DEVELOPMENT APPLICATION

Application for a Development Permit for Operational Works
- Excavating and Filling associated with a Category 2 Levee

WATER REGULATION SCHEDULE 10 – CODE FOR ASSESSMENT OF DVELOPMENT FOR CONSTRUCTION OR MODIFICATION OF PARTICULAR LEVEES

PERFORMANCE OUTCOMES		ACCEPTABLE OUTCOMES		PROPOSED SOLUTION

PO1	Any off-property impact from the levee is minimised and acceptable having regard to the following—
	• the environment in which the levee is located;
	• the measures proposed to be taken to mitigate any off-property impact;
	• any compensation measures for an impact that are proposed by the applicant
		A01	The levee does not result in—
			(a) an unacceptable change in hydraulic effects that occur off-property; and
			(b) an unacceptable impact on people, property or the environment
				The proposed levee meets the acceptable solutions.
				
				This is on the basis the proposed levee:
				- will not impact any existing habitable buildings in the event a 1% AEP peak flood event occurs;
				- overall the levees will result in minimal increase in:
				  - peak flood levels; and
				  - areas of inundation.
				
				These findings are explained in detail in the Barcaldine Flood Hazard Assessment Study, prepared by ACS, contained with Appendix B.
				
				In addition to the above the proposed levees will provide significant benefits to the Barcaldine township in that it provides flood immunity to houses located on the north-west side of town.

PO2	The levee is a safe and stable structure	**AO2**	The design, construction, operation and maintenance for the levee is appropriate for the materials used and the levee's intended function.	The design of the levees, including cross-sections and estimated earthworks volumes, are contained within Appendix B. The levees have been designed by George Bourne & Associates who are consulting engineers. A Levee Operation and Maintenance Manual has been prepared for the proposed levee and is included in Appendix B. Construction work will be carried out using a combination of earthmoving equipment. The final intended function of the levees is to provide flood immunity to habitable buildings on the north-west side of the township of Barcaldine.
PO3	Community safety is ensured in the event a category 3 levee fails or overtops	**AO3**	Appropriate emergency action procedures are in place for category 3 levees	The proposed levee represents a Category 2 Levee and as a result this provision is not applicable. Further, as outlined in response to P01, the report prepared by ACS has confirmed the proposed levees will have no impact on any habitable buildings.

State code 2: Development in a railway environment

Table 2.2.1: Development in a railway environment

Performance outcomes	Acceptable outcomes	Response
Buildings and structures		
All railways		
PO1 The location of buildings, structures, infrastructure, services and utilities does not create a safety hazard in a railway corridor or cause damage to, or obstruct, rail transport infrastructure or other rail infrastructure.	AO1.1 Buildings, structures, infrastructure, services and utilities are not located in a railway corridor. AND	Complies. The development is located outside the railway corridor.
	AO1.2 Buildings, structures, infrastructure, services and utilities can be maintained without requiring access to a railway corridor. AND	Complies. No access to the railway corridor is required.
	AO1.3 Buildings, structures and infrastructure are set back horizontally a minimum of 3 metres from the outermost projection of overhead line equipment. Note: Section 2.3 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome. AND	Complies. The development is located outside the railway corridor.
	AO1.4 The lowest part of development in or over a railway is a minimum of: 1. 7.9 metres above the railway track where the proposed development extends along the railway for a distance of less than 40 metres 2. 9 metres above the railway track where the development extends along the railway for a distance of between 40 and 80 metres. AND	Complies. The development is located outside the railway corridor.
	AO1.5 Pipe work, services and utilities:	Complies. The development is located outside the railway corridor.

Performance outcomes	Acceptable outcomes	Response
	1. are not attached to rail transport infrastructure or other rail infrastructure 2. do not penetrate through the side of any proposed building element or structure where built to boundary in, over or abutting a railway corridor.	
PO2 Buildings and structures are located to not interfere with, or impede access to, a railway bridge.	AO2.1 Buildings and structures are set back horizontally a minimum of 3 metres from a railway bridge. AND	Complies. The development is located outside the railway corridor.
	AO2.2 Permanent structures are not located below or abutting a railway bridge. AND	Complies. The development is located outside the railway corridor.
	AO2.3 Temporary activities below or abutting a railway bridge do not impede access to a railway corridor. Note: Temporary activities below or abutting a railway bridge could include, for example, car parking or outdoor storage.	Complies. The development is located outside the railway corridor.
PO3 Development does not add or remove loading that will cause damage to rail transport infrastructure or a railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, prepared in accordance with the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads 2015 is provided.	No acceptable outcome is prescribed.	Complies. The development is located outside the railway corridor.
PO4 Development above a railway is designed to enable natural ventilation and smoke dispersion in the event of a fire emergency.	No acceptable outcome is prescribed.	Complies. The development is located outside the railway corridor.

Performance outcomes	Acceptable outcomes	Response
Note: To demonstrate compliance with the performance outcome it is recommended the applicant contact the Queensland Fire and Emergency Service and relevant railway manager to determine the fire scenarios to be used to inform ventilation design. Modelling of smoke dispersion should also be undertaken by a RPEQ to predict the spread of combustion products and inform the ventilation design. Section 5.1 – Development over a railway of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.		
PO5 Construction activities do not cause ground movement or vibration impacts in a railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 is provided.	No acceptable outcome is prescribed.	Complies. The method of construction will not generate ground movement or vibration.
PO6 Buildings and structures in a railway corridor are designed and constructed to remain structurally sound in the event of a derailed train.	**AO6.1** Buildings and structures, in a railway corridor including piers or supporting elements, are designed and constructed in accordance with Civil Engineering Technical Requirement – CIVIL-SR-012 Collision protection of supporting elements adjacent to railways, Queensland Rail, 2011, AS5100 Bridge design and AS1170 Structural design actions. Note: Section 3.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome.	Not applicable.
PO7 Buildings and structures in high risk locations and where also located within 10 metres of the centreline of the nearest railway	AO7.1 Buildings and structures, in a railway corridor including piers or supporting elements, are designed and constructed in accordance with	Not applicable.

Performance outcomes	Acceptable outcomes	Response
track are designed and constructed to remain structurally sound in the event of a derailed train.	Civil Engineering Technical Requirement CIVIL-SR-012 Collision protection of supporting elements adjacent to railways, Queensland Rail, 2011, AS5100 Bridge design and AS1170 Structural design actions. Note: Section 3.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome.	
PO8 Buildings and structures in a railway corridor are designed and constructed to prevent projectiles from being thrown onto a railway.	AO8.1 Buildings and structures in a railway corridor include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail. AND	Complies. The development is located outside the railway corridor.
	AO8.2 Road, pedestrian and bikeway bridges over a railway include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail. Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this outcome.	Complies. The development is located outside the railway corridor.
PO9 Buildings, and structures, other than accommodation activities, are designed and constructed to prevent projectiles from being thrown onto a railway from any publicly	AO9.1 Publically accessible areas located within 20 metres from the centreline of the nearest railway track do not directly overlook a railway. OR	Not applicable.

Performance outcomes	Acceptable outcomes	Response
accessible areas located within 20 metres from the centreline of the nearest railway track.	AO9.2 Buildings and structures are designed to ensure publically accessible areas located within 20 metres of the centreline of the nearest railway track and that overlook the railway include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail. Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this outcome.	Not applicable.
Filling, excavation and retaining structures		
PO10 Filling, excavation and retaining structure do not interfere with, or result in damage to, infrastructure or services in a railway corridor. Note: Information on the location of services and public utility plants railway corridor can be obtained from the railway manager. Where development will impact on an existing or future service or public utility plant in a railway corridor such that the service or public utility plant will need to be relocated, the alternative alignment must comply with the standards and design specifications of the relevant service or public utility provider, and any costs of relocation are to be borne by the developer.	No acceptable outcome is prescribed.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.
PO11 Filling, excavation, building foundations and retaining structures do not undermine, or cause subsidence of, a railway corridor.	No acceptable outcome is prescribed.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.

Performance outcomes	Acceptable outcomes	Response
Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.		
PO12 Filling and excavation, building foundations and retaining structures do not cause ground water disturbance in a railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.	No acceptable solution is prescribed.	Not applicable.
PO13 Excavation, boring, piling, blasting or fill compaction during construction of a development does not result in ground movement or vibration impacts that would cause damage or nuisance to a railway corridor, rail transport infrastructure or railway works. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.	**No acceptable outcome is prescribed.**	Complies. The method of construction will not generate ground movement or vibration.

Performance outcomes	Acceptable outcomes	Response
PO14 Filling and excavation material does not cause an obstruction or nuisance in a railway corridor.	AO14.1 Development does not store fill, spoil or any other material in, or adjacent to, a railway corridor.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.
Stormwater and drainage		
PO15 Development does not result in an actionable nuisance or worsening of stormwater, flooding or drainage impacts in a railway corridor. Note: Section 2.8 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	
PO16 Run-off from the development site during construction of development does not cause siltation of stormwater infrastructure affecting a railway corridor.	AO16.1 Run-off from the development site during construction of development is not discharged to stormwater infrastructure in a railway corridor.	
Access		
PO17 Development prevents unauthorised access to a railway corridor.	AO17.1 Where development is abutting a railway corridor fencing is provided along the property boundary with the railway corridor in accordance with the railway manager's standards. Note: It is recommended the applicant contact the railway manager for advice regarding applicable fencing standards. AND	No access is required to the access railway corridor.
	AO17.2 A road barrier designed in accordance with Civil Engineering Technical Requirement –	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	CIVIL-SR-007 Design and selection criteria for road/rail interface barriers, Queensland Rail 2011, and certified by an RPEQ, is installed along any roads abutting a railway corridor. AND	
	AO17.3 Proposed vehicle manoeuvring areas, driveways, loading areas or carparks abutting a railway corridor include rail interface barriers. Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with acceptable outcome 16.3.	Not applicable.
PO18 Development does not obstruct existing access to a railway corridor.	AO18.1 Development is sited and designed to ensure existing authorised access points and access routes for maintenance and emergency works to a railway corridor are clear from obstructions at all times.	The levee will not obstruct access to the railway.
PO19 Access to a railway corridor does not create a safety hazard for users of a railway, or result in a worsening of operating conditions on a railway.	AO19.1 Development does not require a new railway crossing. AND	Not applicable.
	AO19.2 Development does not propose new or temporary structures or works connecting to rail transport infrastructure or other rail infrastructure. AND	Not applicable.
	AO19.3 Vehicle access points achieve sufficient clearance from a railway level crossing in accordance with AS1742.7:2016 – Manual of uniform traffic control devices, Part 7: Railway	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	crossings, by providing minimum 5 metres clearance from the edge running rail (outer rail), plus the length of the largest vehicle anticipated on-site. Note: Section 2.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.	
PO20 Development does not damage or interfere with public passenger transport infrastructure, public passenger services or pedestrian and cycle access to public passenger transport infrastructure and public passenger services.	AO20.1 Development does not necessitate the relocation of existing public passenger transport infrastructure. AND	Not applicable.
	AO20.2 Vehicular access and associated road access works for a development is not located within 5 metres of existing public passenger transport infrastructure. AND	Not applicable.
	AO20.3 On-site vehicle circulation is designed give priority to entering vehicles at all times so vehicles using a vehicular access do not obstruct public passenger transport infrastructure and public passenger services or obstruct pedestrian or cyclist access to public passenger transport infrastructure and public passenger services. AND	Not applicable.
	AO20.4 The normal operation of public passenger transport infrastructure or public passenger services is not interrupted during construction of the development.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
Planned upgrades		
PO21 Development does not impede delivery of planned upgrades of rail transport infrastructure.	AO21.1 Development is not located on land identified by the Department of Transport and Main Roads as land required for planned upgrades to rail transport infrastructure. Note: Land required for the planned upgrade of rail transport infrastructure is identified in the DA mapping system. OR	Not applicable.
	AO21.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of rail transport infrastructure.	Not applicable.
	OR all of the following acceptable outcomes apply: AO21.3 Structures and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a of rail transport infrastructure are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND	Not applicable.
	AO21.4 Development does not involve filling and excavation of, or material changes to, land required for a planned upgrade of rail transport infrastructure.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AND	
	AO21.5 Land is able to be reinstated to the pre-development condition at the completion of the use.	Not applicable.
Network safety		
PO22 Development involving dangerous goods adjacent to a railway corridor does not adversely impact on the safety or operations of a railway. Note: Development involving dangerous goods, or hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016, should demonstrate that impacts on a railway from a fire, explosion, spill, gas emission or dangerous goods incident can be appropriately mitigated. Section 2.6 – Dangerous goods and fire safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	AO22.1 Development does not involve handling or storage of hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016.	Not applicable.
PO23 Development does not adversely impact on the safety of a railway crossing. Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this performance outcome. An impact on a level crossing may require an	AO23.1 Development does not require a new railway crossing. OR	Not applicable.
	AO23.2 A new railway crossing is grade separated.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this acceptable outcome. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.	
	OR all of the following acceptable outcomes apply: AO23.3 Upgrades to a level crossing are designed and constructed in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings and applicable railway manager's standard drawings. AND	Not applicable.
	AO23.4 Vehicle access points achieve sufficient clearance from a level crossing in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings by providing a minimum clearance of 5 metres from the edge running rail (outer rail) plus the length of the largest vehicle anticipated on-site. AND	Not applicable.
	AO23.5 On-site vehicle circulation is designed to give priority to entering vehicles at all times to	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	ensure vehicles do not queue in a railway crossing.	

Table 2.2.2: Environmental emissions

Performance outcomes	Acceptable outcomes	Response
Noise		
Accommodation activities		
PO24 Development involving: 1. an accommodation activity; or 2. land for a future accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in habitable rooms.	AO24.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope: a. ≤65 dB(A) L_{eq} (24 hour) façade corrected b. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information –	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	Community Amenity (Noise), Department of Transport and Main Roads, 2013. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used. In some instances, the design of noise barriers and mounds to achieve the noise criteria above the ground floor may not be reasonable or practicable. In these instances, any relaxation of the criteria is at the discretion of the Department of Transport and Main Roads.	
	OR all of the following acceptable outcomes apply: AO24.2 Buildings which include a habitable room are setback the maximum distance possible from a railway or type 2 multi-modal corridor. AND	
	AO24.3 Buildings are designed and oriented so that habitable rooms are located furthest from a railway or type 2 multi-modal corridor. AND	Not applicable.
	AO24.4 Buildings (other than a relevant residential building or relocated building) are designed and constructed using materials which ensure that habitable rooms meet the following internal noise criteria:	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	1. ≤45 dB(A) single event maximum sound pressure level. Statutory note: Noise levels from railways or type 2 multi-modal corridors are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. Habitable rooms of relevant residential buildings located within a transport noise corridor must comply with the Queensland Development Code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2015. Transport noise corridors are mapped on the State Planning Policy Interactive Mapping System.	
PO25 Development involving an accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor spaces for passive recreation.	AO25.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria in outdoor spaces for passive recreation:	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	a. ≤62 dB(A) L_{eq} (24 hour) free field b. ≤84 dB(A) (single event maximum sound pressure level) free field 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. OR	
	AO25.2 Each dwelling has access to an outdoor space for passive recreation which is shielded from a railway or type 2 multi-modal corridor by a building, a solid gap-free fence, or other solid gap-free structure. AND	Not applicable.
	AO25.3 Each dwelling with a balcony directly exposed to noise from a railway or type 2 multi-modal corridor has a continuous solid gap-free balustrade (other than gaps required for drainage purposes to comply with the Building Code of Australia).	Not applicable.
Child care centres and educational establishments		
PO26 Development involving a: 1. child care centre; or 2. educational establishment	AO26.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope:	Not applicable.

Performance outcomes	Acceptable outcomes	Response
minimises noise intrusion from a railway or type 2 multi-modal corridor in indoor education areas and indoor play areas.	a. ≤65 dB(A) L_{eq} (1 hour) façade corrected (maximum hour during opening hours) b. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used.	
	OR all of the following apply: AO26.2 Buildings which include an indoor education area, indoor play area or sleeping room are setback furthest from a railway or type 2 multi-modal corridor as possible.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AND	
	AO26.3 Buildings are designed and oriented so that indoor education areas, indoor play areas or sleeping rooms are located furthest from a railway or type 2 multi-modal corridor. AND	Not applicable.
	AO26.4 Buildings are designed and constructed using materials which ensure indoor education areas and indoor play areas meet the following internal noise criteria: 1. ≤50 dB(A) single event maximum sound pressure level. AND	Not applicable.
	AO26.5 Buildings are designed and constructed using material which ensure sleeping rooms in a child care centre meet the following internal noise criteria: 1. ≤45 dB(A) single event maximum sound pressure level. Statutory note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013.	
PO27 Development involving a: 1. child care centre; or 2. educational establishment minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor education areas and outdoor play areas.	AO27.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria in each outdoor education area or outdoor play area: a. ≤62 dB(A) L_{eq} (24 hour) free field (between 6am and 6pm) b. ≤84 dB(A) (single event maximum sound pressure level) free field 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. OR	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AO27.2 Each outdoor education area and outdoor play area is shielded from noise generated from a railway or type 2 multi-modal corridor by a building, a solid gap-free fence, or other solid gap-free structure.	Not applicable.
Hospitals		
PO28 Development involving a hospital minimises noise intrusion from a railway or a type 2 multi-modal corridor in patient care areas.	AO28.1 Hospitals are designed and constructed using materials which ensure ward areas meet the following internal noise criteria: 1. ≤45 dB(A) single event maximum sound pressure level. AND	Not applicable.
	AO28.2 Hospitals are designed and constructed using materials which ensure patient care areas (other than ward areas) meet the following internal noise criteria: 1. ≤50 dB(A) single event maximum sound pressure level. Statutory note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013.	
Vibration		
Hospitals		
PO29 Development involving a hospital located within 25 metres of the centreline of the nearest railway track minimises vibration impacts from a railway or type 2 multi-modal corridor in patient care areas.	AO29.1 Hospitals are designed and constructed to ensure vibration in the treatment area of a patient care area does not exceed a vibration dose value of $0.1m/s^{1.75}$. AND	Not applicable.
	AO29.2 Hospitals are designed and constructed to ensure vibration in the ward area of a patient care area does not exceed a vibration dose value of $0.4m/s^{1.75}$. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified vibration assessment report be provided.	Not applicable.
Air and light		
PO30 Development involving an accommodation activity minimises air quality impacts from a railway in outdoor spaces for passive recreation.	AO30.1 Each dwelling has access to an outdoor space for passive recreation that is shielded from a railway by a building, a solid gap-free fence, or other solid gap-free structure.	Not applicable.
PO31 Development involving a: 1. child care centre; or 2. educational establishment	AO31.1 Each outdoor education area and outdoor play area is shielded from a railway by a building, a solid gap-free fence, or other solid gap-free structure.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
minimises air quality impacts from a railway in outdoor education areas and outdoor play areas.		
PO32 Development involving an accommodation activity or hospital minimises lighting impacts from a railway.	AO32.1 Buildings for an accommodation activity or hospital are designed to minimise the number of windows or transparent/translucent panels facing a railway. OR	Not applicable.
	AO32.2 Windows facing a railway include treatments to block light from a railway.	Not applicable.

Table 2.2.3: Development in a future railway environment

Performance outcomes	Acceptable outcomes	Response
PO33 Development does not impede delivery of rail transport infrastructure in a future railway corridor.	AO33.1 Development is not located in a future railway corridor. OR	Not applicable.
	AO33.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located in a future railway corridor.	Not applicable.
	AO33.3 Structures and infrastructure located in a future railway corridor are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND	Not applicable.
	AO33.4 Development does not involve filling and excavation of, or material changes to, a future railway corridor. AND	Not applicable.
	AO33.5 Land is able to be reinstated to the pre-development condition at the completion of the use.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
PO34 Filling and excavation, building foundations and retaining structures do not undermine or cause subsidence of, a future railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended that a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.	No acceptable outcome is prescribed.	Not applicable.
PO35 Fill material from a development site does not result in contamination of land for a future railway corridor.	AO35.1 Fill material is free of contaminants including acid sulfate content. Note: Soil and rocks should be tested in accordance with AS1289 – Methods of testing soils for engineering purposes and AS4133 2005 – Methods of testing rocks for engineering purposes. AND	Not applicable.
	AO35.2 Compaction of fill is carried out in accordance with the requirements of AS1289.0 2000 – Methods of testing soils for engineering purposes.	Not applicable.
PO36 Development does not result in an actionable nuisance or worsening of stormwater, flooding or drainage impacts in a future railway corridor.	No acceptable outcome is prescribed.	Not applicable.

State code 6: Protection of state transport networks

Table 6.2.2: All development

Performance outcomes	Acceptable outcomes	Response
Network impacts		
PO1 Development does not result in a worsening of the safety of a state-controlled road. Note: To demonstrate compliance with this performance outcome, it is recommended that a Registered Professional Engineer of Queensland (RPEQ) certified road safety audit or road safety assessment (as applicable) is provided, prepared in accordance with the Guide to Traffic Impact Assessment, Department of Transport and Main Roads, 2017. Section 6 of the Guide To Traffic Impact Assessment, Department of Transport and Main Roads, 2017, provides guidance on how to determine whether a road safety audit or road safety assessment is required.	No acceptable outcome is prescribed.	The proposed levee, has been designed to protect the flood immunity of the town. This in turn will ensure the state-controlled road networks within the town are protected. In a flood event, there may be short periods of time where the state=controlled routes are blocked to protect buildings within the town of Barcaldine.
PO2 Development does not result in a worsening of the infrastructure condition of a state-controlled road or road transport infrastructure. Note: To demonstrate compliance with this performance outcome, it is recommended that a RPEQ certified traffic impact assessment and pavement impact assessment are provided, prepared in accordance with the Guide To Traffic Impact Assessment, Department of Transport and Main Roads, 2017.	No acceptable outcome is prescribed.	Refer above.

Performance outcomes	Acceptable outcomes	Response
PO3 Development does not result in a worsening of operating conditions on a state-controlled road or the surrounding road network. To demonstrate compliance with this performance outcome, it is recommended that an RPEQ certified traffic impact assessment, prepared in accordance with the Guide To Traffic Impact Assessment, Department of Transport and Main Roads, 2017, is provided.	No acceptable outcome is prescribed.	Refer above. A Traffic Impact Assessment is unnecessary.
PO4 Development does not impose traffic loadings on a state-controlled road which could be accommodated on the local road network.	**AO4.1** The layout and design of the development directs traffic generated by the development to the local road network.	The development will rely on the state-controlled road network for its haulage route for the construction of the levee. The construction will occur over an 8-week period. The haul route to the construction site will be: - Yellowjack Drive – 900m - Landsborough Highway/Box Street – 3.9km (State-controlled) - Oak Street – 240m (State-controlled) - Beech Street/Barcaldine Aramac Road - 470m (depending on dump point) (State-controlled)
PO5 Upgrade works on, or associated with, a state-controlled road are built in accordance with relevant design standards.	**AO5.1** Upgrade works on a state-controlled road are designed and constructed in accordance with the Road Planning and Design Manual, 2nd edition, Department of Transport and Main Roads, 2016.	Not applicable, no access works are warranted for the operational works.
PO6 Development involving the haulage of fill, extracted material or excavated spoil material exceeding 10,000 tonnes per year does not damage the pavement of a state-controlled road.	**AO6.1** Fill, extracted material and spoil material is not transported to or from the development site on a state-controlled road.	The applicant has no other option than to transport material on the State-controlled road network.

Performance outcomes	Acceptable outcomes	Response
Note: It is recommended that a transport infrastructure impact assessment and pavement impact assessment are provided, prepared in accordance with the Guide To Traffic Impact Assessment, Department of Transport and Main Roads, 2017.		Both of the routes been used are major freight and transport routes for the central west. The vehicles and tonnage carted will be consistent with other vehicles using the road network on a daily basis. The proposed development will not result in any additional pavement damage to the state-controlled road network.
PO7 Development does not adversely impact on the safety of a railway crossing. Note: It is recommended that a traffic impact assessment be prepared to demonstrate compliance with this performance outcome. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	**AO7.1** Development does not require a new railway crossing. OR	The haulage route will cross the railway crossing on Beech Street. The development however, does not involve the construction of a new railway crossing.
	AO7.2 A new railway crossing is grade separated.	Not applicable.
	OR all of the following acceptable outcomes apply: **AO7.3** Upgrades to a level crossing are designed and constructed in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings and applicable rail manager standard drawings. Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this acceptable outcome. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	Roads, 2015, provides guidance on how to comply with this acceptable outcome AND	
	AO7.4 Access points achieve sufficient clearance from a level crossing in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings by providing a minimum clearance of 5 metres from the edge running rail (outer rail) plus the length of the largest vehicle anticipated on-site. Note: Section 2.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome. AND	Not applicable.
	AO7.5 On-site vehicle circulation is designed to give priority to entering vehicles at all times.	Not applicable.
PO8 Development does not result in a worsening of the infrastructure condition of a railway or rail transport infrastructure.	No acceptable outcome is prescribed.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.
PO9 Development does not result in a worsening of operating conditions of a railway	No acceptable outcome is prescribed.	Refer above.
PO10 Development does not damage or interfere with public passenger transport infrastructure, public passenger services or pedestrian or cycle access to public passenger transport infrastructure and public passenger services.	**AO10.1** Vehicular access and associated road access works are not located within five metres of public passenger transport infrastructure. AND	Refer above.
	AO10.2 Development does not necessitate the relocation of existing public passenger transport infrastructure. AND	Refer above.
	AO10.3 Development does not obstruct pedestrian or cyclist access to public passenger	Refer above.

Performance outcomes	Acceptable outcomes	Response
	transport infrastructure or public passenger services. AND	
	AO10.4 The normal operation of public passenger transport infrastructure or public passenger services is not interrupted during construction of the development.	Refer above.
Stormwater and drainage		
PO11 Development does not result in an actionable nuisance, or worsening of, stormwater, flooding or drainage impacts in a state transport corridor.	No acceptable outcome is prescribed.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.
PO12 Run-off from the development site is not unlawfully discharged to a state transport corridor.	**AO12.1** Development does not create any new points of discharge to a state transport corridor. AND	Not applicable. The proposed development is for Operational Works for the construction of a levee. One-way drainage infrastructure through the levee must be incorporated to allow stormwater collected behind the levee to be drained to Lagoon Creek. This location is recommended to be coincident with the current stormwater drain on crown land on the corner of Plane and Brigalow St.
	AO12.2 Stormwater run-off is discharged to a lawful point of discharge. Note: Section 3.4 of the Queensland Urban Drainage Manual, Department of Energy and Water Supply, 2013, provides further information on lawful points of discharge. AND	Not applicable. The proposed development is for Operational Works for the construction of a levee.

Performance outcomes	Acceptable outcomes	Response
	AO12.3 Development does not worsen the condition of an existing lawful point of discharge to a state transport corridor.	Not applicable. The proposed development is for Operational Works for the construction of a levee.
PO13 Run-off from the development site does not cause siltation of stormwater infrastructure affecting a state transport corridor.	**AO13.1** Run-off from the development site is not discharged to stormwater infrastructure for a state transport corridor.	Not applicable. The proposed development is for Operational Works for the construction of a levee.
Planned upgrades		
PO14 Development does not impede delivery of planned upgrades of state transport infrastructure.	**AO14.1** Development is not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of state transport infrastructure. Note: Land required for the planned upgrade of state transport infrastructure is identified in the DA mapping system. OR	Not applicable.
	AO14.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of state transport infrastructure.	Not applicable.
	OR all of the following acceptable outcomes apply: **AO14.3** Structures and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of state transport infrastructure are able to be readily relocated or removed without materially affecting the viability or functionality of the development.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AND	
	AO14.4 Vehicular access for the development is consistent with the function and design of the planned upgrade of state transport infrastructure. AND	Not applicable.
	AO14.5 Development does not involve filling and excavation of, or material changes to, land required for a planned upgrade to a state transport infrastructure. AND	Not applicable.
	AO14.6 Land is able to be reinstated to the pre-development condition at the completion of the use.	Not applicable.

State code 2: Development in a railway environment

Table 2.2.1: Development in a railway environment

Performance outcomes	Acceptable outcomes	Response
Buildings and structures		
All railways		
PO1 The location of buildings, structures, infrastructure, services and utilities does not create a safety hazard in a railway corridor or cause damage to, or obstruct, rail transport infrastructure or other rail infrastructure.	AO1.1 Buildings, structures, infrastructure, services and utilities are not located in a railway corridor. AND	Complies. The development is located outside the railway corridor.
	AO1.2 Buildings, structures, infrastructure, services and utilities can be maintained without requiring access to a railway corridor. AND	Complies. No access to the railway corridor is required.
	AO1.3 Buildings, structures and infrastructure are set back horizontally a minimum of 3 metres from the outermost projection of overhead line equipment. Note: Section 2.3 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome. AND	Complies. The development is located outside the railway corridor.
	AO1.4 The lowest part of development in or over a railway is a minimum of: 1. 7.9 metres above the railway track where the proposed development extends along the railway for a distance of less than 40 metres 2. 9 metres above the railway track where the development extends along the railway for a distance of between 40 and 80 metres. AND	Complies. The development is located outside the railway corridor.
	AO1.5 Pipe work, services and utilities:	Complies. The development is located outside the railway corridor.

Performance outcomes	Acceptable outcomes	Response
	1. are not attached to rail transport infrastructure or other rail infrastructure 2. do not penetrate through the side of any proposed building element or structure where built to boundary in, over or abutting a railway corridor.	
PO2 Buildings and structures are located to not interfere with, or impede access to, a railway bridge.	AO2.1 Buildings and structures are set back horizontally a minimum of 3 metres from a railway bridge. AND	Complies. The development is located outside the railway corridor.
	AO2.2 Permanent structures are not located below or abutting a railway bridge. AND	Complies. The development is located outside the railway corridor.
	AO2.3 Temporary activities below or abutting a railway bridge do not impede access to a railway corridor. Note: Temporary activities below or abutting a railway bridge could include, for example, car parking or outdoor storage.	Complies. The development is located outside the railway corridor.
PO3 Development does not add or remove loading that will cause damage to rail transport infrastructure or a railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, prepared in accordance with the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads 2015 is provided.	No acceptable outcome is prescribed.	Complies. The development is located outside the railway corridor.
PO4 Development above a railway is designed to enable natural ventilation and smoke dispersion in the event of a fire emergency.	No acceptable outcome is prescribed.	Complies. The development is located outside the railway corridor.

Performance outcomes	Acceptable outcomes	Response
Note: To demonstrate compliance with the performance outcome it is recommended the applicant contact the Queensland Fire and Emergency Service and relevant railway manager to determine the fire scenarios to be used to inform ventilation design. Modelling of smoke dispersion should also be undertaken by a RPEQ to predict the spread of combustion products and inform the ventilation design. Section 5.1 – Development over a railway of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.		
PO5 Construction activities do not cause ground movement or vibration impacts in a railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 is provided.	No acceptable outcome is prescribed.	Complies. The method of construction will not generate ground movement or vibration.
PO6 Buildings and structures in a railway corridor are designed and constructed to remain structurally sound in the event of a derailed train.	**AO6.1** Buildings and structures, in a railway corridor including piers or supporting elements, are designed and constructed in accordance with Civil Engineering Technical Requirement – CIVIL-SR-012 Collision protection of supporting elements adjacent to railways, Queensland Rail, 2011, AS5100 Bridge design and AS1170 Structural design actions. Note: Section 3.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome.	Not applicable.
PO7 Buildings and structures in high risk locations and where also located within 10 metres of the centreline of the nearest railway	AO7.1 Buildings and structures, in a railway corridor including piers or supporting elements, are designed and constructed in accordance with	Not applicable.

Performance outcomes	Acceptable outcomes	Response
track are designed and constructed to remain structurally sound in the event of a derailed train.	Civil Engineering Technical Requirement CIVIL-SR-012 Collision protection of supporting elements adjacent to railways, Queensland Rail, 2011, AS5100 Bridge design and AS1170 Structural design actions. Note: Section 3.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015 provides guidance on how to comply with this acceptable outcome.	
PO8 Buildings and structures in a railway corridor are designed and constructed to prevent projectiles from being thrown onto a railway.	AO8.1 Buildings and structures in a railway corridor include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail. AND	Complies. The development is located outside the railway corridor.
	AO8.2 Road, pedestrian and bikeway bridges over a railway include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail. Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this outcome.	Complies. The development is located outside the railway corridor.
PO9 Buildings, and structures, other than accommodation activities, are designed and constructed to prevent projectiles from being thrown onto a railway from any publicly	AO9.1 Publically accessible areas located within 20 metres from the centreline of the nearest railway track do not directly overlook a railway. OR	Not applicable.

Performance outcomes	Acceptable outcomes	Response
accessible areas located within 20 metres from the centreline of the nearest railway track.	AO9.2 Buildings and structures are designed to ensure publically accessible areas located within 20 metres of the centreline of the nearest railway track and that overlook the railway include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR-005 Design of buildings over or near railways, Queensland Rail, 2011, and the Civil Engineering Technical Requirement – CIVIL-SR-008 Protection screens, Queensland Rail. Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this outcome.	Not applicable.
Filling, excavation and retaining structures		
PO10 Filling, excavation and retaining structure do not interfere with, or result in damage to, infrastructure or services in a railway corridor. Note: Information on the location of services and public utility plants railway corridor can be obtained from the railway manager. Where development will impact on an existing or future service or public utility plant in a railway corridor such that the service or public utility plant will need to be relocated, the alternative alignment must comply with the standards and design specifications of the relevant service or public utility provider, and any costs of relocation are to be borne by the developer.	No acceptable outcome is prescribed.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.
PO11 Filling, excavation, building foundations and retaining structures do not undermine, or cause subsidence of, a railway corridor.	No acceptable outcome is prescribed.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.

Performance outcomes	Acceptable outcomes	Response
Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.		
PO12 Filling and excavation, building foundations and retaining structures do not cause ground water disturbance in a railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.	No acceptable solution is prescribed.	Not applicable.
PO13 Excavation, boring, piling, blasting or fill compaction during construction of a development does not result in ground movement or vibration impacts that would cause damage or nuisance to a railway corridor, rail transport infrastructure or railway works. Note: To demonstrate compliance with this performance outcome, it is recommended a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.	**No acceptable outcome is prescribed.**	Complies. The method of construction will not generate ground movement or vibration.

Performance outcomes	Acceptable outcomes	Response
PO14 Filling and excavation material does not cause an obstruction or nuisance in a railway corridor.	AO14.1 Development does not store fill, spoil or any other material in, or adjacent to, a railway corridor.	As demonstrated by the FIR, the proposed levee will not result in an increase in velocity or depth on the railway infrastructure.
Stormwater and drainage		
PO15 Development does not result in an actionable nuisance or worsening of stormwater, flooding or drainage impacts in a railway corridor. Note: Section 2.8 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	
PO16 Run-off from the development site during construction of development does not cause siltation of stormwater infrastructure affecting a railway corridor.	AO16.1 Run-off from the development site during construction of development is not discharged to stormwater infrastructure in a railway corridor.	
Access		
PO17 Development prevents unauthorised access to a railway corridor.	AO17.1 Where development is abutting a railway corridor fencing is provided along the property boundary with the railway corridor in accordance with the railway manager's standards. Note: It is recommended the applicant contact the railway manager for advice regarding applicable fencing standards. AND	No access is required to the access railway corridor.
	AO17.2 A road barrier designed in accordance with Civil Engineering Technical Requirement –	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	CIVIL-SR-007 Design and selection criteria for road/rail interface barriers, Queensland Rail 2011, and certified by an RPEQ, is installed along any roads abutting a railway corridor. AND	
	AO17.3 Proposed vehicle manoeuvring areas, driveways, loading areas or carparks abutting a railway corridor include rail interface barriers. Note: Section 2.4 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with acceptable outcome 16.3.	Not applicable.
PO18 Development does not obstruct existing access to a railway corridor.	AO18.1 Development is sited and designed to ensure existing authorised access points and access routes for maintenance and emergency works to a railway corridor are clear from obstructions at all times.	The levee will not obstruct access to the railway.
PO19 Access to a railway corridor does not create a safety hazard for users of a railway, or result in a worsening of operating conditions on a railway.	AO19.1 Development does not require a new railway crossing. AND	Not applicable.
	AO19.2 Development does not propose new or temporary structures or works connecting to rail transport infrastructure or other rail infrastructure. AND	Not applicable.
	AO19.3 Vehicle access points achieve sufficient clearance from a railway level crossing in accordance with AS1742.7:2016 – Manual of uniform traffic control devices, Part 7: Railway	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	crossings, by providing minimum 5 metres clearance from the edge running rail (outer rail), plus the length of the largest vehicle anticipated on-site. Note: Section 2.2 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.	
PO20 Development does not damage or interfere with public passenger transport infrastructure, public passenger services or pedestrian and cycle access to public passenger transport infrastructure and public passenger services.	AO20.1 Development does not necessitate the relocation of existing public passenger transport infrastructure. AND	Not applicable.
	AO20.2 Vehicular access and associated road access works for a development is not located within 5 metres of existing public passenger transport infrastructure. AND	Not applicable.
	AO20.3 On-site vehicle circulation is designed give priority to entering vehicles at all times so vehicles using a vehicular access do not obstruct public passenger transport infrastructure and public passenger services or obstruct pedestrian or cyclist access to public passenger transport infrastructure and public passenger services. AND	Not applicable.
	AO20.4 The normal operation of public passenger transport infrastructure or public passenger services is not interrupted during construction of the development.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
Planned upgrades		
PO21 Development does not impede delivery of planned upgrades of rail transport infrastructure.	AO21.1 Development is not located on land identified by the Department of Transport and Main Roads as land required for planned upgrades to rail transport infrastructure. Note: Land required for the planned upgrade of rail transport infrastructure is identified in the DA mapping system. OR	Not applicable.
	AO21.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of rail transport infrastructure.	Not applicable.
	OR all of the following acceptable outcomes apply: AO21.3 Structures and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a of rail transport infrastructure are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND	Not applicable.
	AO21.4 Development does not involve filling and excavation of, or material changes to, land required for a planned upgrade of rail transport infrastructure.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AND	
	AO21.5 Land is able to be reinstated to the pre-development condition at the completion of the use.	Not applicable.
Network safety		
PO22 Development involving dangerous goods adjacent to a railway corridor does not adversely impact on the safety or operations of a railway. Note: Development involving dangerous goods, or hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016, should demonstrate that impacts on a railway from a fire, explosion, spill, gas emission or dangerous goods incident can be appropriately mitigated. Section 2.6 – Dangerous goods and fire safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	AO22.1 Development does not involve handling or storage of hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016.	Not applicable.
PO23 Development does not adversely impact on the safety of a railway crossing. Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this performance outcome. An impact on a level crossing may require an	AO23.1 Development does not require a new railway crossing. OR	Not applicable.
	AO23.2 A new railway crossing is grade separated.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this performance outcome.	Note: It is recommended a traffic impact assessment be prepared to demonstrate compliance with this acceptable outcome. An impact on a level crossing may require an Australian Level Crossing Assessment Model (ALCAM) assessment to be undertaken. Section 2.2 – Railway crossing safety of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015, provides guidance on how to comply with this acceptable outcome.	
	OR all of the following acceptable outcomes apply: AO23.3 Upgrades to a level crossing are designed and constructed in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings and applicable railway manager's standard drawings. AND	Not applicable.
	AO23.4 Vehicle access points achieve sufficient clearance from a level crossing in accordance with AS1742.7 – Manual of uniform traffic control devices, Part 7: Railway crossings by providing a minimum clearance of 5 metres from the edge running rail (outer rail) plus the length of the largest vehicle anticipated on-site. AND	Not applicable.
	AO23.5 On-site vehicle circulation is designed to give priority to entering vehicles at all times to	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	ensure vehicles do not queue in a railway crossing.	

Table 2.2.2: Environmental emissions

Performance outcomes	Acceptable outcomes	Response
Noise		
Accommodation activities		
PO24 Development involving: 1. an accommodation activity; or 2. land for a future accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in habitable rooms.	AO24.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope: a. ≤65 dB(A) L_{eq} (24 hour) façade corrected b. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information –	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	Community Amenity (Noise), Department of Transport and Main Roads, 2013. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used. In some instances, the design of noise barriers and mounds to achieve the noise criteria above the ground floor may not be reasonable or practicable. In these instances, any relaxation of the criteria is at the discretion of the Department of Transport and Main Roads.	
	OR all of the following acceptable outcomes apply: AO24.2 Buildings which include a habitable room are setback the maximum distance possible from a railway or type 2 multi-modal corridor. AND	
	AO24.3 Buildings are designed and oriented so that habitable rooms are located furthest from a railway or type 2 multi-modal corridor. AND	Not applicable.
	AO24.4 Buildings (other than a relevant residential building or relocated building) are designed and constructed using materials which ensure that habitable rooms meet the following internal noise criteria:	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	1. ≤45 dB(A) single event maximum sound pressure level. Statutory note: Noise levels from railways or type 2 multi-modal corridors are to be measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. Habitable rooms of relevant residential buildings located within a transport noise corridor must comply with the Queensland Development Code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2015. Transport noise corridors are mapped on the State Planning Policy Interactive Mapping System.	
PO25 Development involving an accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor spaces for passive recreation.	AO25.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria in outdoor spaces for passive recreation:	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	a. ≤62 dB(A) L_{eq} (24 hour) free field b. ≤84 dB(A) (single event maximum sound pressure level) free field 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. OR	
	AO25.2 Each dwelling has access to an outdoor space for passive recreation which is shielded from a railway or type 2 multi-modal corridor by a building, a solid gap-free fence, or other solid gap-free structure. AND	Not applicable.
	AO25.3 Each dwelling with a balcony directly exposed to noise from a railway or type 2 multi-modal corridor has a continuous solid gap-free balustrade (other than gaps required for drainage purposes to comply with the Building Code of Australia).	Not applicable.
Child care centres and educational establishments		
PO26 Development involving a: 1. child care centre; or 2. educational establishment	AO26.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope:	Not applicable.

Performance outcomes	Acceptable outcomes	Response
minimises noise intrusion from a railway or type 2 multi-modal corridor in indoor education areas and indoor play areas.	a. ≤65 dB(A) L_{eq} (1 hour) façade corrected (maximum hour during opening hours) b. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used.	
	OR all of the following apply: AO26.2 Buildings which include an indoor education area, indoor play area or sleeping room are setback furthest from a railway or type 2 multi-modal corridor as possible.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AND	
	AO26.3 Buildings are designed and oriented so that indoor education areas, indoor play areas or sleeping rooms are located furthest from a railway or type 2 multi-modal corridor. AND	Not applicable.
	AO26.4 Buildings are designed and constructed using materials which ensure indoor education areas and indoor play areas meet the following internal noise criteria: 1. ≤50 dB(A) single event maximum sound pressure level. AND	Not applicable.
	AO26.5 Buildings are designed and constructed using material which ensure sleeping rooms in a child care centre meet the following internal noise criteria: 1. ≤45 dB(A) single event maximum sound pressure level. Statutory note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013.	
PO27 Development involving a: 1. child care centre; or 2. educational establishment minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor education areas and outdoor play areas.	AO27.1 A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria in each outdoor education area or outdoor play area: a. ≤62 dB(A) L_{eq} (24 hour) free field (between 6am and 6pm) b. ≤84 dB(A) (single event maximum sound pressure level) free field 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013. OR	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	AO27.2 Each outdoor education area and outdoor play area is shielded from noise generated from a railway or type 2 multi-modal corridor by a building, a solid gap-free fence, or other solid gap-free structure.	Not applicable.
Hospitals		
PO28 Development involving a hospital minimises noise intrusion from a railway or a type 2 multi-modal corridor in patient care areas.	AO28.1 Hospitals are designed and constructed using materials which ensure ward areas meet the following internal noise criteria: 1. ≤45 dB(A) single event maximum sound pressure level. AND	Not applicable.
	AO28.2 Hospitals are designed and constructed using materials which ensure patient care areas (other than ward areas) meet the following internal noise criteria: 1. ≤50 dB(A) single event maximum sound pressure level. Statutory note: Noise levels from railways or type 2 multi-modal corridors are measured in accordance with AS1055.1–1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be	Not applicable.

Performance outcomes	Acceptable outcomes	Response
	provided. The noise assessment report should be prepared in accordance with the State Development Assessment Provisions Supporting Information – Community Amenity (Noise), Department of Transport and Main Roads, 2013.	
Vibration		
Hospitals		
PO29 Development involving a hospital located within 25 metres of the centreline of the nearest railway track minimises vibration impacts from a railway or type 2 multi-modal corridor in patient care areas.	AO29.1 Hospitals are designed and constructed to ensure vibration in the treatment area of a patient care area does not exceed a vibration dose value of $0.1m/s^{1.75}$. AND	Not applicable.
	AO29.2 Hospitals are designed and constructed to ensure vibration in the ward area of a patient care area does not exceed a vibration dose value of $0.4m/s^{1.75}$. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified vibration assessment report be provided.	Not applicable.
Air and light		
PO30 Development involving an accommodation activity minimises air quality impacts from a railway in outdoor spaces for passive recreation.	AO30.1 Each dwelling has access to an outdoor space for passive recreation that is shielded from a railway by a building, a solid gap-free fence, or other solid gap-free structure.	Not applicable.
PO31 Development involving a: 1. child care centre; or 2. educational establishment	AO31.1 Each outdoor education area and outdoor play area is shielded from a railway by a building, a solid gap-free fence, or other solid gap-free structure.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
minimises air quality impacts from a railway in outdoor education areas and outdoor play areas.		
PO32 Development involving an accommodation activity or hospital minimises lighting impacts from a railway.	AO32.1 Buildings for an accommodation activity or hospital are designed to minimise the number of windows or transparent/translucent panels facing a railway. OR	Not applicable.
	AO32.2 Windows facing a railway include treatments to block light from a railway.	Not applicable.

Table 2.2.3: Development in a future railway environment

Performance outcomes	Acceptable outcomes	Response
PO33 Development does not impede delivery of rail transport infrastructure in a future railway corridor.	AO33.1 Development is not located in a future railway corridor. OR	Not applicable.
	AO33.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located in a future railway corridor.	Not applicable.
	AO33.3 Structures and infrastructure located in a future railway corridor are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND	Not applicable.
	AO33.4 Development does not involve filling and excavation of, or material changes to, a future railway corridor. AND	Not applicable.
	AO33.5 Land is able to be reinstated to the pre-development condition at the completion of the use.	Not applicable.

Performance outcomes	Acceptable outcomes	Response
PO34 Filling and excavation, building foundations and retaining structures do not undermine or cause subsidence of, a future railway corridor. Note: To demonstrate compliance with this performance outcome, it is recommended that a RPEQ certified geotechnical assessment is provided, prepared in accordance with section 2.7 of the Guide to Development in a Transport Environment: Rail, Department of Transport and Main Roads, 2015.	No acceptable outcome is prescribed.	Not applicable.
PO35 Fill material from a development site does not result in contamination of land for a future railway corridor.	AO35.1 Fill material is free of contaminants including acid sulfate content. Note: Soil and rocks should be tested in accordance with AS1289 – Methods of testing soils for engineering purposes and AS4133 2005 – Methods of testing rocks for engineering purposes. AND	Not applicable.
	AO35.2 Compaction of fill is carried out in accordance with the requirements of AS1289.0 2000 – Methods of testing soils for engineering purposes.	Not applicable.
PO36 Development does not result in an actionable nuisance or worsening of stormwater, flooding or drainage impacts in a future railway corridor.	No acceptable outcome is prescribed.	Not applicable.