessment

ALBURY TO ILLABO ENVIRONMENTAL IMPACT STATEMENT

ARTC | INLAND RAIL
An Australian Government Initiative

E.1 Purpose

The purpose of this environmental risk assessment was to:

- identify key potential impacts and risks to be considered in the environmental impact assessment for the Albury to Illabo (A2I) section of the Inland Rail program (the proposal)
- together with the environmental impact statement (EIS), address the requirement of the Secretary's Environmental Assessment Requirements (the SEARS) item 3 (c) where, for each key issue identified by the SEARS, the proponent must '*identify, describe and quantify (if possible) the impacts associated with the issue, including the likelihood and consequence (including worst case scenario) of the impact (comprehensive risk assessment), the impacts of concurrent activities within the project and the cumulative impacts (parallel and sequential) with other projects*.'

Through this approach, key potential impacts for each key issue were identified for consideration as part of detailed impact assessments (technical papers) or that may be in addition to those issues specified by the SEARS.

E.2 Environmental risk assessment process

E.2.1 Approach

The environmental risk assessment was undertaken in accordance with the principles of the Australian and New Zealand standard *AS/NZS ISO 31000:2018 Risk Management—Guidelines* (Standards Australia, 2018). The approach involved a preliminary desktop level risk assessment, supported by a workshop.

The steps involved:

- **Issue scoping**—identifying the scope of key potential issues under consideration with constructing and operating the proposal (refer to section E.2.2)
- **Defining risk criteria**—defining the criteria to evaluate the significance of any impact/risk identified (refer to section E.2.3)
- **Impact/risk identification**—describing the potential impacts and risks associated with each issue (refer to section E.2.4)
- **Risk analysis**—assessing the risk level of each identified impact (pre-mitigation) (refer to section E.2.5).
- **Risk evaluation**—consideration of the results of the risk analysis and determination whether any additional action is required (refer to section E.2.6).
- **Risk treatment**—the application of mitigation measures and the determination of a new risk rating (post-mitigation) (refer to section E.2.7).

These steps are explained further in the following sections.

E.2.2 Issue scoping

The first step of the impact assessment process involved identifying key potential environmental issues, impacts and risks that would be subject to detailed assessment as part of the EIS. The SEARS identify the following as key issues for the EIS:

- transport and traffic
- heritage
- social
- economic and land use
- noise and vibration
- biodiversity
- visual amenity
- flooding
- water—hydrology
- water—quality
- soils
- climate change and sustainability.

The SEARS specify the potential impacts to be assessed for each key issue as part of the EIS, including for construction and operation. The SEARS were informed by the scoping report, which was submitted to support the request for SEARS made in April 2020.

E.2.3 Defining risk criteria

The risk criteria for the risk assessment, including how likelihood and consequences (both positive and negative) were defined and measured and how the level of risk was determined, has been based on the ARTC Inland Rail Environmental Assessment Procedure.

The likelihood definitions are provided in Table E-1 and the consequence definitions are provided in Table E-2. The risk assessment matrix for the assignment of the risk level (from low to very high) is provided in Table E-3. The risk assessment matrix presents increasing consequence left to right and decreasing likelihood top to bottom.

TABLE E–1 LIKELIHOOD DEFINITIONS

Likelihood	Description	Frequency of occurrence	Percentile
Almost certain	Is expected to occur in most circumstances	Once per month	>90%
Likely	Will probably occur in most circumstances	Between once a month and once a year	60–90%
Possible	Might occur at some time	Between once a year and once in five years	30–<60%
Unlikely	Could occur at some time	Between once in 5 years and once in 20 years	10–<30%
Rare	May occur in exceptional circumstances	Once in more than 20 years	<10%

TABLE E–2 CONSEQUENCE DEFINITIONS

Consequence level	Definition
Extreme	▸ Multiple but localised fatalities occur ▸ Widespread long term or permanent environmental damage—remediation required ▸ Prosecution of the company and/or its office holders ▸ More than 5 days track closure ▸ More than 5% of project budget (i.e. more than $500 million in $10 billion) ▸ More than 10% of project budget (e.g. more than $10 million in $100 million) ▸ Corporate loss of shareholder and/or customer support (tangible business impact greater than 3 years) ▸ Influences schedule more than 10% of program-approved schedule period ▸ Influences schedule more than 20% of project-approved schedule period.
Major	▸ Single fatality occurs ▸ Considerable environmental damage—requiring remediation ▸ Prohibition notice or fine(s) ▸ More than 48 hours to 5 days track closure ▸ More than 1.5% to 5% of project budget (i.e. more than $150 million to $500 million in $10 billion) ▸ More than 2.5% to 10% of project budget (e.g. $2.5 million to $10 million in $100 million) ▸ Strategic intervention required (more than 18 months to 3 years) ▸ Influences schedule more than 5% to 10% of project-approved schedule period ▸ Influences schedule more than 10% to 20% of project-approved schedule period.
Moderate	▸ Serious injury occurs ▸ Localised/clustered environmental damage—requiring remediation ▸ Improvement notice or threatened action ▸ More than 24 hours to 48 hours track closure ▸ More than 0.5% to 1.5% of project budget (i.e. more than $50 million to $150 million in $10 billion) ▸ More than 0.5% to 2.5% of project budget (e.g. more than $500,000 to $2.5 million in $100 million) ▸ Tactical (business unit/divisional) intervention required (more than 3 months to 18 months) ▸ Influences schedule more than 2.5% to 5% of project-approved schedule period ▸ Influences schedule more than 5% to 10% of project-approved schedule period.

Consequence level	Definition
Minor	▸ Lost time injury (LTI) results OR medical treatment required ▸ Isolated environmental damage—minimal ARTC remediation required ▸ Notice to produce information ▸ >6 hours to 24 hours track closure ▸ More than 0.05% to 0.5% of project budget (i.e. more than $5 million to $50 million in $10 billion ▸ More than 0.1% to 0.5% of project budget (e.g. more than $100,000 to $500,000 in $100 million) ▸ Management intervention required (more than 7 days to 3 months) ▸ Influences schedule more than 1% to 2.5% of project-approved schedule period ▸ Influences schedule more than 2% to 5% of project-approved schedule period.
Not significant	▸ No medical treatment required ▸ Contained environmental damage—fully recoverable (no cost or ARTC action required) ▸ Minimal or no regulatory involvement ▸ Up to 6 hours track closure ▸ Up to 0.05% of project budget (i.e. to $5 million in $10 billion) ▸ Up to 0.1% of project budget (e.g. to $100,000 in $100 million) ▸ Isolated event able to be resolved (up to 7 days) ▸ Influences schedule up to 1% of project-approved schedule period ▸ Influences schedule up to 2% of project-approved schedule period.

TABLE E–3 RISK ASSESSMENT MATRIX

Likelihood	Consequence				
	Not significant	**Minor**	**Moderate**	**Major**	**Extreme**
Almost certain	Medium	Medium	High	Very high	Very high
Likely	Low	Medium	High	Very high	Very high
Possible	Low	Low	Medium	High	High
Unlikely	Low	Low	Low	Medium	Medium
Rare	Low	Low	Low	Low	Medium

E.2.4 Impact and risk identification

For each key issue identified by the SEARS (refer to Section E.2.2) potential impacts and risks were identified based on the requirements of the SEARS, results of the preliminary investigations, previous experience with other Inland Rail projects or similar and professional judgement.

E.2.5 Risk analysis

The risk analysis involved assessing the risk level of each identified potential impact by identifying the likelihood the impact can occur and the consequences of the impact (without mitigation) and is presented in Table E-4.

The likelihood of an impact occurring can be described in terms of probability. Overlaying this is the need to recognise the uncertainty that may be associated with the possible impacts, particularly during the initial risk assessment process. Where there is scientific uncertainty a cautious approach will identify a higher level of risk (worst-case scenario). Each identifiable impact can be assigned likelihood between rare and almost certain (refer to Table E-1). In simplifying the possible impacts for the purpose of a risk assessment, an element of subjectivity is introduced. The purpose of the risk assessment is not necessarily to agree on the probability of any particular impact, but to facilitate an understanding of the relative probability of different impacts.

Consequence is defined as the implication of an impact. The consequences of an impact require a degree of subjective assessment as the likely consequences of an impact may consist of several elements. For this assessment each identifiable impact can be assigned a consequence level between not significant to extreme, depending on elements relating to safety, environment, regulatory, assets, financial, reputational and time-based impacts (refer to Table E-2).

Based on the assessment of likelihood and consequence each foreseeable impact was assigned a risk level based on the matrix presented in Table E-3. This determined the significance of the environmental risk associated with a given impact.

E.2.6 Risk evaluation

Following completion of the risk ratings, risks were evaluated to support decisions regarding the environmental impact assessment.

Very high impacts were considered the highest priority and were the focus of the concept design and environmental impact assessment. In general, the following was applied when scoping requirements for the environmental impact assessment.

- **Very high impacts**—assessment and planning is necessary to avoid these impacts to the greatest extent possible.
- **High impacts**—detailed specialist investigation and assessment is necessary to enable identification of appropriate management and mitigation options.
- **Medium impacts**—further investigation as part of the environmental impact assessment is desirable, to address some uncertainties. Impacts could be mitigated through the application of relatively standard environmental mitigation measures.
- **Low impacts**—may not require specialist investigations, particularly where identifiable management/mitigation guidelines exist then potentially only broad or desktop investigation is necessary. Impacts could be mitigated through other working controls (such as detailed design requirements, normal working practice, safety and quality controls).

The following key issues were confirmed as key considerations, which required further assessment in the form of specialist studies:

- transport and traffic
- non-Aboriginal heritage
- Aboriginal heritage
- noise and vibration
- social
- economic
- biodiversity (terrestrial and aquatic)
- landscape character and visual amenity
- hydrology, flooding and water quality
- contaminated land (as part of soils)
- groundwater.

While the remaining key issues also included impacts, which were assessed high, the impacts are well understood based on previous experience with similar projects, including other Inland Rail projects, and implementation of standard design and management measures would minimise these risks. Therefore, these impacts and risks have been assessed within chapters of the EIS. These chapters include those relating to:

- land use and property
- soils
- air quality
- hazards
- waste and resource management
- climate change risk
- sustainability.

Further technical work was conducted for sustainability as part of the design process, outside of the EIS.

E.2.7 Risk treatment

Mitigation and management measures were identified to minimise or avoid the key potential impacts identified. The aim of these measures is to protect existing environmental values and sensitive receivers, and to achieve the objectives and requirements of relevant legislation, policies and guidelines.

The SEARs also require consideration of how residual impacts would be managed or offset. For the purpose of the EIS, residual impacts are considered to be the impacts of the proposal that may remain in the medium to long term, even after the implementation of the identified mitigation measures. The residual risk rating of the potential impacts identified by the environmental risk assessment was assessed after mitigation and management measures were

applied. The pre-mitigated risk level was compared to the residual risk level to assess the effectiveness of the mitigation and management measures. A residual risk assessment is provided at the end of each of Chapters 9 to 26. This includes a description of the approach to managing significant residual impacts (considered to be those rated medium or above).

TABLE E–4 RISK ASSESSMENT

Issue (SEARS)	Phase	Proposed revised potential impacts for A2I	Pre-mitigated risk		
			Likelihood	Consequence	Risk rating
Biodiversity	Construction	Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity	Almost certain	Moderate	High
		Direct impacts on listed endangered terrestrial ecological populations and communities	Almost certain	Moderate	High
		Impacts on potential habitat for listed threatened fauna species	Almost certain	Moderate	High
		Increased impacts from pest plants and animals during construction from movement of vehicles, machinery and materials in and out of site	Possible	Minor	Low
		Indirect impacts on fauna species due to increased dust, sedimentation, and erosion, noise, light and contamination pollution	Possible	Minor	Low
		Native fauna mortality from vehicle strikes from construction vehicles	Possible	Minor	Low
		Potential impacts on groundwater dependent ecosystems	Possible	Minor	Low
		Potential impacts on aquatic ecology and threatened species, including as a result of construction on rail bridges/culverts and the temporary waterway crossing at Uranquinty	Possible	Moderate	Medium
		Potential impacts on protected and sensitive lands, which includes waterfront land and Key Fish Habitat	Likely	Minor	Medium
Biodiversity	Operation	Increase in injury and mortality of fauna from train strikes	Possible	Moderate	Medium
		Impacts to aquatic ecology due to changes in water quality or deterioration to fish passage	Possible	Moderate	Medium
		Increase in impacts on fauna from noise, vibration and light during operation	Unlikely	Minor	Low
Transport and traffic	Construction	Impact of construction work on existing rail freight operations outside of scheduled possession windows	Possible	Moderate	Medium
		Increase to road use as a result of cumulative infrastructure projects in the vicinity of the proposal	Unlikely	Minor	Low
		Potential temporary reduced safety and amenity for traffic, pedestrians and cyclists due to construction activities and due to potential conflicts with construction vehicles	Likely	Moderate	High
		Impacts to condition of roads due to construction traffic	Possible	Moderate	Medium
		Impacts on access to private properties	Almost certain	Minor	Medium
		Impacts to emergency services through delays in access due to construction works	Possible	Major	High
		Increase in parking demand from construction workforce particularly during rail possessions	Almost certain	Minor	Medium
		Potential temporary deterioration of traffic performance on surrounding road network to an unacceptable level of service, due to construction vehicles and temporary road or lane closures	Almost certain	Moderate	High

Issue (SEARS)	Phase	Proposed revised potential impacts for A2I	Pre-mitigated risk		
			Likelihood	Consequence	Risk rating
		▸ Reduced pedestrian and cyclist access due diversion associated with road and pedestrian bridges replacements	Almost certain	Moderate	High
		▸ Loss of parking due to temporary land requirements or adjustments to on-street parking by construction work	Almost certain	Minor	Medium
		▸ Impacts to bus routes and services as a result of increased road use and diversions due to road bridge replacement	Almost certain	Moderate	High
Transport and traffic	Operation	▸ Greater number of delayed vehicles at level crossings due to more frequent train movements	Almost certain	Minor	Medium
Flooding and hydrology	Construction	▸ Impact to regional or local water supply due to construction water demands.	Unlikely	Moderate	Low
		▸ Potential temporary impacts on flood-prone areas (e.g. increase in flood risk outside the proposal site) due to new temporary structures, changes to overland flows or displacing flood storage areas	Possible	Moderate	Medium
		▸ Potential impacts on construction activities due to flooding	Possible	Moderate	Medium
		▸ Changes to flow patterns and altered hydrology due to construction over/in watercourses resulting in significant impact to water quality or hydrological processes	Possible	Moderate	Medium
		▸ Sedimentation and changes to geomorphology in watercourses	Possible	Minor	Low
Flooding and hydrology	Operation	▸ Potential impacts on flood-prone areas (e.g. increase in flood risk outside the proposal site) due to new/modified structures or displacing flood storage areas	Unlikely	Moderate	Low
		▸ Impacts on upstream and downstream drainage due to the modification of built structures such as embankments, culverts and bridges, resulting in water quality impacts (including scour and discharges from lowered track)	Possible	Moderate	Medium
Water—quality	Construction	▸ Erosion and sediment transport downstream due to works in watercourses	Possible	Moderate	Medium
		▸ Impacts on water quality from contamination from spills and leaks during construction	Unlikely	Major	Medium
		▸ Lead-based paint flakes entering the waterway during works on the Murray River bridge	Likely	Moderate	High
		▸ Potential exposure of acid sulfate soils during construction resulting in off-site discharge of acidic water	Unlikely	Moderate	Low
		▸ Potential exposure of soil salinity/saline soils/saline groundwater during construction resulting in off-site discharge of saline water resulting in exceedances of water quality trigger levels	Possible	Moderate	Medium
Water—quality	Operation	▸ Potential capture of saline groundwater resulting in off-site discharge of saline water resulting in exceedances of water quality trigger levels	Unlikely	Moderate	Low
		▸ Impacts on water quality from contamination from spills and leaks during maintenance	Unlikely	Major	Medium
		▸ Impact to surface water quality and receiving environments due to increased runoff from an increase in impervious surfaces	Unlikely	Minor	Low

Issue (SEARS)	Phase	Proposed revised potential impacts for A2I	Pre-mitigated risk		
			Likelihood	Consequence	Risk rating
Groundwater	Construction	▸ Contamination from construction activities, including accidental spills and leaks, impacting groundwater quality	Unlikely	Moderate	Low
		▸ Degradation of groundwater water quality through changes to groundwater flow paths	Unlikely	Minor	Low
		▸ Construction work resulting an increased risk to nearby groundwater bores, groundwater dependent ecosystems and watercourse base flow due to groundwater drawdown and/or changes to quality and quantity	Possible	Moderate	Medium
		▸ Changes to soil moisture content causing compression or settlement	Unlikely	Minor	Low
Groundwater	Operation	▸ Changes to recharge due to drainage diversions or increased impervious surfaces	Unlikely	Moderate	Low
		▸ Contamination of groundwater from maintenance procedures during the operational phase	Unlikely	Moderate	Low
Soils and contamination	Construction	▸ Disturbance of contaminated soils, and subsequent mobilisation resulting impacts at adjacent receptors	Possible	Moderate	Medium
		▸ Disturbance of hazardous materials during construction work, including demolition of buildings and structures, resulting in exposure to workers and other receptors	Possible	Moderate	Medium
		▸ Contamination of soils due to spills and leaks	Unlikely	Moderate	Low
		▸ Exposure of acid sulfate soils and subsequent mobilisation of acidic discharges	Unlikely	Moderate	Low
		▸ Exposure of saline soils resulting in increased soil salinity	Likely	Moderate	High
		▸ Erosion as a result of the disturbance of soils, particularly in soil landscapes characterised by dispersive soils.	Possible	Moderate	Medium
Soils and contamination	Operation	▸ Contamination of soils due to spills and leaks from maintenance activities	Possible	Minor	Low
		▸ Increased risk of erosion during maintenance work	Possible	Not significant	Low
		▸ Increased risk of contamination of land due to leaks and spills from train operations	Unlikely	Moderate	Low
Non-Aboriginal heritage	Construction	▸ Potential direct and indirect impacts on listed heritage items and known areas of archaeological potential	Almost certain	Major	Very high
		▸ Disturbance of unknown heritage items (e.g. archaeological items) during construction	Unlikely	Moderate	Low
Non-Aboriginal heritage	Operation	▸ Design that detracts from the heritage significance of heritage items	Likely	Moderate	High
		▸ Potential permanent direct and indirect impacts on listed heritage items	Almost certain	Major	Very high
Aboriginal heritage	Construction	▸ Impacts on areas predicted to have archaeological potential	Possible	Major	High
		▸ Impacts on unrecorded Aboriginal sites and/or areas of archaeological sensitivity or cultural value	Unlikely	Major	Medium
Aboriginal heritage	Construction/ operation	▸ Potential impacts on known Aboriginal heritage items/sites in the proposal site	Possible	Major	High
		▸ Indirect impacts to Aboriginal heritage items or Aboriginal places	Unlikely	Moderate	Low

Issue (SEARS)	Phase	Proposed revised potential impacts for A2I	Pre-mitigated risk		
			Likelihood	Consequence	Risk rating
Noise and vibration	Construction	▸ Potential exceedances of airborne noise management levels from construction activities within and outside standard construction hours	Almost certain	Major	Very high
		▸ Construction traffic or traffic detours resulting in an increase in traffic noise greater than 2 dB	Almost certain	Minor	Medium
		▸ Potential exceedances of human comfort vibration levels during construction or work within safe working distances to structures	Almost certain	Moderate	High
Noise and vibration	Operation	▸ Potential exceedance of airborne noise criteria or ground-borne noise criteria from the increased movement of trains along the existing rail line	Likely	Moderate	High
		▸ Potential exceedances of human comfort vibration (amenity) criteria due to the increased movement of trains along the rail line	Possible	Minor	Low
		▸ Changes to road traffic noise due to changes to road infrastructure that results in an increase greater than 2dB	Unlikely	Moderate	Low
		▸ Noise impacts from warning signals and horns at level crossings converted from passive to active	Unlikely	Minor	Low
		▸ Increased potential for exceedance of noise management levels during maintenance activities	Unlikely	Minor	Low
		▸ Damage to structures, including heritage structures close to the proposal site, from vibration caused by the movement of trains along the rail line	Unlikely	Moderate	Low
Land use and property	Construction	▸ Effects on access to properties as a result of changes to private access roads and internal access arrangements	Almost certain	Moderate	High
		▸ Indirect impacts on agricultural land use/production and livestock from construction activities, including impacts from changes to access, noise and air pollution	Likely	Minor	Medium
		▸ Temporary changes to land use as a result of the proposal's land requirements during construction	Almost certain	Minor	Medium
		▸ Introduction of biosecurity risks due to the movement and storage of construction machinery and materials, including the spread of weeds and pathogens.	Possible	Moderate	Medium
		▸ Effects on exploration licences, such that viability is affected	Unlikely	Minor	Low
		▸ Impacts on other infrastructure during construction including utilities	Almost certain	Major	Very high
		▸ Effects to access to Travelling Stock Reserves and other stock movements	Possible	Minor	Low
Land use and property	Operation	▸ Land permanently acquired for the proposal results in a change to land use in the study area, negatively affecting the availability of land for non-transport related uses	Unlikely	Not significant	Low

Issue (SEARS)	Phase	Proposed revised potential impacts for A2I	Pre-mitigated risk		
			Likelihood	Consequence	Risk rating
Economic	Construction	▸ Property acquisition or termination of existing leases and associated business impacts	Almost certain	Moderate	High
		▸ Employment opportunities during construction	Possible	Minor	Low
		▸ Temporary impacts to access, visibility or amenity of businesses	Likely	Minor	Medium
Economic	Operation	▸ Potential alterations to access, connectivity, visibility and amenity of business premises during operation	Possible	Minor	Low
Social	Construction	▸ Potential temporary changes to the way of life for residents close to the enhancement sites	Possible	Moderate	Medium
		▸ Temporary impacts on amenity for residents, visitors, businesses and other sensitive receivers, as a result of noise, dust, air and visual impacts during construction	Possible	Moderate	Medium
		▸ Temporary impacts to, or temporary loss of, community facilities/open space due to construction activities and/or changes to access during construction	Possible	Moderate	Medium
		▸ Increased demand for access to community facilities, services and networks such as sport and recreation, health and emergency services during the construction of the proposal	Possible	Minor	Low
		▸ Pressure on housing and short-term accommodation market for construction workforce	Likely	Major	Very high
		▸ Changes to connectivity and access in and around the proposal site	Likely	Moderate	High
Social	Operation	▸ Impacts on amenity for residents, visitors, businesses and other sensitive receivers as a result of increased use of the freight line	Possible	Moderate	Medium
		▸ Changes to connectivity and access around the proposal site	Possible	Minor	Low
Landscape and visual amenity	Construction	▸ Temporary light spill due to out-of-hours work during construction	Likely	Minor	Medium
		▸ Adverse temporary impacts (visual and landscape) due to construction work in the vicinity of sensitive receivers	Possible	Moderate	Medium
Landscape and visual amenity	Operation	▸ Visual impact of operational lighting at night-time	Possible	Minor	Low
		▸ Potential changes (potentially positive and negative) to visual setting and landscape character due to the replacement of key bridge infrastructure and other visible key rail infrastructure	Almost certain	Moderate	High
		▸ Potential changes to the visual setting and landscape character due to the introduction of double-stacked and longer trains along an existing rail corridor	Likely	Minor	Medium
Waste and resource use	Construction	▸ Generation of excess spoil that cannot be reused on site (unsuitable for reuse or insufficient space) and needs to be disposed of	Almost certain	Moderate	High
		▸ Inappropriate management of waste generated during construction	Unlikely	Moderate	Low
		▸ Increased resource demand on local and regional resources resulting in a resource becoming in short supply	Likely	Minor	Medium

Issue (SEARS)	Phase	Proposed revised potential impacts for A2I	Pre-mitigated risk		
			Likelihood	Consequence	Risk rating
Waste and resource use	Operation	▸ Inappropriate management of waste generated during maintenance	Unlikely	Moderate	Low
Climate change adaptation and greenhouse gas	Construction	▸ Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles	Almost Certain	Minor	Medium
Climate change adaptation and greenhouse gas	Operation	▸ Impact of climate change on rail operations and infrastructure, including increased rainfall/ flooding and severe heat events and droughts	Likely	Major	Very high
Air quality	Construction	▸ Potential temporary impacts to local air quality due to emissions from vehicles or plant during construction, and the increase in vehicle movements during construction	Likely	Minor	Medium
		▸ Potential temporary impacts on local air quality due to dust generation (from exposed soil/stockpiles, excavation and vehicle movements)	Likely	Moderate	High
		▸ Odours/emissions from disturbance of contaminated soils or other sources such as asphalt laying during road modification works	Possible	Minor	Low
		▸ Potential air quality impacts due to fugitive emissions (e.g. VOCs) from fuel/chemicals storage and handling	Possible	Minor	Low
Air quality	Operation	▸ Increase in impacts on local air quality during operation from train emissions including idling trains	Possible	Minor	Low
		▸ Temporary impacts during maintenance works due to emissions from vehicles or plant and generation of dust	Possible	Minor	Low
Hazards	Construction	▸ Potential risks to construction by bushfire, or bushfire risks due to construction activity in bushfire prone areas	Possible	Moderate	Medium
		▸ On-site handling, management and transport of contaminated soil and hazardous wastes (including asbestos)	Almost certain	Moderate	High
		▸ Impacts to emergency services due to road network delays or access restrictions caused by temporary changes to the road network	Possible	Major	High
		▸ Potential incidents associated with transport and storage of hazardous substances and dangerous goods during construction	Possible	Moderate	Medium
		▸ Potential impacts to utilities causing significant disruption to services	Possible	Major	High
Hazards	Operation	▸ Increased rail accidents caused by increased rail movements (including road–rail interfaces)	Unlikely	Extreme	Medium
		▸ Potential risks of bushfire to the operation of the proposal	Unlikely	Extreme	Medium
Cumulative	Construction	▸ Potential temporary construction cumulative impacts with other major projects	Likely	Moderate	High
Cumulative	Operation	▸ Potential operational cumulative impacts with other major projects	Possible	Minor	Low